American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN®

CARING FOR YOUR BABY AND YOUNG CHILD

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BIRTH TO AGE 5

8TH EDITION

TANYA ALTMANN, MD, FAAP, Editor in Chief

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Caring for Your Baby and Young Child

This invaluable volume was prepared under the editorial direction of distinguished pediatricians Tanya Altmann, MD, FAAP, and David L. Hill, MD, FAAP, and draws on the contributions and practical wisdom of more than 100 pediatric experts and an editorial review board. Written in a warm, accessible style and illustrated with more than 300 helpful drawings and diagrams, this book gives you the information you need to safeguard your child's most precious asset: their health.

In Caring for Your Baby and Young Child *you'll find:*

- A step-by-step guide based on new CDC milestone guidelines to your baby's first year that lets you know what to expect in terms of growth, behavior, and development
- A yearly guide to ages 1 through 5, with practical advice for dealing with sleeping, toilet training, and temper tantrums
- "Health Watch" features that alert you to potential medical problems at each stage
- "Safety Check" reminders for home, outdoors, and car travel
- A discussion of family issues—from grandparents and siblings to single parenting and stepfamilies

Plus reliable information on:

- All common infectious diseases, from chickenpox and measles to flu and ear infections
- Developmental disabilities, such as congenital abnormalities, autism, and intellectual disability

- Skin problems, from birthmarks to head lice and sunburn
- Emergencies, including bites, poisoning, choking, and CPR
- Feeding and nutrition, including breastfeeding, formula, and starting solid food
- Car safety seats

The eighth edition of this book includes current AAP policy information and updated content on developmental disabilities, early brain development, breastfeeding and nutrition, obesity, and safety standards, as well as updated content on the effects of the environment and media and technology on children.

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For more pediatrician-approved advice and the latest updates, visit HealthyChildren.org, the official AAP website for parents.



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* This book is also available in Spanish.

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Caring for Your Baby and Young Child

BIRTH TO AGE 5

8th Edition



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A note about revisions: Every effort is made to keep CARING FOR YOUR BABY AND YOUNG CHILD consistent with the most recent advice and information available from the American Academy of Pediatrics. In addition to major revisions identified as "Revised Editions" and "Eighth Edition," the text has been updated as necessary for each additional printing listed below.

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Please Note

The information contained in this book is intended to complement, not substitute for, the advice of your child's pediatrician. Before starting any medical treatment or medical program, you should consult with your child's pediatrician, who can discuss your child's individual needs and counsel you about symptoms and treatment. If you have questions regarding how the information in this book applies to your child, speak to your child's pediatrician.

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The information and advice in this book applies to all sexes and genders; however, for easier reading, pronouns such as "they" are used in this publication. Best efforts were made to use people-first language, and as such, certain phrasing may not read as familiar. For example, "an overweight child" now reads as "a child with overweight" or "a child has overweight."

• • •

The American Academy of Pediatrics constantly monitors new scientific evidence and makes appropriate adjustments in its recommendations. For example, future research and the development of new childhood vaccines may alter the regimen for the administration of existing vaccines. Therefore, the schedule for immunizations outlined in this book is subject to change. These and other potential situations serve to emphasize the importance of always checking with your child's pediatrician for the latest information concerning the health of your child. For additional information on caring for your child and their health and well-being, visit HealthyChildren.org.

Equity, Diversity, and Inclusion Statement

The AAP is committed to principles of equity, diversity, and inclusion in its publishing program. Editorial boards, author selections, and author transitions (publication succession plans) should be designed to include diverse voices that reflect society as a whole. Editor and author teams are encouraged to actively seek out diverse authors and reviewers at all stages of the editorial process. Publishing staff are committed to promoting equity, diversity, and inclusion in all aspects of publication writing, review, and production.

This book is dedicated to all the people who recognize that children are our greatest inspiration in the present and our greatest hope for the future.

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Introduction

Congratulations! You are likely reading this book because you are pregnant, have a newborn, or care for a child from birth to age 5. No matter what the reason, this book will provide you with everything you need to know to raise a healthy, happy, and resilient child. Whether you choose to read it from cover to cover, read the chapter for your child's current age to discover what they will be doing next month, or just want to flip to the specific symptoms, illness, or issue that your child has, you will find a wealth of information vetted by an organization comprising more than 67,000 pediatricians. That's a lot of brainpower and advice!

Most of your newborn's needs are the same as generations ago, while others have changed due to modern-day busy lifestyles. Babies always need love, nutritious food, good health, secure surroundings, skills to build self-esteem and resilience, and plenty of one-on-one time together with you reading books and having fun. They don't need distractions or electronics.

For you, becoming a parent is one of the greatest gifts, and you will learn, grow, and smile every day in ways you didn't even know were possible. There will be good days and some not-so-good days, but that's normal life. Don't beat yourself up if the diaper doesn't get put on correctly or if you're late getting out the door with baby in tow. As long as everyone is safe and healthy, take each day in stride and enjoy every minute that you can.

It's also important to know when you need to ask for help. If you're overtired or overstressed, ask your partner, a relative, or a friend to lend a hand. Whether you need help breastfeeding, cooking, potty training, or taking your preschooler to the zoo, you can't do it all every day, and that's okay. Reach out to your support team, which should also include your pediatrician. Your pediatrician can help advise you on feeding, sleeping, and behavior in addition to seeing your child for complete well-child exams and sick visits.

The days and years pass quickly, so take a few photos or journal along the way, because before you know it your baby will be going off to kindergarten! That's a lot of ground to tackle in the following chapters, but rest assured it's all there, from caring for your newborn and young child to helping with nutrition, sleep, and behavior, from building resilience and good self-esteem to dealing with fevers, tummyaches, and other illness symptoms or concerns that come up along the way. Of course, if you have any questions about what you have read, have a specific concern, or are worried about anything, please contact your pediatrician. After all, that is what we are here for, even in the middle of the night!





Part One

CHAPTER 1

Delivery and the First Moments



It's hard to imagine any life event that matches childbirth for the anticipation, excitement, and anxiety involved. It's inevitable that you will enter into this moment with expectations from stories, books, television, movies, and even your own prior experiences. It is also inevitable that each birth will be unique, and that no one can predict exactly what will happen.

Routine Vaginal Delivery

In the weeks leading up to the birth of your baby, you'll probably feel some apprehension along with your excitement. Then, usually between the thirty-seventh and forty-second weeks, you'll go into labor. Although no one knows for certain what triggers this process, shifts in hormone levels appear to play a role. Your amniotic sac may rupture on its own or your doctor or midwife will do it (commonly referred to as "breaking your water") at some

point before delivery. As you proceed through labor, your uterus will contract rhythmically, or squeeze, which moves your baby down the birth canal. At the same time, these contractions will completely efface, or thin, and then open, or dilate, your cervix to about 10 centimeters (4 in.).

In a routine vaginal delivery, your first view of your child may be the top, or crown, of their head, which may be seen in a mirror if you choose. After delivery of the head, there is usually one last pause before the push that sends your baby's body into the doctor's or midwife's arms. Sometimes a vacuum or forceps, special supplies used by obstetricians, are used to help pull the baby out.

For well-appearing infants, it is now common to wait at least thirty seconds to one minute after delivery to cut the umbilical cord (also called delayed cord clamping or timed cord clamping), during which time the obstetrician or midwife may place the baby on your lower abdomen. Once the pulsing in the cord stops, the cord will be clamped and cut (there are no nerves in the cord; the baby will feel no pain). The clamp remains in place for twenty-four to forty-eight hours, or until the cord is dry and no longer bleeds. The stump that remains will usually fall off between one and three weeks after birth.

Most of the time, after delivery and delayed cord clamping, your baby will be placed directly on your chest, belly down, for skin-to-skin care. Your provider will dry your baby, put a hat on your baby, and cover your baby with a warm blanket while your newborn settles on your chest. This first hour of skin-to-skin contact allows you and your baby to get to know each other and has other important health benefits. Sometimes babies need to be evaluated and brought to a warmer immediately after birth. If that happens, when your infant is stabilized they can be brought to you for skin-to-skin care.

Even if you've seen pictures of newborns, you're bound to be amazed by the first sight of your own. When your baby's eyes open, they will meet yours with curiosity. All the activity of birth may make your baby alert and responsive to your touch, voice, and warmth. Take advantage of this attentiveness, which may last for a few hours. Watch how the baby moves toward your breast, seeking that first feeding. These moments are magical for you and your baby. They should be allowed to happen. Attendants

should not wash you or the baby or otherwise interfere. The smell and feel of you at that moment will guide the baby to their first feeding. As with many birth parents, you may find that putting your baby to your breast creates an intense emotional bond between you and your newborn.

Fresh from birth, your child may be covered with a white cheesy substance called vernix. This protective coating is produced toward the end of pregnancy by the sebaceous (oil-producing) glands in your baby's skin. Your baby may also be wet with amniotic fluid. If there was tearing of tissue in the vaginal area, you may see some blood on the baby's skin. Your newborn's skin, especially on the face, may be quite wrinkled from the wetness and pressure of birth.

NURSING AFTER DELIVERY

We recommend that you plan to breastfeed your baby. Today, most hospitals encourage immediate breastfeeding within the first hour following routine delivery, while the baby is held skin-to-skin, unless the baby is having difficulty breathing or other medical problems, which may require monitoring. (See pages 7–8 for detailed information on Apgar scoring.)

Breastfeeding right away benefits the mother by causing the uterus to contract, reducing the amount of uterine bleeding, and it benefits the newborn by giving protection against infections. (The same hormone that stimulates the milk ejection reflex, or let-down response, triggers uterine contractions.)



The first hour or so after birth is the ideal time to begin breastfeeding. Your baby is alert and eager. When put to the breast, your baby may first lick it. Then, with a little help, your newborn may latch on

to the areola (not the nipple) and suck vigorously for several minutes. If you wait until later, your baby may be sleepier and have more difficulty latching effectively.

For the first two to five days after delivery, your body produces colostrum, a thin, yellowish fluid that contains protein and antibodies that protect your baby from infection. Colostrum provides all the nutrients and fluids your baby needs in those first few days after birth. (For a complete discussion of breastfeeding, see Chapter 3.) Many hospitals have lactation consultants (professional experts to help mothers with breastfeeding); ask for their help if you are having any difficulty in establishing successful breastfeeding, especially if this is your first baby.

Birth by Cesarean Section

There are many reasons why your baby may need to be delivered by Cesarean section (C-section), a surgery where an incision is made in the abdomen and uterus to birth the baby. Delivery by Cesarean section is more common if the birth mother had a previous C-section, if the baby is in a breech (head-up) position, if the cervix does not adequately dilate, if the obstetrician feels that the mother's or baby's health might suffer if the child is born vaginally, or if the baby's heart rate slows or becomes abnormal and the baby needs to be delivered urgently.



The birth experience with a C-section is different from that of a vaginal delivery. Typically, the entire operation takes no more than an hour, and depending on the circumstances, labor may not be experienced. Another

important difference is that medication may be needed to numb the spinal nerves of the mother from the waist down prior to surgery. Rarely, general anesthesia may need to be used. In some cases, these medications may slightly affect mom and baby, but your obstetrician and anesthesiologist can discuss this all with you.

Even with a C-section delivery, as long as the baby is healthy and stable, immediate skin-to-skin care is still encouraged for bonding and breastfeeding if desired.

BONDING

If you deliver without complications, you'll be able to spend the first hour or so with your baby. Because babies are usually alert and very responsive during this time, researchers have labeled this the sensitive period.

The first exchanges of eye contact, sounds, and touches between the two of you are all part of a bonding process, which helps lay the foundation for your relationship as parent and child. Although it will take months to learn your child's temperament and personality, many of the core emotions you feel may begin to develop immediately after birth.

It's also quite normal if you do not immediately have tremendously warm feelings for your baby. Labor is a demanding experience, and your first reaction may well be a sense of relief that it's over. If you're exhausted and emotionally drained, you may simply want to rest. Give yourself some time, until the strain of labor fades, and then request your baby. Bonding has no time limit.

Also, if your baby is taken immediately to the nursery for medical attention, or if you were sedated during delivery, or if you didn't give birth to your child, don't despair. You needn't worry your relationship might be harmed because bonding didn't occur in this first hour. You can love your child just as much, even if you couldn't watch their birth or hold them immediately afterward. Your baby will also be just as loving and connected to you.

Delivery Room Procedures Following a Normal Vaginal Birth

Your baby should be placed skin-to-skin after birth if possible, and Apgar scores can be assigned while you hold your baby. It is important when parent and baby are healthy and stable to maximize skin-to-skin procedures as much as possible during the first hours after delivery. Skin-to-skin contact can help stabilize a newborn's blood sugar concentrations and body temperature. It can also help prevent hypothermia (decreased body temperature), decrease crying, and provide stable blood flow and breathing,

especially for late preterm newborns. For the mother, skin-to-skin contact decreases maternal stress and may help reduce postpartum hemorrhage.

After about an hour, your baby will be weighed, measured, and examined. Your baby will be given a dose of vitamin K to help with normal blood clotting. Because bacteria during the birthing process can infect a baby's eyes, your baby will be given an antibiotic eye ointment (erythromycin eye ointment is commonly used) to prevent a potentially serious eye infection from occurring.

You and your baby will receive matching bracelet or anklet labels to identify that this is your newborn, and they will be checked frequently during your hospital stay.

Depending on the hospital routine, the umbilical cord stump may be dried and cleaned and your baby may be given their first bath. All medically stable newborns weighing at least 4 pounds 6½ ounces (2 kg) should receive their first dose of hepatitis B vaccine within twenty-four hours after birth. You will need to sign a consent form for the vaccine to be given.

VITAMIN K

Vitamin K plays a critical role in preventing serious, life-threatening bleeding in your newborn. Newborns often do not have enough vitamin K in their bodies because they lack the bacteria that help make this nutrient. All newborns should receive an injection of 0.5 to 1 mg of vitamin K shortly after birth. Those who don't receive this injection are at greater risk of bleeding in various parts of the body and brain. Rarely, such bleeding can result in brain damage or death and can occur as late as two to six months after delivery. Vitamin K has been used for a long time and is proven to be safe and effective.

APGAR SCORES

As soon as your baby is born, a member of the birth team will set a timer for one minute and another for five minutes to give your baby's first tests, called Apgars.

The Apgar scoring helps the physician to estimate your baby's general condition at birth. It measures your baby's heart rate, breathing, muscle tone, reflex response, and color at one minute after birth and at five-minute intervals if the scores are low. It cannot predict how your baby will develop, nor does it indicate intelligence or personality. However, it alerts your baby's care providers to evaluate the need for assistance as your baby adapts to the new environment.

Each characteristic is scored, 2 points for each category if all is completely well. For example, if your baby has a heart rate of more than 100, cries lustily, moves actively, and grimaces or otherwise responds to rubbing and stimulation by the hospital providers, but is blue, their one-minute Apgar

score would be 8—two points off because they are blue and not pink. Most newborn infants have Apgar scores greater than 7. Because hands and feet remain blue until they are quite warm, few score a perfect 10.

If your baby is having difficulty breathing, moving, or crying at birth, hospital providers specially trained in evaluation and resuscitation of newborns will evaluate and treat the baby accordingly. This may include drying the baby vigorously and/or using a special mask over the nose and mouth attached to a bag to give breaths of air or oxygen, called positive pressure ventilation. This intervention usually leads to improvements in breathing, movement, and color. If these strategies do not help, a tube can be placed into their airway (the windpipe, or trachea, which goes into their lungs) to help breathing by pushing air and oxygen directly into the lungs. Also, fluids and medications may have to be administered through the umbilical cord vein to strengthen their heartbeat, if needed. Your baby may be taken to the special-care nursery or neonatal intensive care unit (NICU) for observation or more intensive medical attention.

APGAR SCORING SYSTEM

Score	0	1	2
Heart rate	Absent	Less than 100 beats per minute	More than 100 beats per minute
Respiration	Absent	Slow, irregular; weak cry	Good; strong cry
Muscle tone	Limp	Some flexing of arms and legs	Active motion
Reflex*	Absent	Grimace	Grimace and cough or sneeze
Color	Blue or pale	Body pink; hands and feet blue	Completely pink

* Reflex is assessed by gently placing a catheter or bulb syringe in the infant's nose and watching their response of sneezing or crying.

Lastly and importantly, both you and a support person of your choosing will receive matching labels bearing the newborn's name. After you verify the accuracy, these labels will be attached to your wrist, the wrist of your partner or other person of your choosing, and your baby's wrist (and often the baby's ankle as well). Each time the child is taken from or returned to you while in the hospital, the nurse will check these bracelets. Many hospitals also footprint newborns as an added precaution and attach a small security device to the baby's ankle.

Leaving the Delivery Area

If you delivered in a birthing room or alternative birth center, you probably won't be moved right away. But if you delivered in a conventional delivery room, you'll be taken to a recovery area, where you can be watched for any issues such as excessive bleeding. Unless your infant requires urgent medical attention, ask to not be separated from your infant. Your infant should receive their first medical examination by your side. This exam will measure the baby's vital signs: temperature, respiration, and pulse rate. The examiner will check your baby from head to toe, paying specific attention to their color, activity level, and breathing pattern. If vitamin K and antibiotic eye ointment were not given earlier, they will be administered now. The first bath should be delayed twelve to twenty-four hours to help with breastfeeding and bonding. Depending on your baby's gestational age, the season, and whether you received immunization for RSV (respiratory syncytial virus) during pregnancy, your baby may receive an immunization before leaving the hospital or at your pediatrician's office. This shot will help prevent RSV, a serious respiratory virus that can lead to hospitalization and life-threatening illness in infants who contract it.

NEWBORN SCREENING TESTS

Shortly after birth, and before being discharged, your baby will be given a number of screening tests to detect a variety of birth defects (i.e., blood spot test for genetic disease or low thyroid hormone, pulse oximetry screening test to detect selected heart diseases, and newborn hearing screen). These tests are designed for early detection of rare diseases to enable their prompt treatment, prevent disabilities, and sometimes save lives. While laws mandate some tests, tests performed may differ from state to state (and change periodically). Before your baby is born, talk to your pediatrician about which screening tests your baby will undergo, including benefits and risks, and whether consent is necessary. Ask when test results will be available and what the results mean, especially if they are out of the normal range; this may not necessarily indicate a congenital condition (birth defect) or genetic disease, so inquire if retesting will be done.

SHOULD I STORE MY NEWBORN'S CORD BLOOD?

Umbilical cord blood has been used successfully to treat a number of genetic, blood, and cancer conditions in children, such as leukemia and immune disorders. Some parents choose to store their baby's cord blood for

possible future use. However, there are no accurate statistics on the likelihood of children someday needing their own stored cells. The American Academy of Pediatrics discourages storing cord blood at private banks for later personal or family use as a general "insurance policy." Rather, they encourage families to donate their newborn's cord blood, which is normally discarded at birth, to cord blood banks (if accessible in their area) for other individuals in need. (You should be aware, though, that your baby's donated cord blood would not be available as a personal stem cell source if your child needs it later in life.)

Before your baby is born, you and your partner should discuss with your obstetrician and/or pediatrician the pros and cons of storing your child's cord blood. You may need to register for cord blood collection, pay, order the storage kit, and sign a consent form prior to the onset of labor. Some states now mandate that obstetricians and pediatricians discuss cord blood collection with their patients.

Keep in mind that because cord blood is collected from the cut umbilical cord after the baby is born and the umbilical cord is clamped and cut, it does not affect the baby or the birth experience. The cord blood stem cell collection process should not alter the routine practice for the timing of umbilical cord clamping.

Once the cord blood is collected, it is typed and screened for infectious diseases and hereditary hematologic diseases. If the donation meets all the required standards, it will be cryogenically stored for potential transplantation if a match is found, or it might be used for quality improvement and research.

CHAPTER 2

Your Newborn's First Days



Whether you are having your own or you are adopting, fostering, or providing kinship care for a newborn, you've spent months waiting and preparing to welcome this new little human. Your baby is uniquely special—unlike anyone else. You'll see a unique personality emerging from the very start. If you are parenting a baby born to someone else, you'll marvel at this unique personality just like every other new parent.

Some babies waste no time protesting wet diapers from day one and complain loudly until they are changed, fed, and rocked back to sleep. Infants who behave like this not only tend to spend more time awake than other babies, but also may cry and eat more. Other newborns won't seem to notice when their diapers are dirty and may be more likely to object to an exposed bottom during changes. These babies tend to sleep more and eat

less frequently than their more sensitive counterparts. These kinds of differences are normal and can serve as hints of your child's personality.

Some parents say that after their baby's spending so many months in the womb, it is difficult to view them as a separate human being, with thoughts, emotions, and desires of their own. Making this adjustment and respecting their baby's individuality, however, are important parts of being a parent. If parents identify their child's uniqueness, they'll have a much easier time accepting the person their child will become in the years ahead.

In the First Days

HOW YOUR NEWBORN LOOKS

As you relax with your baby, unwrap the blankets and examine your baby from head to toe. You'll notice many details that may have escaped you in the moments after birth. You may notice a blood-red spot in the whites of one or both of your newborn's eyes. This spot, as well as the general puffiness of a newborn's face, is most commonly caused by pressures exerted during labor. Although you might find them a bit worrisome, both tend to fade in a few days, much like a bruise on your skin. If your baby was delivered by C-section, they may not have this puffiness and the whites of the eyes likely will not have any red spots.

At birth your baby's skin will seem very delicate. Whether your child is born early, late, or on time, peeling skin is normal and usually requires no treatment. All babies, including those with a dark-skinned heritage, have lighter-appearing skin at birth. This gradually darkens as they become older.

As you examine your baby's shoulders and back, you may notice fine hair, called lanugo. This hair is produced toward the end of pregnancy; however, it's usually shed before birth or soon thereafter. If your baby was born before their due date, they are more likely to still have this hair, and it may take a couple of weeks to disappear.

You also may notice various spots and marks on your baby's skin. Some, like those appearing around the diaper edges, may be due to pressure. Mottled or blotchy-looking patches are commonly caused by exposure to cool air and will disappear quickly with warming up. If you find scratches, particularly on your baby's face, it's a good reminder it's time to trim your

baby's fingernails. For some new parents this can be a nerve-racking task, but using a nail file can be less stressful than traditional clippers.

The following are the most common skin markings in newborns:

SALMON-COLORED PATCHES, OR "STORK BITES." Distributed over areas where a stork supposedly would carry a baby in its beak, "stork bites" are patches, light to deep pink in color, most commonly located on the bridge of the nose, lower forehead, upper eyelids, back of the head, and/or the neck. They are the most common birthmark, especially in light-skinned babies. Also called angel kisses, they typically fade over the first few months to years but may become apparent later in life with flushing.

DERMAL MELANOCYTOSIS SPOTS. These birthmarks vary considerably in size, but all are flat areas of skin containing extra pigment, causing a brown, gray, or even blue (like a bruise) appearance. Most often located on the back or buttocks, these spots are very common, especially in dark-skinned babies. They usually disappear before school age and are of no medical significance.

PUSTULAR MELANOSIS. These are small blisters that typically appear at birth, then peel and dry up within a couple of days, leaving dark spots like freckles that usually disappear over several weeks. Some newborns may have only the spots, indicating they had the rash before birth. While pustular melanosis is common (particularly in babies with darker skin) and is a harmless newborn rash, it is always important to have all blister-like rashes evaluated by your baby's doctor to rule out infection.

MILIA. These tiny white bumps or yellow spots are found on the cheeks, on the chin, or across the tip of the nose, and are caused by skin gland secretion. This common newborn rash generally disappears on its own within the first two to three weeks after birth.

MILIARIA. Often referred to as "heat rash" or "prickly heat," miliaria most often occurs in hot, humid climates or when babies are too bundled up. The rash can contain tiny sweat blisters and/or small red bumps. It shows up

most often in skin folds and covered areas, and usually goes away within a few days.

ERYTHEMA TOXICUM. This rash can look concerning but is common and usually appears within the first few days after birth. It consists of multiple red splotches with yellowish white bumps in the center, which come and go days after birth and completely resolve in a week or so.

CAPILLARY HEMANGIOMAS. These raised red spots are caused by a strawberry-like collection of blood vessels in the skin. For the first week or so, they may appear white or pale, then turn red and raised later. While they often enlarge during the first year, most shrink and many disappear by school age. Depending on their location and size, your baby's doctor or a dermatologist may want to treat them.

PORT-WINE STAIN. These large, flat, and irregularly shaped dark red or purple areas are caused by extra blood vessels under the skin. Port-wine stains are usually located on the face or neck but, unlike hemangiomas, don't disappear without treatment. These birthmarks can be treated, sometimes with laser surgery, by either a plastic surgeon or a pediatric dermatologist. (See also *Birthmarks and Hemangiomas,* page 703.)

When born, babies may have an elongated shape to their head, and may also have scalp swelling in the area pushed out first during birth. If you press gently on this area, your finger may even leave a small indentation. This swelling (called caput) is not serious and should disappear in a few days.

Sometimes there may be swelling under a newborn's scalp, present on one or both sides, which is firm or springs right back after it is gently pressed. This type of swelling is likely a cephalohematoma and is caused by pressure on the head when compressed against the maternal pelvis during labor or pressure from forceps or a vacuum extractor used to assist birth. While not serious, it represents some bleeding along the outer side of the skull bones (not inside the brain) and usually takes six to ten weeks to

disappear. As the blood gets reabsorbed, the area may occasionally get hard and calcified and take longer to go away.

All babies have two soft spots, or fontanelles, on the head. These are the areas where the immature bones of the skull that are similar to pieces of a puzzle are still growing together. The larger opening is toward the front; a smaller one is at the back. Parents needn't be afraid to touch these areas gently, as there is a thick, durable membrane that protects the brain.

Babies are born with hair, but the amount, texture, and color vary from one newborn to another. Most, if not all, "baby hair" falls out during the first six months and is replaced by mature hair. The color and texture of the mature hair may be different from the hair the baby was born with.

In the first few weeks following birth, babies can be affected by the hormones they were exposed to during pregnancy. As a result, babies' breasts may be enlarged temporarily and might even secrete a few drops of milk. This is normal. It may occur in all babies, regardless of their sex, and normally lasts less than a week, although it can last longer. It is best not to press or squeeze a baby's breast, since this won't reduce swelling and could cause irritation and infection (mastitis). In infant girls, there could be a discharge from the vagina, often white mucus, although sometimes it may be bloody. Although disconcerting to new parents, this so-called pseudomenses is harmless.

Your baby's abdomen may seem prominent, and you may even notice a small area that seems to bulge during crying spells. This bulge is called a hernia. Small hernias are most commonly seen around the umbilical cord (belly button) but may also appear in a line down the center of the abdomen. (For more information, see *Umbilical Hernia* on page 35 of this chapter.)

The genitals of newborn babies can be reddish and seem large for bodies so small. The scrotum of a baby may be small and smooth, or it might be large and wrinkled. The testicles can appear to move in and out of the scrotum, and sometimes will move as far up as the base of the penis or even to the crease between the thigh and belly. As long as the testicles are located in the scrotum most of the time, the fact that they move around is normal.

Sometimes you'll notice a buildup of fluid in a sac called a *hydrocele* (see page 449) inside the scrotum. This buildup will shrink gradually without treatment over several months as the fluid is reabsorbed by the body. A

bulge in the groin or scrotal sac in boys is often due to *inguinal hernia* (see pages 447–48) and is frequently seen in premature infants. It usually appears a few weeks after birth and may get bigger with crying or straining. If it cannot be pushed all the way back in, contact your baby's pediatrician or take your baby to the emergency department because the hernia can be "strangulated" (twisted around the blood vessel), requiring surgery. On rare occasions, in a boy the testicular area becomes red and swollen and the infant appears to be in pain (crying incessantly) due to a condition called *testicular torsion* (see page 426). This is an emergency and requires immediate surgery, and the baby should be taken to the emergency room.

In boys, at birth the foreskin is attached to the head, or glans, of the penis, and cannot be pushed back as it can in older children and adults. There is a small opening at the tip through which urine flows. If the baby is circumcised, the connections between the foreskin and the glans are separated and the foreskin is removed, leaving the head of the penis visible. Without a circumcision, the foreskin will separate from the glans naturally during the first few years. (For a detailed description of circumcision, see *Circumcision* on page 644.)

CARE OF THE PENIS

Circumcised Penis. The circumcision procedure usually will be performed in the hospital prior to discharge, but it may be done after discharge during the first weeks at the discretion of your pediatrician (see *Circumcision* on page 644). Ritual circumcisions for religious reasons are usually performed in the second week. After the procedure, a light dressing with petroleum jelly may be placed over the head of the penis. Some pediatricians recommend keeping a clean dressing over the area until the penis is fully healed, while others advise leaving it off. The important thing is to keep the area clean. If stool gets on the penis, wipe it gently with soap and water.

The tip of the penis may look red for the first few days, and you may notice a yellow secretion. Both indicate that the area is healing normally. The redness and secretion disappear gradually within a week. If the redness persists or there is swelling or crusted yellow sores, there may be an infection. This does not happen often, but if you suspect an infection, consult your pediatrician.

After the circumcision has healed, usually the penis requires no additional care. Occasionally a small piece of foreskin remains. You may pull back this skin gently each time the child is bathed so long as it retracts easily. Examine the groove around the head of the penis and make sure it's clean.

If circumcision is desired but is not performed within the baby's first two weeks (perhaps for medical reasons), it is usually put off for several weeks or months. The follow-up care is the same whenever it is done. Should circumcision become necessary after the newborn period, general

anesthesia is often used and requires a more formal surgical procedure with control of bleeding and suturing of skin edges.

Uncircumcised Penis. In the first few months, you should simply clean and bathe your baby's uncircumcised penis with soap and water, like the rest of the diaper area. Initially, the foreskin is connected by tissue to the glans, or head, of the penis, so you shouldn't try to retract it. No cleansing with cotton swabs or antiseptics is necessary.

The doctor will tell you when the foreskin has separated and can be retracted safely. This will not be for several months or years and should never be forced; if you force the foreskin to retract before it is ready, you could cause painful bleeding and tears in the skin. After natural separation occurs, retract the foreskin regularly to gently cleanse the end of the penis.

As your child gets older, you'll need to teach them what they must do in order to urinate and wash the penis. Teach your child to clean the foreskin by:

- Gently pulling it back away from the head of the penis
- Rinsing the head of the penis and inside fold of the foreskin with soap and warm water
- Pulling the foreskin back over the head of the penis

YOUR BABY'S BIRTH WEIGHT AND MEASUREMENTS

What makes a baby big or small? The following are some of the most common causes:

LARGE BABIES. A baby may be born large for a number of reasons, including:

- Being born to large biological parents
- Excessive weight gain in the mother during pregnancy
- A pregnancy that lasts longer than forty-two weeks
- Overstimulation of the fetus's growth in the uterus
- Fetal chromosomal abnormalities
- Diabetes in the mother before or during pregnancy
- The mother having birthed other children (often each baby weighs more than the one before)

Large babies may have metabolic abnormalities (such as low blood sugar and calcium), traumatic birth injuries, higher hemoglobin levels, jaundice, or various birth defects. Almost one-third of large babies initially have feeding difficulties. Your pediatrician will keep a close watch on these issues.

SMALL BABIES. A baby may be born small for a number of reasons, including:

- Being born early (preterm)
- Being born to small biological parents
- Fetal chromosomal abnormalities
- Inadequate weight gain by the mother in pregnancy
- The mother's chronic diseases such as high blood pressure, or heart or kidney disease
- Placental issues
- The mother's substance use (including alcohol and tobacco) during pregnancy

A small baby may need to have temperature, blood glucose, and red cell count (hemoglobin level) closely monitored. After birth, the pediatrician will thoroughly evaluate a small infant and decide when they are ready to go home.

To compare your baby's measurements with those of other babies born after the same length of pregnancy, your pediatrician will use growth charts (see Appendix).

As illustrated in the first two growth charts, 80 out of 100 babies born at forty weeks of pregnancy (full term) weigh between 5 pounds 11½ ounces (2.6 kg) and 8 pounds 5¾ ounces (3.8 kg). This is a healthy average. Those above the 90th percentile are considered large, those below the 10th percentile small. Keep in mind that these early weight designations (large or small) do not predict a child's size as an adult, but they do help determine whether your baby needs extra attention during the first few days after birth. Head circumference and length will also be measured and compared to growth charts.

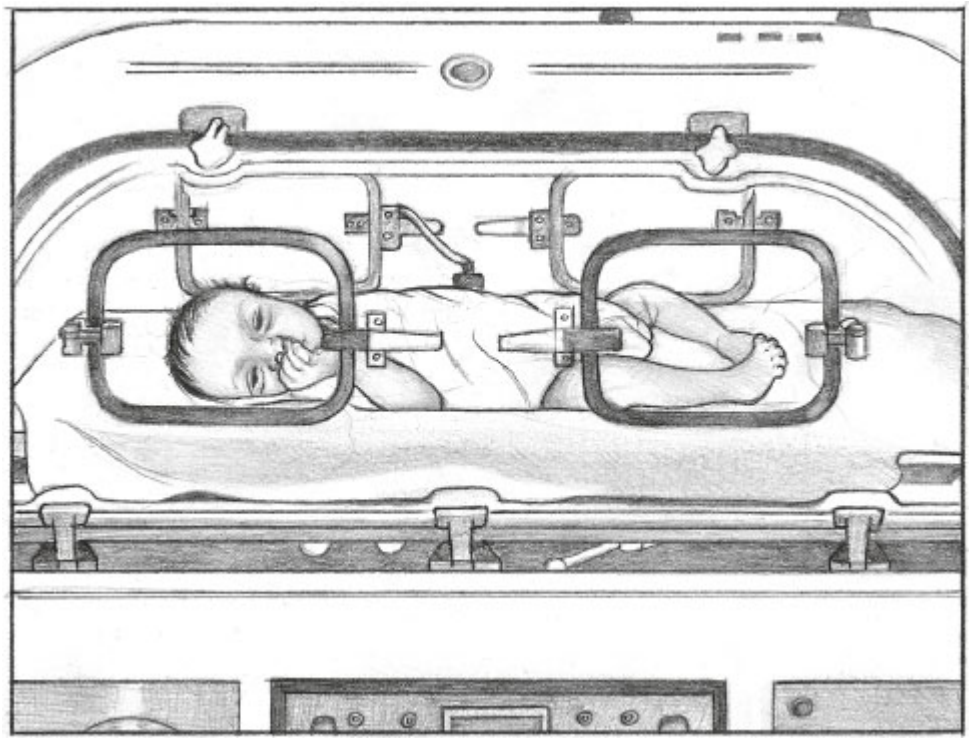
At every physical exam, the pediatrician will measure the baby's length, weight, and head circumference and will plot them on growth charts similar to the ones in the Appendix. In a healthy, well-nourished infant, these three measurements should increase at a predictable rate. Any interruption in this rate can help the doctor detect and address any feeding, developmental, or medical issues. It is important to note that early infant weight loss in the first

forty-eight to seventy-two hours may be caused by the mother getting fluids during the birthing process and is common with prolonged labor or C-section births. The fluid shift that happens during this time may be misinterpreted as a feeding issue or inadequate milk supply.

If Your Baby Is Premature

Premature birth occurs in about 10 percent of pregnancies in the United States. Almost 60 percent of twins, triplets, and other multiple deliveries result in preterm births. A birth is considered preterm when a child is born before completing thirty-seven weeks of pregnancy. Other categories of newborns include late preterm (thirty-four to thirty-six weeks), moderately preterm (thirty-two to thirty-six weeks), very preterm (less than thirty-two weeks), and extremely preterm (less than twenty-eight weeks).

If your baby is born prematurely, they may neither look nor behave like a full-term infant. While the average full-term newborn weighs about 7 pounds (3.17 kg), a premature newborn might weigh 5 pounds (2.26 kg) or even considerably less. Moderately to late preterm (those born before thirty-seven weeks' gestation) and very preterm infants (those born before thirty-two weeks) often require medical care in the neonatal intensive care unit or special-care nursery because they are not fully developed at birth. All extremely preterm infants (those born before twenty-eight weeks) require medical care in the neonatal intensive care unit or special-care nursery. The length of time they require care varies tremendously, but often they need to be hospitalized until their approximate due date or until they can maintain temperature, tolerate feeds, and gain weight. Preterm infants can have a variety of short-and long-term medical problems.



Your premature baby will be placed immediately after birth in an enclosed bed to keep them warm.

The earlier your baby arrives, the smaller they will be, the larger their head will seem in relation to their body, and the less fat they will have. With so little fat, their skin will seem thinner and more transparent, allowing the blood vessels beneath to show. They also may have fine hair, called lanugo, on their back and shoulders. Their features will appear sharper and less rounded than they would if born at term, and they may not have any of the white, cheesy vernix that would otherwise protect their skin at term birth.

Due to having less fat, your premature baby may get cold at the usual room temperatures, which can be prevented by skin-to-skin contact with you or your partner and may require blankets. Immediately after birth, your baby may be placed in an incubator (often called an Isolette) or under a special heating device called a radiant warmer. Here the temperature can be adjusted as needed. Your baby will be moved to a special-care nursery, often called a neonatal intensive care unit (NICU). Some hospitals may have a special room for you and the baby in the NICU where you or your partner can stay to facilitate skin-to-skin care and breastfeeding. In other NICUs, you will be able to join your baby there once you are medically stable.

Special-care nurseries feature equipment and specially trained staff to assist in the care of preterm or ill newborns.

You may also notice that your premature baby will cry only softly, if at all, and may have trouble breathing because their respiratory system is still immature. If your baby comes more than two months early, breathing difficulties can cause serious health problems. Doctors will keep your baby under close observation, watching breathing and heart rate with a cardiorespiratory monitor. Babies who need help breathing may be assisted by a ventilator (breathing machine) or breathing assistance techniques like high-flow nasal canula (HFNC) or continuous positive airway pressure (CPAP). As important as this care is for your baby's survival, the move to the special-care nursery may be stressful for you and your family. Although with all the health worries you may miss the experience of holding, breastfeeding, and bonding with your baby after delivery, your baby's nurse and physician will facilitate these activities as soon as the baby is stable.

Baby blues and postpartum depression occur more frequently when the baby must stay in the NICU. In the first few days, with the adjustment to your baby's stay in the hospital, you may experience temporary baby blues.

To help ease the transition, ask your nurse to see your baby as soon as possible after delivery, and become as active as you can in their care. Spend as much time in the special-care nursery as your condition—and your baby's condition—permits. Your special-care nursery will encourage you to do skin-to-skin as soon as your baby's medical needs allow. Also important in keeping postpartum depression at bay is eating healthy, sleeping (try to sleep between pumping sessions, even during the day), exercising when feeling well enough, and getting support from friends and family. If after a few weeks you still feel depressed, talk to the NICU social worker for a referral to a counselor or doctor.

You can also feed your baby as soon as your doctor says it's okay. The nurses will instruct on either breastfeeding or bottle-feeding techniques and expressing your milk, whichever is appropriate for the baby's needs and your desires. Premature babies often have immature feeding that requires special feeding techniques or tube feeding. Some premature babies initially require intravenous or feeding tube fluids. When your baby is taking feedings, breast milk is the best nutrition and provides antibodies and other

substances that enhance immune response and help resist infection. Breast milk holds special advantages for premature infants, one of which is preventing a complication called *necrotizing enterocolitis* (NEC; see pages 22–23). If it's too difficult for your premature baby to nurse, you can pump breast milk for feeding through a feeding tube or bottle. Ask your nurse or lactation consultant for help in pumping your milk by hand and with a breast pump. It is important to initiate pumping as soon as possible after delivery and to continue pumping every two to three hours, or eight times per day, to keep up your milk supply. Your colostrum, the yellowish liquid that comes in at first, may not come in for a few days. Do not get discouraged. If you are able to breastfeed, it will come in. Once breastfeeding directly, your baby should nurse frequently to increase your milk supply. Even so, mothers of premature babies sometimes continue pumping in addition to frequent breastfeeding to maintain a good milk supply. If your own milk is not available, pasteurized donor breast milk is also available specifically for preterm infants depending on your hospital's policy. Donated breast milk does not provide as full protection against illnesses, since it must be heat-treated (pasteurized) to destroy any potentially dangerous bacteria, viruses, or other infectious particles, but it does still provide immune benefits and many other nutrients that are absent in formula feeds. Your physician and nutritionist may suggest fortifying the milk with additives to provide extra calories if your baby is not gaining weight adequately. For very or extremely premature infants, it is important to keep pumping and use donor breast milk only as a bridge until your breast milk comes in.

Using breast milk (also known as human milk) that has *not* been pasteurized, or purchasing milk from an unknown source, does pose potential risks of infection for the infant. In addition, that donor may not have pumped or stored the milk under the most hygienic conditions. Milk purchased over the internet has been shown to be contaminated with bacteria, altered with other milk or formula, or not kept frozen throughout the shipping process. This milk should not be fed to infants.

When a premature baby is in the NICU, kangaroo care is a way to bond with your baby. Both the mother of the premature baby and the mother's partner can put the naked (except for a diaper) baby skin-to-skin on their bare chest with a blanket to cover the baby. The baby will stay warm, and the

parent and infant can bond. Kangaroo care has been determined to keep the baby's breathing and heart rate more regular, allow better sleep, keep the baby calmer (crying less), and improve weight gain for the baby. Kangarooing usually feels good for the parents and may increase production of breast milk for the mother.

HEALTH ISSUES OF PREMATURE BABIES

Because premature babies are born before they are physically ready to leave the womb, they often have health problems due to immature organs or the treatment necessary in the NICU for their survival. These newborns may have higher rates of disabilities (such as cerebral palsy, chronic lung disease, feeding difficulties, visual and hearing impairment, or intellectual disability) and even death.

Prior to discharge from the hospital or NICU, babies receive the hepatitis B vaccine to prevent chronic liver disease later in life. Depending on how long a baby is in the NICU prior to discharge, they may also receive other immunizations. Your nurse and physician will explain them to you and answer any questions you may have.

Premature babies are given extra medical attention and assistance immediately after delivery. Depending on how premature your baby is, your pediatrician or obstetrician may call in a neonatologist (a pediatrician who specializes in the care of premature or very ill babies) to help determine what, if any, special treatment is needed. Here are some of the most common conditions that occur in premature infants:

- *Respiratory distress syndrome* is a breathing disorder related to the baby's immature lungs. It occurs because the lungs often lack a chemical called surfactant, which is a liquid substance lining their tiny air sacs that allows the lungs to remain expanded at the end of each breath. Artificial surfactants can be used to treat some babies born prematurely. A high-flow nasal canula (HFNC), continuous positive airway pressure (CPAP) machine, or breathing machine (ventilator) may also be used to help them breathe better and maintain adequate oxygen levels in their blood. Sometimes extremely preterm babies may need long-term oxygen treatment and occasionally may go home on supportive oxygen therapy.
- *Bronchopulmonary dysplasia,* or chronic lung disease, is a term used to describe babies who require oxygen for several weeks or months. Premature infants born at later gestation usually outgrow this condition as their lungs mature and grow. However, those infants who have moderate to severe disease may have long-term health problems of lung growth and development. Your baby's neonatologist and other care providers will explain these to you prior to your taking the baby home.
- *Apnea* is usually a temporary pause (of more than twenty seconds) in breathing, and is commonly seen in premature infants. It often is associated with a decline in the heart rate, called bradycardia, and desaturation, a decline in the amount of oxygen in the blood. Apnea, bradycardia, and desaturation are monitored on cardiorespiratory (heart rate and breathing) monitors and by pulse oximetry. Apnea is treated by giving caffeine or by giving oxygen via a tube (nasal canula) or CPAP; if severe, treatment may also require the use of a breathing machine. Rarely, apnea can result from infection or other causes, such as anemia, low blood sugar, or *necrotizing enterocolitis* (NEC; see pages 22–23). Your baby's care providers will explain the cause, treatment, and its

significance to you. The good news is that most infants outgrow the condition by the time they leave the hospital.

- *Retinopathy of prematurity (ROP)* is an eye disease featuring underdeveloped retinas, causing blood vessels at the back of the eye (retina) to bleed. Most cases resolve without treatment, although serious cases may need treatment with laser surgery and/or by injections of medication. Long-term complications include near-sightedness and blindness. A pediatric ophthalmologist or retina specialist will examine your infant to diagnose ROP or other visual problems and, if needed, recommend treatment.
- *Intraventricular hemorrhage (IVH)* is bleeding inside or around the ventricles (the spaces in the brain containing the cerebrospinal fluid). Intraventricular hemorrhage is most common in premature babies, especially very-low-birth-weight babies—those weighing less than 3 pounds 5 ounces (1,500 g). Bleeding can occur because blood vessels in a premature baby's brain are very fragile and immature and rupture easily. Most premature babies who develop IVH will do so within the first week after birth. It is diagnosed by doing an ultrasound examination of the head. Mild hemorrhages (grades 1 and 2) are most common, and often occur with no further complications. Severe hemorrhages (grades 3 and 4) are the most serious and may result in long-term brain injury to the baby. Hydrocephalus (too much cerebrospinal fluid in the brain) may develop after severe IVH due to blockage in the flow of the cerebrospinal fluid within the brain and/or the spinal cord. If the ventricle size increases, causing pressure on the developing brain, a small reservoir is surgically placed to facilitate removal of spinal fluid into the space around the intestines. Often hydrocephalus resolves spontaneously. However, if the head size increases and the baby weighs more than 4 pounds 6.6 ounces (2 kg), a ventriculoperitoneal shunt may have to be placed. Your neonatologist and neurosurgeon will explain its pros and cons to you prior to surgery. There is no specific treatment for IVH, except to treat any other health problems that may worsen the condition. Although care of sick and premature babies has advanced greatly, it is not possible to prevent IVH from occurring in some babies.
- Babies born prematurely, particularly those who have IVH or hydrocephalus, are at risk for *cerebral palsy (CP),* which is a disorder of the brain's control of movement, strength, or posture. Babies can be screened for CP using specialized examinations, and you should discuss this with your baby's doctors. Identifying babies at risk for CP is important, as earlier physical therapy can lead to improved outcomes.
- Preterm babies are at risk for infection. The symptoms of infection are like symptoms that premature babies have just from being premature. These include apnea (stopping breathing), bradycardia (low heart rate), desaturation (low oxygen), the need for increased support with a ventilator, increasing oxygen requirement, belly distension, feeding intolerance, and low blood pressure. If these symptoms occur, the baby may have a sepsis workup (getting blood count, blood cultures, urine cultures, and sometimes spinal fluid cultures). The baby may also receive antibiotics. If cultures are negative after forty-eight hours, suggesting that there is no infection, the antibiotics will be stopped. Otherwise, if any of the cultures are positive, antibiotics will be given for seven to twenty-one days, depending on the type of infection.
- *Necrotizing enterocolitis (NEC)* is the most common and serious intestinal disease among premature babies. It happens when intestinal tissue, often in the small intestines (rarely the large intestine), is injured or inflamed. This can lead to death of intestinal tissue and, in rare cases, a hole (perforation) in the intestinal wall. Most cases of necrotizing enterocolitis occur in babies born before thirty-two weeks gestation. Babies with NEC usually develop it within the first two to six weeks after birth. It is diagnosed with signs of feeding intolerance or belly distension and is confirmed by ultrasound or X-ray examination of the abdomen. Not all feeding intolerance or

belly distension is associated with NEC. Treatment involves stopping feedings for five to ten days and giving appropriate antibiotics. A pediatric surgeon is usually consulted if air is detected in the infant's bowel wall, so that they can follow the baby's condition with the neonatologist and be ready to intervene if necrotic (dead) bowel or intestinal perforation is suspected. They will discuss with you when surgery may be needed. Breast milk feeding is the single most effective means to prevent NEC in preterm infants. Research is currently under way on the role infant-specific probiotics play in decreasing the risk of NEC.

- *Jaundice* happens when a chemical called bilirubin builds up in the baby's blood as a result of the natural breakdown of red blood cells. The skin may develop a yellowish color. Treatment involves placing the undressed baby under special lights (while their eyes are covered). (For additional information about jaundice, see pages 33–34.)
- *Developmental delays and disabilities* are common in all children (one in six) but can be more common in those born prematurely. "Developmental delay" is a term used to describe a delay in how a child plays, learns, speaks, acts, and moves. Because premature babies were not yet done developing in utero, it is not expected that they would show the same developmental skills at the same age as a full-term newborn. So, pediatricians often use a premature baby's corrected age (the age they would be if they were born on/after their due date) to determine if the child is showing any developmental delays. When a premature baby is in the NICU, the team may refer a child at risk for developmental delays for developmental services such as feeding therapy, speech or physical therapy, and others. These early intervention services may start while the baby is still in the NICU or be provided later by your state's early intervention system, which is designed to support babies and toddlers in learning skills that typically developing children experience in the first three years.
- You can expect your pediatrician to ask about your child's development at each well-child visit, as they do with all children, and your child will have several developmental screenings done in the first few years. Parents and caregivers should always share any concerns that they have about their child's development with their pediatrician.
- Other conditions sometimes seen in preterm babies include *anemia of prematurity* (a low red blood cell count) and *heart murmurs*. (For additional information on heart murmurs, see pages 669–71.)

NATAL TEETH

Occasionally, a child may be born with one or more teeth that have already erupted. The incidence of natal and/or neonatal teeth is far more frequent than previously supposed. Review of 359 recorded cases suggests an incidence of at least 1 in 3,000 births. About 70 percent of the natal and/or neonatal teeth are firmly fixed, but a small number can become loose.

HOW YOUR NEWBORN BEHAVES

Lying in your arms or in the crib beside you, your newborn makes a tight little bundle. Just as they did in the womb, your baby will keep their arms and legs close to their body and fists tightly clenched, although you should

be able to gently straighten them. Your baby's feet will naturally curve inward. It may take several weeks for your baby's body to unfold from this preferred fetal position.

You'll have to wait even longer to hear the cooing or babbling we think of as "baby talk." However, from the beginning babies are noisy. Besides their crying when something is wrong, you'll hear a wide variety of grunts, squeaks, sighs, sneezes, and hiccups. Many of these sounds, just like your baby's sudden movements, are reactions to disturbances in the environment; a shrill sound or strong odor may be all it takes to prompt a startle or a cry.

These reactions, as well as more subtle ones, are signs of how your baby's senses are functioning. After months in the womb, your baby will quickly recognize the voice of the mother and often any other caregiver or partner who was around the baby during the pregnancy. If you play soothing music, your baby may become quiet, or even move gently in time with it.

By using smell and taste, your newborn can distinguish breast milk from other liquids. You may notice your baby start to root when you hold them because you smell of breast milk.

Your baby's vision will be best within an 8-to 12-inch (20.3–30.5 cm) range, which means your baby can see your face as you hold and feed them. When you are farther away, you may notice a cross-eyed appearance. Don't worry about this in the first couple of months. Between 2 and 3 months of age, the eye muscles will mature, the vision will improve, and both eyes will remain focused on the same thing more of the time. If this does not happen, bring it to the attention of your baby's pediatrician.

Able to distinguish light from dark at birth and see bright colors, your infant will not yet see the full range of colors. While young infants who are shown a pattern of black and white or sharply contrasting colors may study them with interest, they are not likely to respond at all to a picture with closely related colors.

Perhaps the newborn's most important sense is touch. After months in the womb, your baby is now exposed to all sorts of new sensations—some harsh, some comforting. While your baby may cringe at a sudden gust of cold air, they'll love the feel of skin-to-skin contact with their parents/caregivers, a soft blanket, and the warmth of your embracing arms. Holding your baby gives them as much pleasure as it does you. It provides a

sense of security and comfort, and it tells them they are loved. Research shows that close emotional bonding promotes growth and development for your baby.

SIGNS TO WATCH FOR IN THE FIRST DAYS

During your baby's initial hospitalization, both you and your newborn will receive frequent checks from nursing staff and your doctors as well as daily exams. That said, if you notice any of the following, have someone come assess your baby:

- A blue appearance to the face or trunk. Blue or purple hands and feet are normal, but if you see the face turn blue, that could indicate a problem with the baby's heart or lungs.
- Breathing more than once every second or pulling of the skin between or below the ribs. Babies will often breathe fast then slow then fast again, but if you notice sustained fast or hard breathing, let your nurse know. Some babies breathe fine at birth but develop problems in the hours afterward.
- Rhythmic abnormal movements of one or more extremities. Newborns will quiver and shake, startling with even minor noises or changes in their environment, and this is all normal. But if you notice a sustained, rhythmic movement of the arms or legs, this could indicate a seizure.

GOING HOME

Most hospitals discharge you and your baby within forty-eight hours if you delivered vaginally. If you undergo a Cesarean section, you may go home at forty-eight hours or, if you have complications, you may stay at the facility for three or more days. If your baby is born in an alternative birthing center, you may go home within twenty-four hours. Nevertheless, just because a full-term, healthy infant *could* be discharged in less than forty-eight hours doesn't mean it should necessarily occur. The American Academy of Pediatrics believes that the health and well-being of the mother and the child are paramount. Since every child is different, the decision to discharge a newborn should be made on a case-by-case basis.

If you are adopting, you may want to stay in the hospital and take care of the baby for the first couple of days after birth. If possible, plan ahead of time with the birth parent and the hospital to establish where you and the newborn will be and whether the birth parent will be involved in care during that time.

If a newborn does leave the hospital early, they should still receive all the appropriate newborn tests and measures, such as a hearing screen, newborn metabolic tests, vitamin K administration, antibiotic eye ointment, heart screening, and hepatitis B vaccine, and be seen by the pediatrician twenty-four to forty-eight hours after discharge. If latch or breastfeeding sessions are not going well, ask to see the lactation specialist or pediatrician and plan for follow-up after discharge for breastfeeding support. Call the doctor sooner if a newborn appears listless or is feverish, is vomiting, or has difficulty feeding, or if their skin develops a yellow color (jaundice).

Before you bring your baby home, your car should be equipped with at least the bare essentials. Make sure you have a federally approved car safety seat appropriate for your baby's size, and that it's correctly installed, rear-facing in the backseat of your vehicle. It is extremely important to follow the car safety seat manufacturer's instructions on installation and proper use. If possible, get your car safety seat installation checked by a certified child passenger safety technician to ensure you've gotten it right. (For more information on the choice and proper use of car safety seats, see pages 397–405.)

At home you'll need a safe place (crib, bassinet, or portable crib) for the baby to sleep, plenty of diapers, and enough clothing and blankets to keep your baby warm and protected.

WHERE WE STAND

The timing of newborn hospital discharge should be a mutual decision between the parents and the physician caring for the infant. The American Academy of Pediatrics believes that the health and well-being of the parent and baby should take precedence over financial considerations. Academy policy has established minimum criteria for discharge before forty-eight hours after birth: These include term delivery, feeding well, appropriate growth, and normal physical examination. It often takes forty-eight hours for all of these criteria to be met. The Academy supports state and federal legislation based on AAP guidelines as long as physicians, in consultation with parents, have the final authority in determining when to discharge the patient.

Parenting

You may find your first few days with your baby to be a mixture of delight, pain, utter exhaustion, and—especially if this is your first child—some apprehension about your capabilities. Bringing home a baby you are fostering or adopting brings many of the very same feelings. Take comfort: You are not alone.

You may be so excited about your new arrival that you don't even notice how tired and sore you are. Despite the fatigue, it still may be difficult to fall asleep. If you deliver in a hospital and your baby is healthy, your baby will usually sleep in a hospital-supplied bassinet in your room. You should maximize your time enjoying skin-to-skin care with your baby, but be careful not to fall asleep with your baby on your chest, in bed, or on a chair or sofa.



When you or your partner is tired or going to sleep, put your baby back in the bassinet on their back. Swaddling or using a sleep wrap may encourage sleeping apart from you. Take advantage of the time in the hospital to rest, learn from the trained professionals, and let your body recover. Once you are home, try to rest when you can. Being a new parent is an anxiety-provoking transition, so give yourself plenty of grace, as it will take a while to get used to routine baby care and for things to fall into place.

Remember, you can rely on trusted friends, family members, and your pediatrician for help and advice. Although it is tempting to search online for answers, this may only end up adding more confusion. (For more information about postpartum blues and depression, see the description on pages 28–29.)



You have just given birth to a wonderful new being, but also to a new awesome responsibility.

If this is not your first child, there may be some questions on your mind, such as:

- *Will this new baby come between you and an older child?*

  This needn't happen, especially if you make a point of including your older child(ren) in your new routine. Toddlers are usually quite happy to help with giving the baby a bath or retrieving a clean diaper, and older children often take pride in checking for hazards (e.g., stray toys) and making sure all visitors wash their hands before touching the new baby. As you become more comfortable with your daily routine, be sure to include special times with your older child. Announcing this special time big and loud will make it more noticeable and memorable.
- *Will you be able to give the same intensity of love to the new child?*

  In fact, each child is special and will draw out different responses and feelings from you. Even the birth order may influence the way you relate

to each other. It is often helpful to think that "new" isn't "better" or "worse," but usually just … different. This concept is important for both you and your child(ren) to remember. Providing your child with a sibling is a gift. Learning how to share, comfort, and compromise are all life skills learned first within a family context.

On a practical note, the prospect of taking care of multiple children may worry you. This only makes sense, but given time and patience, every family member will settle into new roles.

Most parents find that at some point the newness, fatigue, and seemingly unanswerable questions push them to tears. You won't be the first new parent to cry—or the last. The hormonal changes experienced by adolescents are minor compared to the hormonal shifts associated with pregnancy and the postpartum period.

The emotional changes can sometimes lead parents to experience sadness, fear, irritability, anxiety, or even anger toward their baby—feelings doctors call postpartum blues or baby blues. About three out of four new mothers experience this a few days after birth. For some these feelings will only last a few days, for others longer.

Some new mothers, however, have such severe sadness, emptiness, apathy, and even despair that doctors categorize this as *postpartum depression*. They also may experience even more extreme feelings of inadequacy and may begin to withdraw from family and friends. This may develop a few weeks after birth and affects about one out of three new mothers. The symptoms can last many months (or even more than a year), worsen with time, and become so intense that these mothers may feel helpless and incapable of caring for their baby and other children; they may even worry about harming themselves or their baby. Even the parent who didn't give birth themselves can suffer from postpartum depression; they, too, should be alert to the signs and seek help early on.

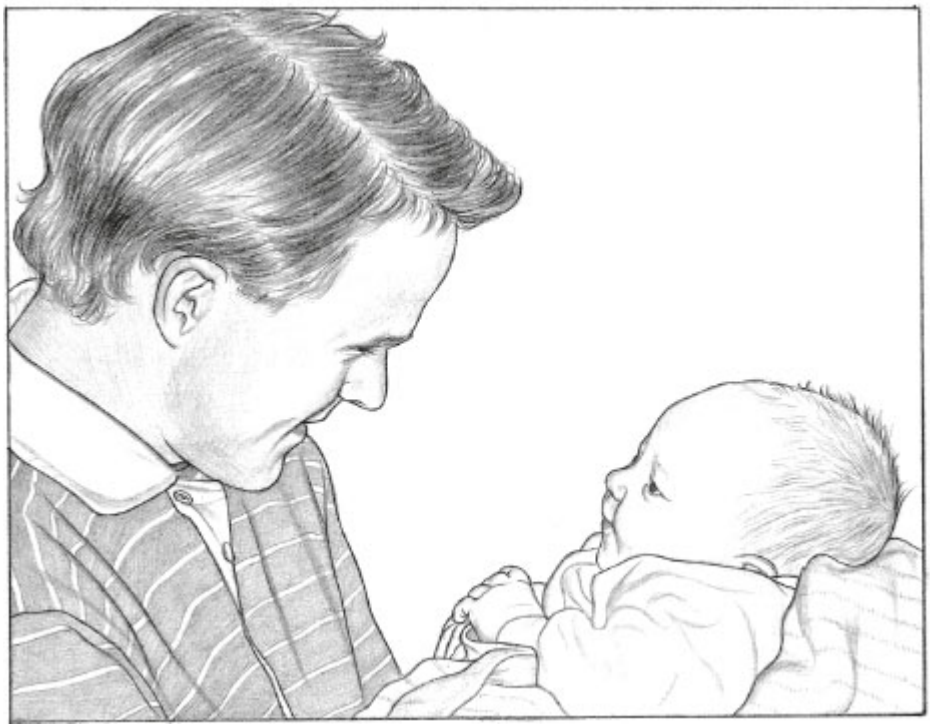
Discuss your feelings with your partner, your extended family, and close friends. Allow them to relieve you of being the primary caregiver, and try to reduce your stress and anxiety by embracing self-care. Sleep, exercise, meditate, connect with friends; take time to do whatever it is that renews your sense of well-being and energy. If this doesn't help and these feelings

are severe and haven't subsided in about two weeks, talk to your obstetrician, primary care provider, or pediatrician, or seek help from a mental health professional; counseling and/or antidepressant medications may be recommended (many medications are safe, but check in with your pediatrician if you're using breast milk). Many pediatricians now screen for postpartum depression with a questionnaire at each well-child visit in the first six months.

PARTNER'S FEELINGS

Even if you didn't carry and birth your baby, you may have made adjustments physically and emotionally as the due date approached and preparations for the baby became all-important. You may have been present and played an important supportive role during the delivery. Even if you felt that you didn't do as much as your partner, this is your baby, too.

When the baby finally arrived, you may have been relieved as well as excited and awed. If you witnessed your baby's birth, feelings of commitment and love that you had worried might never happen may have surfaced after all. You may also have experienced a greater admiration and love for the mother than ever before. At the same time, contemplating the responsibility of caring for this child for the next twenty years or longer may feel more than a little unnerving.



Become as involved as possible in caring for and playing with your new baby. You'll get just as emotionally attached to them as your partner will.

Depending on the hospital and your own schedule, you may have been able to room in with the mother and/or your child until it was time to go home. This may help you feel less like a bystander and more like a key participant, allowing you to get to know your baby right from the start. It also allows you to share an intense emotional experience with your partner.

If conflicting emotions persist, how should you deal with them? The best approach is to become actively involved in parenting. Once the entire family is home, you can—and should—hold and comfort the baby, provide encouragement to your partner, and help them to rest whenever possible. During those times you will gain confidence with diapering and even feedings. Doing these jobs helps you to bond with your child, and they are wonderful opportunities for the entire family to get to know, love, and welcome this new member home.

SIBLINGS' FEELINGS

Older children may greet a new baby with open arms, closed minds, or a mixture of both. Their reaction will depend largely on their age and

developmental level. For instance, there's little you can do to prepare a toddler for the changes that will come with a new sibling. To begin with, other children may have been confused by the sudden disappearance of their parents when the baby was born. Visiting the hospital, they may have been frightened by the sight of the birth parent in bed, perhaps attached to intravenous tubing.



Siblings may also be jealous that their parents are holding someone else instead of them, and they may misbehave or begin acting younger (insisting on wearing diapers or suddenly having accidents several months after being toilet trained). These are normal responses to stress and change, and the best way to respond is simply to give extra love and reassurance rather than to punish them. Also, try very hard to catch them "being good," so they get attention for appropriate behaviors. Praise them for "acting like the big sibling," letting them know that they, too, have an important new role to play. Tell them that there's plenty of room in your heart to love both them and the new baby. Over time, their attachment to the baby will build. You'll want to supervise them with the baby at all times so that they can learn how to behave safely around their new sibling.



Make sure you reserve some special time each day just for you and your older child.

If your older child is a preschooler, they will probably better understand what's happening. If you prepared your older child as you waited for your baby, you may have helped ease their confusion, if not their jealousy. Saying things like "The baby is in my tummy" or "The baby will sleep in your old crib" often helps them be able to understand the basic facts of the situation and may make them very curious about this mysterious person.

If school-age, your child still needs to adapt to a new role. At the same time, they were probably fascinated by the process of pregnancy and childbirth and eager to meet the new baby. Once the infant arrives, they may become very proud and protective. Let them help take care of the little one at times, but don't forget they still need time and attention themselves.

Health Watch

Some physical conditions are common during the first couple of weeks after birth. If you notice any of the following in your baby, contact your pediatrician.

ABDOMINAL DISTENSION. Most babies' bellies normally stick out, especially after a large feeding. Between feedings, however, they should feel soft. If your child's abdomen feels swollen and hard, and if the baby has not had a bowel movement for more than one or two days or is vomiting, call your pediatrician. Most likely the problem is due to gas or difficulty passing a stool, but it also could signal a more serious intestinal problem.



Let the older sibling know frequently that there's enough room and love in your heart for both children.

BIRTH INJURIES. Babies can be injured during birth, especially if labor is long or difficult, or when babies are very large. While newborns recover quickly from some of these injuries, others persist. Occasionally a broken collarbone occurs, which will heal quickly. After a few weeks a small lump may form at the fracture site, but don't be alarmed; this is a sign that new bone is forming to mend the injury, and it will soon be as good as new.

Muscle weakness is another common birth injury during labor, caused by pressure or stretching of the nerves attached to the muscles. These muscles, usually weakened on one side of the face or one shoulder or arm, generally return to normal after several weeks. In the meantime, ask your

pediatrician to show you how to nurse and hold the baby to promote healing.

BLUE BABY. Babies may have mildly blue or purple hands and feet, which is usually normal. If their hands and feet turn slightly blue from cold, they should return to pink as soon as they are warm. Occasionally the face, tongue, and lips may turn a little blue when the newborn is crying hard, but once the baby is calm, the color should quickly return to normal. However, persistently blue skin coloring is a sign the heart or lungs are not operating properly and the baby is not getting enough oxygen in the blood. It may be accompanied by rapid and labored breathing or a grunting sound. Immediate medical attention is essential.

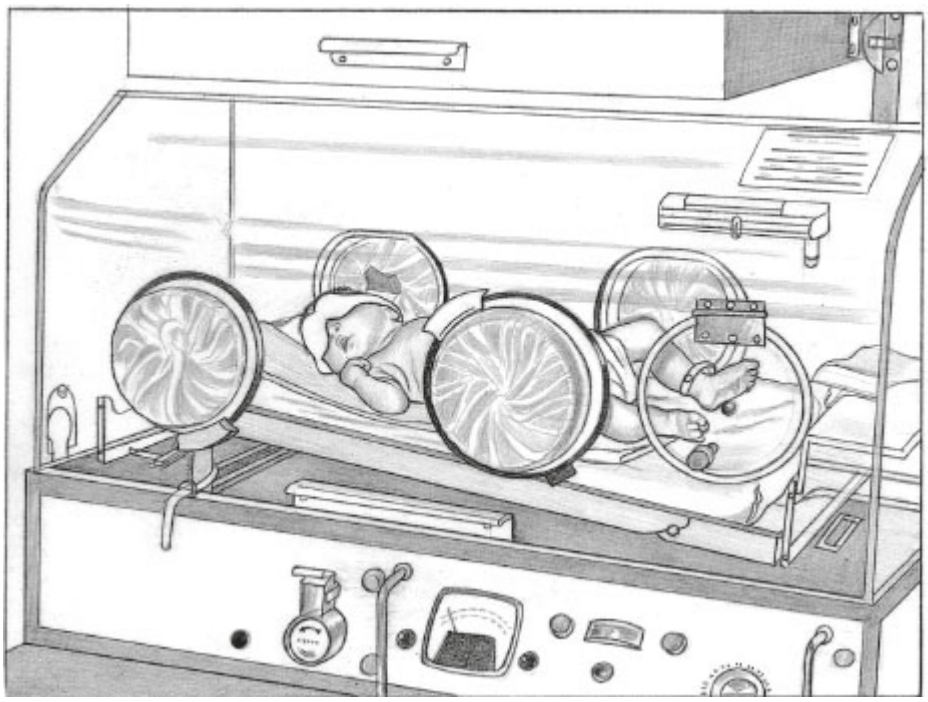
BOWEL MOVEMENTS. After birth, the staff will watch for your baby's first urination and bowel movement to make sure there are no problems with these important tasks. It may be delayed twenty-four hours or more. The first bowel movement or two will be black or dark green and very slimy. It is meconium, a substance that fills the infant's intestines before the baby is born. If your baby does not pass meconium in the first forty-eight hours, further evaluation is required to make sure that no problems exist in the lower bowel. On occasion, newborns have a little blood in their bowel movements. If it occurs during the first few days, it usually means the infant has a little crack in the anus from stooling. This is generally harmless, but even so, let your pediatrician know about any signs of blood to confirm the reason, since there are other causes that require further evaluation and treatment.

COUGHING. If the baby drinks very fast, they may cough and sputter, but this type of coughing should stop as soon as the feeding routine becomes familiar. This may also be related to the speed at which the milk comes down if you are breastfeeding, especially with the initial let-down. If your baby coughs persistently or routinely gags during feedings, or excessively spits up, consult the pediatrician. These symptoms could indicate an underlying problem in the lungs or digestive tract.

EXCESSIVE CRYING. All newborns cry, often for no apparent reason. If you've made sure that your baby is fed, burped, warm, and dressed in a clean diaper, the best tactic is probably to hold your baby and talk or sing to them until the crying stops. You cannot spoil a baby this age by providing too much attention. If this doesn't work, wrap your baby snugly in a blanket or try some of the approaches listed on pages 109–10. If you are worried about the degree of crying, call your pediatrician. Crying that doesn't stop can be stressful to any parent. If you find yourself starting to feel excessively frustrated, hand your infant to another caregiver or put your baby down in a crib or safe space and take a moment to calm down.

FORCEPS MARKS. When forceps are used during delivery, they can leave red marks or even superficial scrapes on a newborn's face and head. These generally disappear within a few days. Sometimes a firm, flat lump develops in one of these areas because of minor damage to the tissue under the skin, but this, too, will usually go away within two months.

JAUNDICE. Many normal, healthy newborns have a yellowish tinge to their skin, which is known as jaundice. It is caused by a buildup of bilirubin in the child's blood because the immature liver cannot clear it well. Mild jaundice is harmless. However, if the bilirubin level continues to rise and is not treated, it can lead to brain injury. Jaundice tends to be more common in breastfed newborns, most often in those not nursing well; breastfeeding mothers should nurse a minimum of eight times a day, but every two hours is more common, so ten to twelve times per day. Keeping the baby on task by feeding them in their diaper only and rubbing their back can help, especially when they are sleepy in the early days.



Phototherapy—or light treatment—can be delivered through different light sources, such as special lights or on a specialized blanket with the baby's eyes covered for protection.

Jaundice first appears on the face, then the chest and abdomen, and finally the arms and legs in some instances. The whites of the eyes may also be yellow. Hospitals now routinely screen newborns for jaundice twenty-four hours after birth using a painless handheld light meter. If the pediatrician suspects jaundice may be present—based on skin color as well as the baby's age and other factors—the doctor may order a skin or blood test to definitively diagnose the condition. If jaundice develops before the baby is twenty-four hours old, a blood bilirubin test is *always* needed to help with the accurate diagnosis. If you notice a sudden increase in jaundice, your baby not feeding well, or a decrease in the number of wet diapers when your baby is at home, contact your pediatrician. At 3 to 5 days old, newborns should be checked by a doctor or nurse, since this is the time bilirubin levels are highest; for that reason, infants discharged before they are seventy-two hours old should be seen by a pediatrician within two days of discharge. Some newborns need to be seen even sooner, including:

- Those with a high bilirubin level before leaving the hospital
- Those born early (more than two weeks before the due date)

- Those who are not feeding well
- Those with considerable bruising and bleeding under the scalp, associated with labor and delivery
- Those who have a biological parent or biological sibling who had high bilirubin levels and underwent treatment for it

An elevated bilirubin level can be treated with phototherapy, or light treatment. At either the hospital or home, an undressed infant is placed under special lights or on a specialized light blanket with eyes covered for protection. This kind of treatment can prevent the harmful effects of jaundice. In breastfed babies, jaundice may last for more than two to three weeks; in formula-fed babies, most cases go away by two weeks of age.

LETHARGY AND SLEEPINESS. Every newborn spends most of the time sleeping. As long as your baby wakes every few hours, eats well, seems content, and is alert part of the day, it's perfectly normal to sleep the rest of the time. But if your newborn is rarely alert, does not wake up for feedings, or seems too tired or uninterested to eat, you should consult your pediatrician. This lethargy—especially if it's a sudden change in your baby's usual pattern—may be a symptom of a serious illness.

RESPIRATORY DISTRESS. It may take your baby a few hours after birth to form a normal breathing pattern, but then you should notice no further difficulties. If your baby seems to be breathing in an unusual manner, it is most often due to blocked nasal passages. Using saline nasal drops, followed by suctioning the mucus from the nose with a bulb syringe or other device, may fix the problem; these are available over the counter.

However, if your newborn shows any of the following warning signs, notify your pediatrician immediately:

- Fast breathing (more than sixty breaths in one minute), although keep in mind that babies normally breathe more rapidly than adults
- Retractions (sucking in the muscles between the ribs with each breath, so the ribs stick out)
- Flaring of the nose

- Grunting while breathing
- Persistent blue lips or other areas of skin

UMBILICAL CORD. You'll need to keep the stump of the umbilical cord clean and dry as it shrivels and eventually falls off. There is no need to use alcohol on the cord; just keep it clean. Also, keep the diaper folded below the cord to prevent urine from soaking it. You may notice a few drops of blood on the diaper around the time the stump falls off; this is normal. But if the cord actively bleeds, call your baby's doctor immediately. If the stump becomes infected, it will require medical treatment. Although cord infections are uncommon, you should contact your doctor if you notice any of the following:

- Foul-smelling yellowish discharge from the cord
- Red skin around the base of the cord
- Crying when you touch the cord or the skin next to it

The umbilical cord stump should dry and fall off by the time your baby is 3 weeks old. If it persists beyond that time, a doctor's visit is needed.

UMBILICAL GRANULOMA. Sometimes instead of completely drying, the cord will form a granuloma, or a small reddened or brownish mass of scar tissue that stays on the belly button after the umbilical cord has fallen off. This granuloma may drain a light yellowish fluid. This condition will usually go away in about a week, but if not, your pediatrician may need to help dry or chemically cauterize the granulomatous tissue.

UMBILICAL HERNIA. If your baby's umbilical cord area seems to push outward with crying, your baby may have an umbilical hernia—a small hole in the muscular part of the abdominal wall that allows the tissue to bulge out when there is increased abdominal pressure (i.e., crying). This is not a serious condition, and it usually heals by itself in the first 12 to 18 months. In the unlikely event it doesn't heal by 3 to 5 years of age, the hole may need surgery. Don't put tape or a coin on the navel. It will not help the hernia, and it may cause a skin rash.

CHAPTER 3

Feeding Your Baby



Your baby's nutritional needs during the rapid-growth period of infancy are greater than at any other time in their life. They will approximately triple their birth weight during their first year.

Feeding your infant provides more than just good nutrition. It also allows you to hold your newborn close, cuddle them, and make eye contact. These are relaxing and enjoyable moments for you both, bringing you closer together.

Before your baby arrives, you should consider how you are going to feed them. Major medical groups worldwide agree that, if possible, breastfeeding

is best for the baby and the breastfeeding parent. That said, breastfeeding certainly can be difficult and might not be possible for some. This chapter will provide the basic information on infant feeding so that you can feel comfortable with your feeding decision.

It is important to note that not all parents who feed their babies with their own milk use the term "breastfeeding"; some transgender or non-binary parents may instead use the term "chestfeeding" to describe this process. Most scientific research on feeding breast milk has focused on breastfeeding. Because of this, we will use "breastfeeding" to describe feeding infant milk from a mother. This chapter is written to address a breastfeeding mother, but the information may be helpful to partners or other supportive people in that parent's life. The AAP supports continued research and advocacy for all parents who wish to provide optimal nutrition for their infants.

Because of its nutritional composition and health-promoting properties, breast milk (also referred to as human milk) is the ideal food for human infants. Studies have shown that babies who are breastfed are at a reduced risk of acquiring upper respiratory infections and ear infections, wheezing in early childhood, and gastrointestinal infections that cause vomiting and diarrhea. Breastfeeding has been associated with reduced risk of sudden infant death syndrome (SIDS/SUID) and childhood leukemia. Other studies have shown that breastfeeding may reduce the chance of overweight, obesity, and both type 1 and type 2 diabetes in childhood and later. Premature babies who receive breast milk may particularly benefit, with reduced risks of serious gut and blood infections. In addition, for those who breastfeed, studies show that breastfeeding helps a woman return to pre-pregnancy weight, prevents diabetes, and reduces the incidence of certain types of cancers later in life. As a result, most pediatricians recommend that expectant and new mothers breastfeed when possible.

Some women are uncertain about breastfeeding or cannot breastfeed for various reasons. If you have questions about breastfeeding, ask your prenatal care provider, your pediatrician, or a lactation consultant—someone knowledgeable with whom you can discuss your specific concerns, doubts, or fears. With support, most women are able to successfully breastfeed their babies. If you are unable to breastfeed, infant formula is an acceptable and

nutritious alternative to breast milk. But you should thoughtfully weigh the many benefits of breastfeeding before making the choice to formula-feed. It's important to give it serious consideration before your baby arrives, since starting with formula and then switching to breast milk can be difficult if you wait too long. The production of milk (called lactation) is most successful if breastfeeding begins immediately after delivery.

WHERE WE STAND

The American Academy of Pediatrics believes that breastfeeding is the optimal source of nutrition through the first year. We recommend exclusively breastfeeding for about the first six months, and then gradually adding solid foods while continuing breastfeeding for at least the first year. Thereafter, breastfeeding can continue for as long as both mother and baby desire it.

Breastfeeding should begin as soon as possible after birth, usually within the first hour. Newborns should nurse whenever they show signs of hunger—approximately eight to twelve times every twenty-four hours. The frequency of feedings and the amount of time for each feeding vary widely for each mother-baby pair. It is important to recognize signs that the baby is latching on to the breast and getting milk. The amount of milk a baby will get during each breastfeeding attempt is small during the first day (about 1 teaspoon) and increases on the second and third days. Before going home it is important to identify the signs that your baby is getting milk during breastfeeding. (See *Is Your Baby Eating Enough?* on page 53.)

The American Academy of Pediatrics, the World Health Organization (WHO), and many other experts encourage breastfeeding for as long as possible, one to two years or longer, with a recommendation of six months of exclusive breastfeeding (see *Where We Stand* on page 37). Breast milk provides optimal nutrition and protection against infections. One survey found that 80 to 90 percent of pregnant women wanted to breastfeed. Of infants born in 2020, 84 percent were breastfed at birth and 57 percent were still being breastfed at 6 months of age (see the breastfeeding report card produced by the Centers for Disease Control and Prevention [CDC] at cdc.gov/breastfeeding/data/reportcard.htm). Because most women want to breastfeed, and start out breastfeeding, national efforts have shifted to building a better support system for maintaining breastfeeding. That said, many workplaces and employers continue to lag in providing the support necessary for parents to successfully breastfeed.

Breastfeeding

Breast milk is the best possible food for any infant. Its major ingredients are water, sugar (lactose), easily digestible protein (whey and casein), and fat (digestible fatty acids). In addition, breast milk contains minerals and vitamins, as well as enzymes that aid the digestive and absorptive process. Formulas approximate these nutrients and don't provide all the enzymes, nor the antibodies, growth-promoting factors, and many other valuable components that are involved in fighting infections.

There are many practical reasons to breastfeed your baby. The direct cost of breast milk is much less than the cost of buying formula retail—a slight increase in your caloric intake costs much less than what you would spend on formula. Breastfeeding uses about 500 calories a day to produce the milk. It's therefore especially important that mothers continue to eat a healthy, balanced diet while nursing, to avoid nutritional deficiencies. Breastfeeding also helps the uterus tighten and return to its normal size more quickly.

The psychological and emotional advantages of breastfeeding are just as compelling, for both mother and child. Nursing provides skin-to-skin contact, which is soothing for your baby and often pleasant for you. The same hormones that stimulate milk production and release also may promote feelings that enhance bonding. Almost all breastfeeding mothers find that the experience of breastfeeding makes them feel more attached and protective toward their babies and more confident about their own abilities to nurture and care for their children. The breastfeeding mother may feel an increased demand on her time. Studies, however, show that breastfeeding and formula-feeding take about the same amount of time. Bottle-feeding requires more time for shopping and for cleaning feeding utensils. Time spent with the baby is important for infant nurturing and development and can be pleasurable for the mother. Other family members can assist by covering household tasks, especially during the first few weeks, when the mother needs extra rest and the baby demands frequent feeding.

THE HEALTH BENEFITS OF BREASTFEEDING

Research has shown that babies who are breastfed reap numerous benefits. Compared to those who are breastfed, babies who are formula-fed have higher rates of the following:

- Ear infections
- Eczema, food allergies, and asthma
- Gastrointestinal infections that cause vomiting and diarrhea
- Pneumonia and other respiratory diseases
- Obesity in adolescence and adulthood
- Type 1 and type 2 diabetes
- Childhood leukemia
- Sudden infant death syndrome (SIDS)
- Necrotizing enterocolitis (NEC), especially common in premature infants

Mothers who breastfeed longer than twelve months see improvements in maternal health, with decreasing rates of maternal type 2 diabetes, hypertension, breast cancer, and ovarian cancer.

Source: Adapted from American Academy of Pediatrics, *New Mother's Guide to Breastfeeding*, ed. J. Y. Meek, 4th ed. (New York: Bantam Books, 2024).

Other family members can actively share in all aspects of baby care even though they do not directly feed them milk. Remain sensitive to the needs of fathers, partners, and siblings. A partner's non-nutritive cuddling with the baby plays an important role, as does the comforting of the mother and baby when needed. A partner can hold, burp, diaper, bathe, and walk with the baby. After breastfeeding is well established (about 3 to 4 weeks of age), the partner may feed expressed milk with a bottle.

CONSIDERING SPECIAL CIRCUMSTANCES

When parents are healthy, babies can thrive. It is very important that mothers prioritize their own health and take the medications their doctor recommends, such as medications for mental health diagnoses (including substance use disorders). Most medications, including many of those for depression or opioid use disorder, are safe for breastfeeding. If you're taking prescription or over-the-counter medications for any reason, let your pediatrician know before you start breastfeeding. The pediatrician can advise whether anything taken can pass through breast milk and cause problems. Sometimes medicines can be switched to safer ones while breastfeeding. Also, be aware that just because something is labeled as a "dietary supplement" or "all natural" does not mean it can't cause harm to a baby when excreted in breast milk. (To get more information you can visit LactMed, a database of drugs and dietary supplements that may affect breastfeeding: ncbi.nlm.nih.gov/books/NBK501922/. It includes information on the levels of such substances in breast milk and infant blood, and possible adverse effects in the nursing infant. It is also available as a free app for Android and iOS.) In rare situations, to protect the health of the mother, breastfeeding may not be recommended. They can still feed their baby in a loving, connected manner with infant formula; babies will know that their parent is giving them vital nutrition.

It's best for parents to discuss feeding issues openly to make sure everyone understands and supports the choices made before the baby arrives. Parents and care providers want a child to receive the best possible nutrition from the start. If breastfeeding is well established (usually between 3 and 4 weeks of age) and the mother needs to be away from the baby for a period (e.g., because of the need to return to work or take some personal time), she can continue to provide milk by pumping and collecting breast milk for feeding from a bottle.

Some mothers may experience mild discomfort during early breastfeeding. But significant discomfort is *not* normal. If you experience pain, have difficulty getting the baby to latch on and feed well, or would like further support with nursing, seek help from an experienced health professional (pediatrician, nurse, or lactation specialist). All babies should be seen by a pediatrician, nurse, or lactation consultant within two to three days of hospital discharge to check on how both the parent and the newborn are adjusting to being home.

Seeking help from an expert early is a good way to prevent and even overcome problems and maintain the skills and self-confidence necessary to continue breastfeeding. Occasionally some mothers have breastfeeding problems that lead to untimely weaning (before the mother had intended). Many women feel disappointed when breastfeeding does not work out as planned, but these situations are common, and formula provides a safe and nutritious alternative for growing infants. (Also see *Bottle-Feeding* on page 62.)

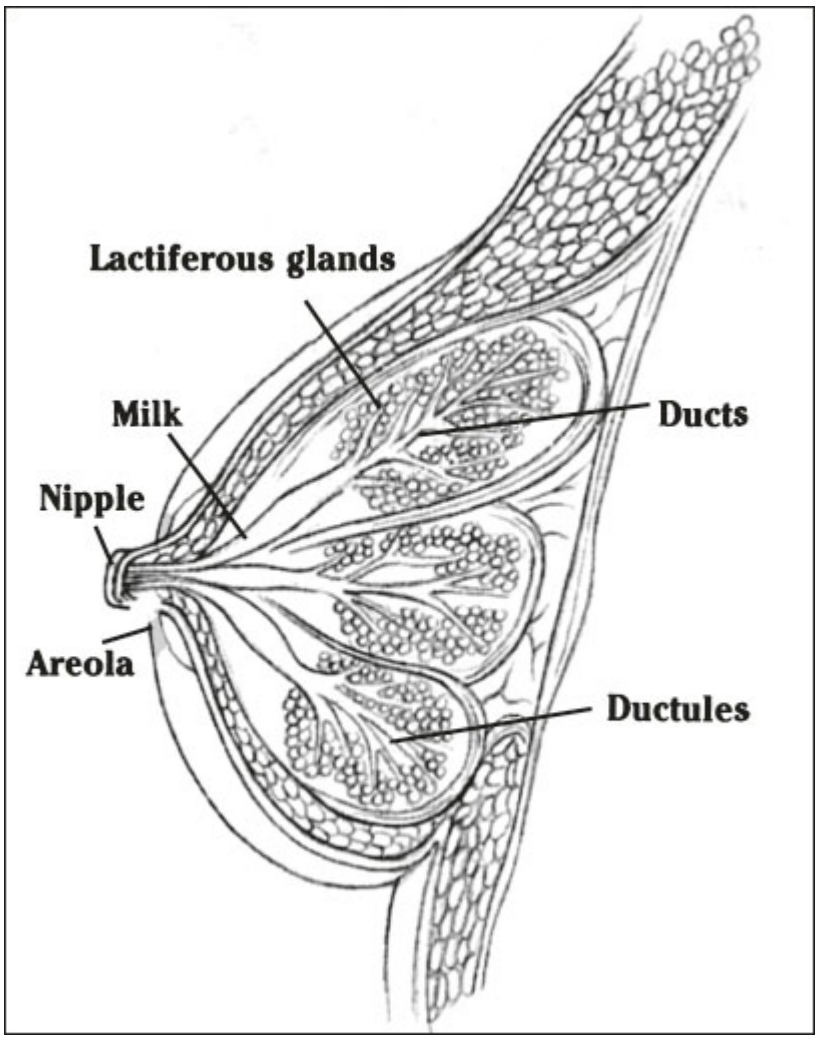
GETTING STARTED: PREPARING FOR LACTATION

Your body starts preparing to breastfeed as soon as you become pregnant. The area surrounding the nipple—the areola—becomes darker. The breasts enlarge as milk-manufacturing cells multiply and the milk-carrying ducts develop. The increase in breast size is normal and a sign that your breasts are preparing to produce milk. Meanwhile, your body starts storing excess fat to provide the extra energy needed for pregnancy and lactation.

As early as the sixteenth week of pregnancy, the breasts are ready to produce milk as soon as the infant is born. Early milk, called colostrum, is a rich, slightly thick-appearing, orange-yellow substance produced for several

days after delivery. Colostrum contains more protein, salt, antibodies, and other protective properties than later, "mature" breast milk, but it has less fat and fewer calories. Colostrum helps your baby establish their immune system. The colostrum gradually changes into transitional and then mature milk. The nutritional components of breast milk adjust to match the changing needs of your growing infant and will continue to do so for the duration of breastfeeding. This is a characteristic that infant formula cannot duplicate.

As your body naturally prepares for breastfeeding, there is little you need to do. Your nipples do not need to be "toughened up" to withstand your baby's sucking. Tactics such as stretching, pulling, rolling, or buffing the nipples may interfere with normal lactation by harming the tiny glands in the areola that secrete a milky fluid that lubricates the nipples in preparation for breastfeeding. In short, it could make your nipples more likely to develop soreness and irritation.



Milk is produced by the lactiferous glands. The milk then passes through the ductules into the ducts and out the nipple.

Normal bathing and gentle drying is the best way to care for your breasts during pregnancy. Although many women use lotions and ointments on their breasts, these are not necessary and may even clog skin pores. Salves, particularly those containing vitamins or hormones, are unnecessary and could cause problems for your baby if used while breastfeeding. On the other hand, some women find purified lanolin is helpful in soothing sore or irritated nipples. If lanolin makes nipple pain worse, it may be an indication of allergy to even the purified form of lanolin.

Some women start wearing nursing bras during pregnancy. They are more adjustable and roomier than normal bras and are more comfortable as the breast size increases. Nursing bras also have flaps that can be opened for

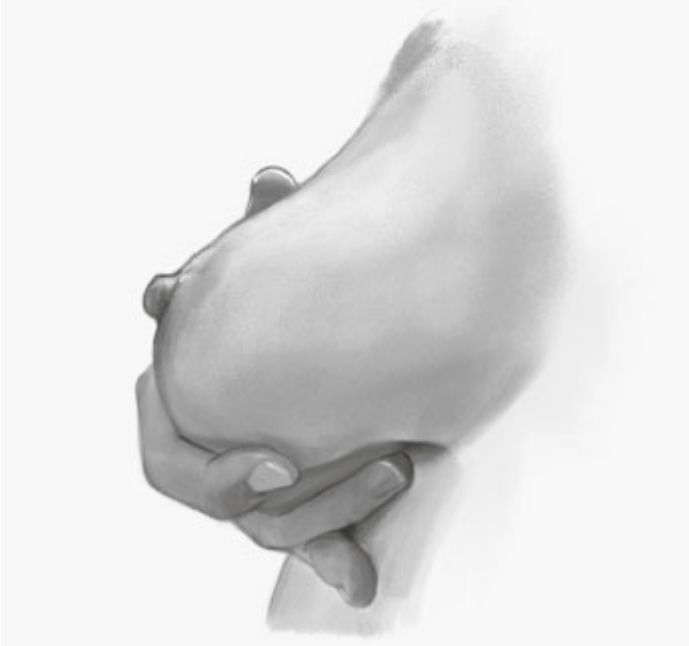
breastfeeding or expressing milk. Pads may be inserted into the nursing bra to absorb leaking milk. Be aware that some mothers are allergic to some of these pads, so it is important to speak with your doctor if you develop a nipple rash or pain.

LETTING DOWN AND LATCHING ON

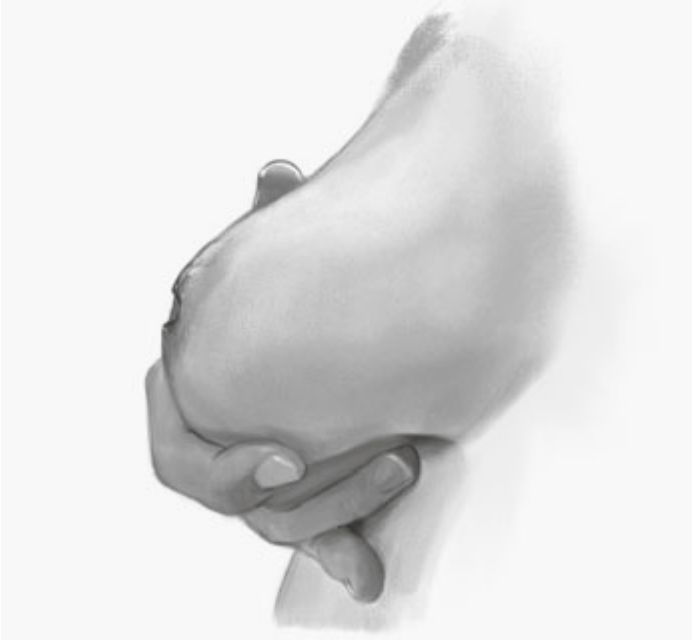
By the time your baby is born, your breasts are already producing colostrum. As your baby nurses, your infant's actions let your body know when to start and stop the flow of milk. The placement of your baby on your chest in the first moments after birth allows your baby to move up your chest and latch on during the first minutes after giving birth. If the baby is not interrupted, the first feeding will usually happen within the first hour after birth. Latching begins with the baby finding and attaching onto a good portion of the areola (*not* just on the nipple) and starting to suckle. They will do this latching instinctively as soon as they feel the breast against their mouth and the nipple against their nose.

INVERTED NIPPLES AND BREASTFEEDING

Normally, when you press the areola between two fingers, the nipple protrudes and becomes erect. If the nipple seems to pull inward and disappear instead, it is "inverted" or "tied." Inverted nipples are a normal variation. They may begin to move out more as the pregnancy progresses. If you have questions about your nipples, discuss the issue with your prenatal professional or with a lactation specialist.



Normal nipple



Inverted nipple

At times, inverted nipples are noticed only at delivery. In this case, the postpartum staff will assist you with early feedings. Working with a lactation consultant is often helpful, and they may recommend pumping briefly before nursing to help bring out the nipple, or temporarily using a nursing shield to help the baby latch on.

If you are having a vaginal delivery or a planned Cesarean, you will need to talk to your prenatal healthcare provider about skin-to-skin contact and breastfeeding immediately after birth. While on your chest, your baby will begin to move toward your breast and latch on to one of your breasts. If there are complications with delivery, or if your newborn needs immediate medical attention, you may have to wait a few hours. If the first feeding takes place within the first day or two, you should have no physical difficulty nursing. If nursing must be delayed beyond the first few hours after birth, the nursing staff will assist you with pumping or hand expression.

When you begin breastfeeding, you may start by reclining and placing your baby on your chest between your breasts without a bra on. Just like in the delivery room, your baby will begin to move toward one of your breasts and latch on. You may also start by positioning your baby so that they squarely face the breast and then stroking their lower lip or cheek with the nipple or touching their chin to your breast. Doing this causes them to search for the nipple with the mouth (the rooting reflex). The infant opens their mouth widely and moves toward the breast. Using your hand to express a few drops of milk will also help your baby root and latch on to your breast, as the smell and taste will stimulate the latching reflex. The hospital staff or your birth attendant will show you how to hand-express your milk.



The baby has latched on to the breast correctly. The nose, lips, and chin are all close to the breast, allowing for effective breastfeeding.



Most of the areola and nipple are in their mouth.

As your baby takes the breast into their mouth, their jaws should open wide and a good portion of the areola (not just the nipple) should be in their mouth. The baby's lips will pull back and look like fish lips on your skin, the gums encircling the areola. Their tongue will form a trough around the nipple and, in a wavelike motion, compress the milk reservoirs and empty the milk ducts. Putting your baby to the breast in the first hour after delivery will establish a good breastfeeding pattern at a time when infants are usually alert and vigorous. Later in the first day, your baby may be sleepy, but if they begin nursing in the first hour, they are more likely to successfully breastfeed.

When your baby suckles effectively at the breast, their movements will stimulate the breast and start milk flowing through the milk ducts. This is known as the let-down reflex; it is associated with the release of a pituitary hormone, oxytocin. In turn, the release of the hormone prolactin from the pituitary gland and the removal of milk from the breast cause the breasts to make more milk.

Oxytocin causes many wonderful things to happen. It gives a feeling of euphoria and diminishes pain immediately after birth. It enhances the feeling of love between you and your baby. It also causes the uterine muscles

to contract, and so in the first days or weeks you may feel afterpains, or cramping of the uterus, each time you nurse. Although this may be annoying and occasionally painful, it helps the uterus return to its normal size and condition and reduces postpartum blood loss. These cramps are a good indicator that your baby is feeding effectively. Use some deep-breathing techniques or mild pain medications to ease the pain.

Once lactation has begun, it usually takes only a brief period of sucking before the milk lets down (begins to flow). Just hearing your baby cry may be enough to trigger milk flow. Signs of let-down vary from woman to woman and change with the volume of milk the baby demands. Some women feel a subtle tingling, while others experience a pressure that feels as if their breasts are overfull—all sensations that are quickly relieved as the milk starts to flow. Some women never feel these sensations even though the infant is getting plenty of milk. The way the milk flows also varies widely. It may spray, gush, trickle, or flow. Some women have leakage with let-down or between feedings and others don't; either case is normal. Flow or leakage also may be quite different in each breast—even gushing on one side and trickling on the other. There are slight differences in the ducts on either side, and this is no cause for concern as long as the baby is getting adequate milk.



Cradle or Madonna hold

When you nurse in the days right after birth, you might find it comfortable to lie on your side, with the baby facing you, opposite the breast. If you'd rather sit, use pillows to support your arms and cradle the baby slightly below breast level, making sure their entire body, not their head, is facing your body.

Following delivery, the most comfortable position may be a side hold, also called a football hold, in which you sit and the baby lies at your side facing you. Curl your arm underneath your baby and support their head at your breast. This position keeps the baby's weight off your abdomen, but the infant must squarely face the breast for the proper grasp.

If you stroke your newborn's lip with the nipple, they'll instinctively open wide, latch on, and begin to suck. Infants have been practicing this for some time in utero by sucking their hand, fingers, and possibly even their feet. (Some babies actually are born with blisters on their fingers from this sucking in the womb.) It takes little encouragement to get them to nurse, but you may need to help them properly grasp the areola. You can hold the breast with your thumb above the areola and your fingers and palm

underneath it. Some gentle compression may be helpful to form a surface for latch-on. Then, when the baby opens their mouth very wide, pull them onto the breast. It is important to keep the nipple level or pointed slightly up, and to keep your fingers clear of the areola so that the baby can grasp it. Be sure your fingers are no closer than 2 inches from the base of the nipple. Let your baby nurse on one side as long as they wish, then put them on the other side if they are still interested in feeding.



Football or clutch hold

It is more important to complete a feeding on one breast than to have brief feedings from both. With each feeding, the earlier milk is more carbohydrate-packed, and as your baby consumes more, the hindmilk (later milk) becomes fattier and calorie-rich. Let-down, uterine cramping, swallowing sounds, and return to sound sleep by the baby are all signs of successful breastfeeding. In the beginning, it may take a couple of minutes for let-down to occur. Within a week or so, let-down will take place more rapidly and your milk supply will increase dramatically.



If you stroke your newborn's cheek or lip with your finger or with the nipple, they'll instinctively turn, latch on, and begin to suck. You may need to help them properly grasp the areola.

If you are not sure a let-down is happening, just watch your baby. Following a let-down, your infant should be swallowing after every few sucks. After five or ten minutes, they may switch to a more relaxed non-nutritive sucking that provides emotional comfort along with small amounts of creamier, fat-rich hindmilk. Other signs of let-down vary from woman to woman: uterine cramps the first days after delivery, let-down sensations, milk leakage from the opposite breast, the breast feeling full before and soft after feeding, or milk in or around the baby's mouth after feeding. The more relaxed and confident you feel, the quicker your milk will let down.

The first feedings may be difficult. Breastfeeding should not cause sustained pain in the nipple, areola, or breast. If pain remains after the initial moments of breastfeeding, ask your doctor, nurse, or lactation specialist to evaluate the breastfeeding and suggest changes. Ask the hospital staff for help; they are usually very experienced at assisting nursing mothers and babies. In some cases, an infant will have trouble latching on. Suckling from the breast is different from sucking the nipple on a bottle or pacifier, and some infants are sensitive to the difference. These babies may simply lick, nibble, or chew with their jaws instead of using the tongue. Others may show frustration by pulling away or crying. Researchers are still uncertain if artificial nipples are the cause of breastfeeding problems or are just a response to a breastfeeding problem that already existed. **Experts**

recommend that you avoid bottles and pacifiers for the first several weeks until you feel that breastfeeding is well established. During that time, if the baby seems to need more sucking, offer the breast again, or help them find their own hand or fingers to soothe themselves. If your baby has trouble latching on after you leave the hospital, you should call your baby's doctor for help or for a referral if needed.



You may continue to provide some breast support while the baby is feeding, especially if the breasts are large.

Once home, try the following suggestions to help the let-down reflex.

- Apply moist heat (e.g., warm, wet washcloths) to the breast for several minutes before starting the feeding.
- Sit in a comfortable chair, with good support for your back and arms. (Many nursing mothers recommend rocking chairs or gliders, while others do best in a straight-back chair using propping pillows.) At night, when it is common to fall asleep during breastfeeding, it is best to breastfeed in bed instead of a sofa or chair, then return the baby to a separate sleep surface for sleep once the feeding is complete.
- Make sure the baby is positioned so that they squarely face the breast and are well latched on, as described earlier.
- Use some relaxation techniques, such as deep breathing or visual imagery.
- Listen to soothing music. Sip a nutritious drink, or drink water and have a nutritious snack during feedings.

- If your household is very busy, find a quiet corner or room where you won't be disturbed during feedings.
- Do not smoke, and avoid secondhand smoke. Do not use marijuana or illegal drugs (cocaine, heroin, ecstasy, etc.), as all contain substances that can interfere with let-down, affect the content of breast milk, and be harmful to mother and baby. Check with your obstetrician or pediatrician about any prescription or non-prescription drugs, as well as any herbal supplements, you may be taking. If you do drink alcohol, limit your consumption to one serving of alcohol a day, ideally two hours prior to nursing.



You can slide your finger into the corner of your baby's mouth if you need to interrupt the feeding before the baby is finished.

If you still are not letting down after trying these suggestions, contact your pediatrician for additional help. If you continue to have difficulties, ask to be referred to a lactation expert.

Having a newborn can be a wonderful time for new parents to work with their doctors to address substance use, especially when breastfeeding. Reducing or eliminating tobacco and nicotine use is better for breast milk and better for the baby's and mother's health. Cannabis contains substances that pass into breast milk and can have effects on a newborn's developing

brain, and it's better to eliminate use when breastfeeding. Other substances such as cocaine, ecstasy, and methamphetamine can be dangerous for babies and mothers and should not be used, especially if breastfeeding. Opioids also pass into human milk and can affect the baby. Parents should work closely with their doctor regarding use of opioids for pain and treatment for opioid use disorder to make a plan for safe breastfeeding. Alcohol can pass into breast milk. If breastfeeding, alcohol should be limited to one serving a day and at least two hours prior to nursing.

Mothers should talk with their doctors about all medications, including over-the-counter medicines and herbal supplements, and strategies to address substance use. A new baby can open opportunities for positive change for the whole family.

WHEN YOUR MILK SUPPLY INCREASES

For the first days after delivery, your breasts will be soft. But as the blood supply increases, your hormones change, and milk-producing cells start to function more efficiently, the breasts will become firmer. By the second to fifth day following delivery, your breasts should be producing transitional milk (milk that follows colostrum) and may feel very full. At the end of the baby's first week, you will see creamy white breast milk. After ten to fourteen days, the milk at the beginning of a feeding may look like skim milk, and as the feeding continues, the amount of fat in the milk will increase and the milk will look creamier. This is normal. Nursing your baby frequently and massaging your breasts prior to and during feeding may help minimize the feeling of fullness.

Engorgement occurs when the breasts become overfilled with milk and excess body fluids. This can be very uncomfortable and at times painful. The best solution is to nurse your baby whenever they are hungry, feeding at both breasts about eight to twelve times per day or before your breasts get swollen, firm, or painful. Sometimes the breasts are so engorged the baby has trouble latching on. If that happens, apply moist heat to soften the breasts, and if necessary, manually express some milk or use a mechanical breast pump before you start to nurse. Doing this may help the baby to get a better grasp and nurse more efficiently. (See page 54 regarding milk

expression.) You also can try several techniques to ease the pain of engorgement, such as:

- Take a warm shower or use a warm washcloth. These techniques, when used just before breastfeeding or expressing milk, will encourage milk flow.
- Warmth may not help cases of severe engorgement, especially if no milk is flowing. In this case, you may want to use cool compresses in between or just after feeding.
- Express milk or pump just enough milk for comfort's sake.
- Try feeding your baby in more than one position. Begin by sitting up, then feed lying down. This changes the segments of the breast that are drained most at each feeding.
- Gently massage your breasts from under the arm and down the nipple. This will help reduce soreness and ease milk flow.
- The use of ibuprofen has been shown to be safe and effective for the treatment of engorgement. Take the dosage recommended by your doctor. Do not take any other medications without your doctor's approval.

Engorgement lasts only a few days, while lactation is getting established. However, your breasts can still get firm or overfilled anytime feedings are skipped and the breast is not emptied. The volume of milk produced increases dramatically over the first week. Your baby may take as little as 1 teaspoon (5 ml) at each feeding the first couple of days, and up to 1 ounce (30 ml) at each feeding by the fourth or fifth day. By the end of the week—depending on the size and appetite of the baby and length of feedings—you may be producing 2 to 6 ounces (60–180 ml) at each feeding. By the end of the first month, your infant should be consuming an average of 24 ounces (720 ml) of milk each day. (See pages 53 and 57 for information on how to tell if your baby is getting enough.)

IS YOUR BABY NURSING CORRECTLY? A BREASTFEEDING CHECKLIST

SIGNS OF CORRECT NURSING

- Your baby's mouth is open wide with lips turned out like a fish.
- Your baby's chin is resting against the breast, with their nose close to the breast.
- Your baby has taken as much of the areola as possible into their mouth.
- Your baby is suckling rhythmically and deeply, in short bursts separated by pauses.
- You can hear swallowing regularly after the first couple of days as the baby feeds.
- Your nipple is comfortable after the first few suckles.

SIGNS OF INCORRECT NURSING

- Your baby's head is not in line with their body.
- Your baby is sucking on the nipple only, instead of on the areola with the nipple far back in their mouth.
- Your baby is sucking in a light, quick, fluttery manner rather than taking deep, regular suckles.
- Their cheeks are puckered inward, or you hear clicking noises.
- You don't hear your baby swallow regularly after your milk production has increased.
- You experience pain throughout the feed or have signs of nipple damage (such as cracking, bleeding, pinching, or blanching).

Source: American Academy of Pediatrics, *New Mother's Guide to Breastfeeding*, ed. J. Y. Meek, 4th ed. (New York: Bantam Books, 2024).

WHAT ABOUT VITAMINS FOR BREASTFED BABIES?

Your breast milk provides your baby with all the vitamins they need, except for vitamin D. Even though breast milk (also known as human milk) provides small amounts of vitamin D, it is not enough to prevent rickets (softening of the bones). The current American Academy of Pediatrics recommendation is that all infants and children should have a minimum intake of 400 IU (10 mcg) of vitamin D per day beginning soon after birth, with 600 IU (15 mcg) per day in children over age 1. Prepared formula has vitamin D added to it. If your baby is drinking only formula and takes about 28 ounces (840 ml) per day, they will get the same amount of vitamin D as a supplement of 400 IU (10 mcg) per day. If you are breastfeeding and supplementing with formula, your baby will still require a vitamin D supplement. Some maternal vitamin D can make it into the breast milk. A mother needs to take 6,400 IU (160 mcg) of vitamin D per day for the baby to receive 400 IU (10 mcg).

Your baby also may need vitamin or iron supplements if born prematurely or if they have certain other medical problems. Discuss the need for supplements of vitamins or minerals with your doctor.

If you are a vegan (that is, you eat a diet that excludes all foods of animal origin), talk about your nutritional needs with your pediatrician. A vegan diet lacks not only vitamin D but also vitamin B_{12}. A deficiency in B_{12} in babies can lead to anemia and nervous system abnormalities.

(For more information about vitamin D and supplements, see *Where We Stand* on page 71.)

BREASTFEEDING TWINS

Twins present a unique challenge to the nursing mother. At first it may be easier to feed them one at a time, but after lactation is established, often it's more convenient and time-saving to feed them simultaneously. Feeding them together can also increase your milk supply. You can do this using the football hold to position one at each side, or cradle them both in front of you with their bodies crossing each other.



(For more information about raising multiples, seek out support groups like La Leche League or consider books such as *Raising Twins: Parenting Multiples From Pregnancy Through the School Years,* 3rd edition, by Shelly Vaziri Flais, MD, FAAP, published by the American Academy of Pediatrics [2019]).

HOW OFTEN AND HOW LONG?

Breastfed newborns vary greatly in their feeding behaviors. They generally eat more frequently than formula-fed infants, eight to twelve (or more) times per twenty-four hours. As they get older, with enlarged stomach capacity and the mother's increased milk production, some can go longer between feedings. Others continue to prefer frequent, smaller feeds.

The best feeding schedule for a breastfed baby is the one they design on their own, called responsive feeding. Your baby lets you know they're hungry by waking and looking alert, putting hands toward their mouth, making sucking motions, whimpering, flexing arms and hands, becoming more active, and nuzzling against your breast (they can smell its location even through your clothing). It is best to nurse your baby before they start crying, a late sign of hunger. Whenever possible, use these signals rather than the clock to decide when to nurse. This way, you'll ensure they're hungry. In the process, your baby will stimulate the breast more efficiently to produce milk.

As stated earlier, breastfeeding is generally most successful when started immediately after delivery (in the first hour). Keep the baby with you as much as possible (rooming with them in the hospital) and respond promptly to hunger cues (a practice called demand feeding). A baby may have one or two 4-hour periods of not feeding, but then will feed frequently in the intervening hours. It is best to tally the feeds over the course of the day to make sure there are a minimum of eight feeds per 24-hour period. At night, breastfeeding babies will typically need to feed, and not sleep through the night; keeping the baby in the same room with you at night for at least the first six months will both facilitate cue-based feeding and promote safe sleep to decrease the risk of sudden infant death syndrome. Long stretches of uninterrupted sleep are not typical for a breastfeeding baby until they are about 4 months old and generally weigh over 12 pounds.

Allow your baby to nurse on the first breast as long as desired. When they stop for a prolonged period or withdraw from the breast, burp them. If they seem sleepy after the first breast, you may want to wake them up by changing their diaper or playing with them a little before switching to the second side. Since your infant suckles more efficiently on the first breast they use, you should alternate which breast you offer first from feeding to feeding. You might consider placing a safety pin or other marker on your clothing on the side last nursed as a reminder. Or you can start on the breast that feels fuller.

Initially your newborn will probably nurse every couple of hours, regardless of whether it's day or night. By 6 to 8 weeks of age, many newborns have one sleep period of four to five hours. Establish nighttime

sleep patterns by keeping the room dark, warm, and quiet. Don't use a bright light for nighttime feedings. If their diaper is soiled or wet, change it quickly and without fanfare before feeding and put them right back to sleep afterward. By 4 months, many—but not all—babies are sleeping six hours or more at night without awakening. However, some breastfed babies may continue to awaken more frequently for night feedings. (See *Helping Your Baby Sleep,* page 81.)

You'll also find that your infant may require long feedings at certain times and be satisfied quickly at others. They'll let you know when they're finished by letting go or drifting off to sleep between spurts of non-nutritive sucking. A few babies want to nurse around the clock. If your baby falls into this category, check with your pediatrician's office. You may be referred to a lactation specialist. There are several reasons infants behave this way, and the sooner the situation is evaluated, the easier it is to address the cause.







Your baby will generally feed for about ten to fifteen minutes on the first breast. Then your baby can be burped and offered the other breast.

IS YOUR BABY EATING ENOUGH?

In the first week after birth, doctors will check your newborn to ensure that weight loss is not excessive (more than 10 percent of the birth weight), there is no excessive jaundice, and your baby is producing at least a few wet diapers and stools per day. Starting two days after birth, wet diapers and stooling are reliable signs of feeding. There should be four to eight wet diapers and three to four loose,

seedy stools per day by the third day. Given that wet diapers and stooling patterns during the first two days can be unreliable indicators of feeding adequacy, it is important to schedule a follow-up visit with your pediatrician for within forty-eight hours of going home. This visit will help to ensure that your milk supply is increasing and that your baby is getting milk from breastfeeding. By the end of the second week, your baby should be back to birth weight or have gained some weight. If you've breastfed other children, lactation will probably be established more quickly this time, so the new baby may lose little weight and return to birth weight within days.

During the first month, after your milk supply increases, an adequate diet should produce six or more wet diapers a day and generally three to four or more bowel movements (often one little one after each feeding). Later, they may have less frequent bowel movements, and there may even be a day or more between them. If bowel movements are soft and your baby is otherwise thriving, this is typical. Another clue about intake is whether you can hear your baby swallow, usually after several sucks. Appearing satisfied for a couple of hours after a feeding is also a sign. On the other hand, a baby who is not getting enough to eat over several days may become very sleepy and seem "easy" to care for. In the early weeks, a baby who is excessively sleepy or feeds less frequently than eight times in a twenty-four-hour period should be seen by the pediatrician to make sure they are gaining weight as expected.

Once your milk supply is established, your baby should gain between ½ and 1 ounce (14–28 g) a day during the first 3 months. Between 3 and 6 months, weight gain will taper off to about ½ ounce (14 g) a day, and after 6 months, weight gains each day will be even less. Your pediatrician will weigh the baby at every visit. If you have concerns between visits, call to schedule an appointment; don't depend on a home scale, as they are not very reliable for young infants.

WHEN YOU NEED TO GIVE EXPRESSED MILK

If circumstances keep you away from your baby, you will need to express breast milk, manually or mechanically, to stimulate continued milk production. The hospital staff will work with you to express your milk in a way that enables transitioning back to the breast, including using feeding techniques that avoid bottles and nipples. These techniques may include syringe or cup feeding, paced bottle-feeding, or feeding through a supplemental nursing system. Always check with your pediatrician or other expert before you stop giving your breast milk to your baby or begin supplementing with formula.

Once the milk supply is established, usually three or four weeks after delivery, you may decide to use a bottle for expressed milk, so you can be away during some feedings. Expressing breast milk in advance and storing it allows your baby to receive the benefits of your milk by bottle. In addition, using expressed breast milk will maintain your body's full milk production. An occasional bottle at this stage probably won't interfere with your baby's nursing habits, but it may lead to the problem of engorgement if the milk

isn't expressed in a timely manner. Milk you express while you're away from your baby should be stored, so that you can replace the breast milk used by other caregivers while you are away. Wearing nursing pads will help you manage leakage. (Some women wear nursing pads constantly during the first month or two to avoid milk stains.) It is important to either breastfeed or express your milk regularly throughout the day to avoid engorgement and potential problems from milk stasis, which may lead to decreased milk production or clogged ducts.

MILK EXPRESSION AND STORAGE

Milk can be expressed most commonly with a double electric breast pump, covered by most insurances. Other options are a hand pump, manual pump, or electric pump. In any case, you must have the let-down reflex for the milk to flow. Manual or hand expression is easier to learn visually, rather than just reading about it, and can be quick and effective once learned, though it requires practice. Many hospitals teach mothers hand expression before leaving the hospital. Using breast pumps may seem easier than learning hand expression, but the quality of pumps varies widely. Luckily, there are many quality pumps available at various price points. A poor-quality breast pump will not remove milk effectively, resulting in engorgement or a gradually lower milk supply over time. Poor-quality breast pumps also may irritate the nipples or be painful.

Hand Expression and Handheld Pumps

If you choose to hand-express, wash your hands and use a clean container to collect the milk. Place your thumb above the areola and your fingers underneath. Gently but firmly roll the thumb and fingers toward each other while compressing the breast tissue and pushing toward the chest wall. Do not slide your fingers toward your nipple, as this can cause soreness. Transfer the milk to a clean bottle, rigid plastic container, or specially made plastic bag for storage in the freezer. (See page 56.) If your baby is hospitalized, the hospital may give you specific and detailed information about milk collection and storage, and may lend you a double electric breast pump.



Expressing milk is easier if you stimulate the breast first by massaging it gently.



To use hand expression, hold the breast with the thumb and index finger at the edge of the areola on opposite sides of the breast, then press toward the chest wall with a rhythmic motion. Rotate the position of the fingers.

Another category of breast pump is the handheld pump with its own suction, which many moms use while feeding on one side to collect milk from the other side, or just to gently suction out and collect milk in lieu of actually "pumping." Note that it works best for breastfeeding women who

already have an established milk supply, as it may not have enough suction to increase or establish supply.

Electric Breast Pump

While manual breast pumps are available and may be easy to use while out and about, good-quality double electric breast pumps are optimal. Electric pumps can stimulate the breast more effectively than manual expression. These pumps have regulated pressures and are self-cycling for efficient milk removal. They are used primarily to induce or maintain lactation when a mother is unable to breastfeed directly for several days or more, such as with a hospitalized infant, or when the mother returns to work or school. Electric pumps are efficient but can be costly, ranging in price from $50 to $300 and up. If you need a pump temporarily, you can rent one from a medical supply store, hospital, or lactation rental agency.

In many states, you can obtain a good-quality pump through your insurance or your state's Women, Infants, and Children (WIC) program. Ask your obstetrician or pediatrician for a prescription and talk to your insurance provider to find out where to purchase a covered pump. The costs related to breastfeeding supplies, such as pumps, may also be a deductible item if you participate in a flexible spending plan.

When shopping for an electric pump, make sure it creates a steady milking action with variable pressure, not simply suction. There are also bras and tops available to help hold both cones in place at once. Make sure that all parts of the pump that come in contact with the skin or milk can be removed for proper cleaning. Sterilization is not required for pumps and containers for a healthy baby; simply washing well with hot soapy water is fine, as is using the dishwasher. Talk to your pediatrician or lactation consultant for advice on which type of pump may be best. And remember to wash your hands immediately before pumping.



Hand pumps are available at most drug and baby stores.

Pumped milk should be stored in clean containers, preferably glass or rigid plastic, or special plastic bags. Baby bottle insert bags are not sufficiently strong or thick enough to protect the milk from contamination. Expressed breast milk can be stored safely at room temperature for three to five hours, in the refrigerator for up to three to five days, or in a freezer (0 degrees Fahrenheit [–20 degrees Celsius]) for up to nine months. Store frozen breast milk in the back of the freezer, where it's coldest. Write the date on each container and use the oldest milk first. It's useful to freeze milk in the amount needed for a single feeding, about 3 to 4 ounces (90–120 ml). You also can freeze some 1-to 2-ounce portions (30–60 ml), which come in handy if the baby wants a little extra at any feeding.

When it's time to use stored milk, keep in mind that your baby is accustomed to breast milk at body temperature, so the milk may need to be heated to at least room temperature (68–72 degrees Fahrenheit [20–22 degrees Celsius]). Frozen milk may be thawed in the refrigerator, under warm running water, or by immersing in a container of warm water. Don't use the microwave to warm milk, as this leads to uneven heating and risk of scalding, and also damages the antibodies and other important components of breast milk needed for immunity and nutrient absorption. Once milk is thawed, its fat may separate, but this has no effect on quality. Swirl the container gently until the milk returns to a uniform consistency. Stored

breast milk may have an altered smell or taste due to breakdown of fat. This is not harmful to the baby. Thawed milk should be refrigerated and used within twenty-four hours. Never refreeze. If the infant does not finish all the thawed breast milk in the bottle, it should be consumed within one to two hours or discarded.

"IS MY NEWBORN GETTING ENOUGH MILK?"

Nearly all new mothers worry about whether their babies are properly nourished. Breastfeeding mothers cannot measure exactly how much milk their newborns take, but they can tell in other ways whether their babies are getting enough to eat. Your well-nourished newborn should:

- Lose no more than around 8–10 percent of their birth weight in the first few days after birth before starting to gain weight again.
- Have one or two bowel movements per day on days 1 and 2, with blackish, tarry stools, and at least two stools that are beginning to appear greenish to yellow on days 3 and 4. By 5 to 7 days, their stools should be yellow and loose, with small curds, and should number at least three to four per day. When your milk production increases, your baby will often produce stool with each feeding for the first month after birth.
- Have six or more wet diapers per day, with nearly colorless or pale yellow urine, by 5 to 7 days.
- Seem satisfied and happy for an average of one to three hours between feedings.
- Nurse at least eight to twelve times every twenty-four hours.

Schedule your newborn's first checkup with the pediatrician or family physician for no more than forty-eight hours after hospital discharge. The weight check at that visit will help to determine the adequacy of feedings.

Source: Adapted from American Academy of Pediatrics, *New Mother's Guide to Breastfeeding*, ed. J. Y. Meek, 4th ed. (New York: Bantam Books, 2024).

Not all breastfed babies react to the bottle the same way. Some accept it easily, regardless of when it is introduced and by whom. Others take an occasional bottle but may prefer a specific caregiver. It is possible that your baby will first accept a bottle if someone other than the mother offers it and if she is out of sight at the time. Once familiar with the bottle, your baby may take it from any caregiver. If your breastfed baby refuses a bottle, try a cup or sippy cup instead. Even premature newborns can cup-feed. Some breastfed babies go from breast to cup without ever using a bottle.

POSSIBLE BREASTFEEDING CONCERNS AND QUESTIONS

For some, nursing goes well from the start and there are never problems. But breastfeeding can have its ups and downs, especially in the beginning. Fortunately, many common difficulties can be prevented with proper positioning and latch-on along with frequent feedings. Problems may resolve quickly if you seek advice right away. Don't hesitate to ask your pediatrician or office nurse for help with the following problems.

SORE AND CRACKED NIPPLES. Breastfeeding may produce initial mild soreness, especially with latch-on, in the first week or so. Breastfeeding should not cause sustained pain, discomfort, or open cracks. Proper latch-on is the most important factor in preventing sore and cracked nipples. If your nipples or other areas of the breast are painful, seek advice from your lactation expert.

During bathing, wash your breasts with mild soap, taking care to use only water on the nipple. Creams, lotions, and more vigorous rubbing are not necessary and may actually aggravate a problem. Also, try varying the baby's position at each feeding to help with nipple irritation.

You may use purified lanolin on cracked or dry nipples to protect them and allow them to heal. If this does not solve the problem, consult your doctor or lactation consultant for further advice; you might have a yeast or bacterial infection of the nipple, or may have a skin condition such as dermatitis that requires treatment.

ENGORGEMENT. As already mentioned, your breasts can become severely engorged if your baby doesn't nurse often or efficiently during the first few days after your milk comes in. While some engorgement is to be expected when lactation starts, extreme engorgement causes swelling of the milk ducts and of blood vessels across the entire chest area. The best treatment is to breastfeed frequently; express milk between feedings, either manually or with a pump; and offer both breasts at every feeding. If the baby feeds from only one side, it may help to manually express milk from the other side. Since warmth encourages milk flow, standing in a warm shower as you manually express may help. You also may get relief with warm compresses during nursing and cool compresses between nursing. If engorgement persists, it may lead to a decrease in milk production. This happens because

breasts have a mechanism to turn off milk production when milk is not removed from the breast. To avoid problems with breast milk supply, it is important to relieve engorgement as soon as it is recognized.

MASTITIS. Mastitis is an infection of the breast tissue caused by bacteria. Mastitis causes flu-like symptoms of fever, chills, headache, nausea, dizziness, and lack of energy. These general symptoms occur along with localized symptoms of redness, tenderness, swelling, heat, and pain in and around the breast. If you experience any of these symptoms, call your doctor at once. The infection is treated with milk removal (by feeding or pumping), rest, fluids, antibiotics, and pain medicine if needed. Your doctor will prescribe an antibiotic that is safe during breastfeeding. Be sure to take all the antibiotics even if you feel better. Do not stop nursing; doing so will worsen the mastitis and cause increased pain. The milk itself is *not* infected. Your baby will not be harmed by nursing during mastitis, and neither mastitis nor the antibiotics will change milk composition.

Mastitis may be a sign your body's immune defenses are down. Bed rest, sleep, and decreased activity will help you recover your stamina. Rarely, you may find it's too painful to nurse on the infected breast; in that case, let the milk flow from the painful breast onto a clean towel or absorbent cloth, relieving the pressure as you nurse from the opposite side. Then your baby can finish feeding on the infected side with less discomfort for you. Some women with severe pain find it is more comfortable to pump the breast than to feed the baby directly, even if just for a few feedings. The pumped milk can be stored or fed to the baby immediately after.

A mother's return to work is a peak time for the development of mastitis. It is important to express milk regularly, approximately on the same schedule as the baby would feed, to try to prevent the infection.

SUPPLEMENTAL NURSER (INFANT FEEDING DEVICE)

The amount of milk your breasts produce depends on the amount of milk removed from them. If you miss too many feedings, your body will decrease milk production. This can occur even if you express milk during missed feedings, since pumps do not stimulate or empty the breasts nearly as efficiently as your baby's sucking.

If your milk supply is not meeting the needs of your baby, if you miss a number of feedings because of illness, or if your baby is unable to nurse for some reason, you may be able to reestablish your milk supply by nursing more frequently (every hour for twenty-four hours) or by using a supplemental nurser (also known as a supplementer tube, infant feeding device, or nursing trainer). Unlike a bottle, which trains the baby away from the breast, this device provides supplemental expressed milk or formula while the infant is at the breast.



The supplemental nurser is also used for premature infants or to train babies with feeding problems. It even can help stimulate lactation in adoptive mothers, or in mothers who stopped breastfeeding for a prolonged period and wish to start again.

Hung from your neck, the container holding the formula or expressed milk has a thin flexible tube aligned along the breast with its tip adjacent to the nipple and placed in the corner of the baby's mouth as they suck. The suction draws the formula or breast milk from the container, so even if you aren't producing much milk, the baby will still get a full feeding. This reinforces the infant's desire to nurse at the breast. At the same time, the sucking stimulates your body to step up milk production.

Supplemental nursers are available from lactation specialists, medical supply stores, some pharmacies, or online. If possible, purchase the device from someone who can show you how to use and clean it. Most mothers and babies need a few days of practice to get comfortable with the device. Using a supplemental nurser requires commitment and dedication, as it may take weeks or months to rebuild the milk supply and the breastfeeding relationship.

INFANT FUSSINESS. Sometimes babies, even breastfed babies, can be unusually fussy. Reasons for fussiness can range from normal personality variations to serious illness. Although most fussy babies do not have a serious medical problem, their constant crying can become extremely difficult for parents.

The fussy baby wears on a parent's energy, time, and enjoyment of their young infant. Here are some general causes and suggestions for excessive crying in the breastfed baby.

- *Hunger.* If your newborn feeds constantly and is never satisfied after feeding, your breastfeeding needs to be evaluated by an experienced healthcare provider. Your provider will weigh and examine your baby, examine your breasts and nipples, and observe an entire breastfeeding session. The solution may be as simple as improving the baby's positioning and latch-on, or it may be more complicated, particularly if the baby has lost too much weight or is not gaining well.
- *Growth spurt.* A rapid growth phase often happens at 2 to 3 weeks of age, again around 6 weeks, and again at about 3 months. During these spurts, babies will want to nurse *constantly*. Many women think this is because the baby is not getting enough to eat (which is correct) and are tempted to give supplemental bottles. However, the baby is doing what is right. When you nurse constantly or every hour or so for several days, your breasts will make more milk. Remember, this is normal and only temporary; keep breastfeeding frequently, and do not give your baby other liquids. If this frequent feeding does not return to a more regular pattern after four to five days, or if you are tempted to start bottles, call your pediatrician's office for assistance. They should see the baby, check their weight, and evaluate the feeding process (or refer you to a lactation specialist if needed).
- *Colic.* Colic begins after 4 weeks of age. Colicky babies generally have at least one period each day when they appear to be in pain, crying hard, turning red, and drawing their legs up. They may act hungry, but then pull back and refuse the breast. Your baby's doctor can provide suggestions for managing colic. (For more on colic, see pages 108–10.)
- *Oversupply or overactive let-down of breast milk.* This could begin at any time in the first month. Your breasts will feel very full, and you may experience lots of leaking and spraying. Your baby will be gulping down milk very fast, sometimes pulling away to catch their breath or coughing or sputtering milk. As a result, the baby swallows lots of air and milk. Later, gas bubbles form, causing discomfort. Your pediatrician may

guide you to a lactation consultant to assist with this problem. (Also see *Engorgement,* page 58.)

- *Reflux (also called gastroesophageal reflux).* Most newborns spit up after feeding. This is normal and requires no treatment. When spitting up results in problems such as fussiness, becomes more like vomiting (much larger amounts), or is associated with weight loss, your baby should be evaluated by your pediatrician. Physiological reflux is normal in all infants until 12 months of age and may be more prominent in preterm infants. Medication (antacid) is not required as long as your infant is gaining normal weight. (See pages 451–53.)
- *Allergies.* Although infant crying is often blamed on food allergies, such allergies are much less common than some other reasons for fussiness. Allergies occur more often in babies from families where the mother, father, or siblings are affected by asthma, eczema, or other allergic diseases. Proteins in breast milk can be the source of allergy or irritation. The most common causes are dairy, eggs, peanuts, other nuts, soy, and wheat. It can be difficult to pinpoint the precise food, however, and symptoms can linger for more than a week after the food has been removed from the mother's diet. A milk protein allergy, also called food protein-induced allergic proctocolitis (FPIAP), can result in blood in the stool. If blood in the stool is the only symptom, then generally no treatment is necessary, but a pediatrician should evaluate the child thoroughly to be sure. However, food allergies can be very serious, sometimes causing wheezing, hives, vomiting/diarrhea, and/or shock (collapse). Severe food allergies require the attention of your pediatrician.
- *Other serious illnesses.* Illnesses not related to feeding may cause babies to cry endlessly, unable to be comforted. If this occurs suddenly or seems unusually severe, call your pediatrician or seek emergency care immediately.

THE CANCER QUESTION. Most studies indicate breastfeeding offers some protection against breast cancer, perhaps because nursing lowers the total number of menstrual cycles during a woman's lifetime (see cancer.org). If a woman has been diagnosed with cancer or has had a malignant tumor

removed but is no longer on chemo or radiation therapy, breastfeeding should be safe (check with your physician). Breastfeeding is also safe after removal of a benign (noncancerous) breast lump or cyst.

BREASTFEEDING AFTER PLASTIC SURGERY ON THE BREASTS. Plastic surgery to enlarge the breasts usually does not interfere with breastfeeding—provided the breasts were previously normal, the nipples were not moved, and no ducts were cut. Breastfeeding after breast reduction surgery is highly individual. Surgery to reduce breast size typically involves at least some disruption of breast tissue and often movement of the entire nipple and areola. Each mother-baby pair must be helped and followed individually. Your baby's weight should be checked more frequently, at least twice a week for the first few weeks, until the baby is gaining well. You can still breastfeed and supplement with formula if you aren't able to produce enough breast milk. This will provide your baby with some of the benefits of receiving breast milk. Make sure you discuss all concerns with your doctor. Your baby's pediatrician needs to be aware of previous breast surgery you've had so that your infant can be followed closely.

Bottle-Feeding

Even with tremendous effort and plenty of support, breastfeeding does not always go well for every mother-infant pair. In other cases, parents who recognize the benefits of breastfeeding may still prefer bottle-feeding. Some believe bottle-feeding provides more freedom and time for activities. Dad, grandparents, sitters, and even older siblings can feed an infant breast milk or formula in a bottle. This may give some mothers more flexibility. There are other reasons some feel more comfortable with bottle-feeding, such as knowing exactly how much food the baby is getting. Others prefer formula-feeding for reasons such as not needing to worry about the mother's diet or medications that might affect the milk.

Even so, it is impossible for formula manufacturers to reproduce the components that make breast milk from mothers so unique. Although formula does provide the basic nutrients for an infant, it lacks the antibodies, some of the specific components and sugars that feed good

bacteria in a baby's gut, and many of the other components found in breast milk. Formula-feeding is also costly and may be inconvenient for some families. The formula must be bought and prepared or otherwise managed, and you'll need a reliable source of clean water for mixing the formula. This means trips to the kitchen in the middle of the night, as well as extra bottles, nipples, and other equipment.

If you have decided to bottle-feed your baby, you'll start by selecting a formula. Your pediatrician will help you pick one based on your baby's needs. Today there are several varieties and brands of commercial formulas from which to choose, all of which are equally safe and nutritious. The American Academy of Pediatrics does not recommend homemade baby formulas, since they can be deficient in vitamins and other important nutrients and may be contaminated with potentially harmful bacteria.

WHY INFANT FORMULA INSTEAD OF COW'S MILK?

Many parents ask why they can't feed their infant under 1 year of age cow's milk. The answer is simple: Infants cannot digest cow's milk as completely or easily as they do infant formula. Also, cow's milk contains high concentrations of protein and minerals, which can stress a newborn's immature kidneys and cause severe illness at times of heat stress, fever, or diarrhea. In addition, cow's milk lacks the proper amounts of iron, vitamin C, and other nutrients infants need. It may even cause iron-deficiency anemia, since cow's milk protein can irritate the lining of the stomach and intestine, leading to loss of blood in the stools. Cow's milk also does not contain the healthiest types of fat for growing babies. Your infant should not receive any cow's milk (or other non-human animal milk or milk substitute) for the first twelve months after birth.

Once over 1 year old, your child may consume whole cow's milk or reduced-fat (2 percent) milk, provided they have a balanced diet of solid foods (cereals, vegetables, fruits, and meats). Their intake should be limited to 2 cups (approximately 16 ounces [480 ml]) per day or less. More than 24 ounces a day (720 ml) has been associated with iron deficiency if toddlers aren't getting enough other healthy iron-rich foods. If your infant is not yet eating a broad range of nutrient-dense solid food, talk to your pediatrician about the best nutrition for them.

Most children over 1 year of age still need a higher fat content, which is why whole vitamin D–fortified milk is recommended. If your child is or is at risk for having overweight, or if there is a family history of obesity, high blood pressure, or heart disease, your pediatrician may recommend 2 percent (reduced-fat) milk. Do not give your child 1 percent (low-fat) or non-fat (skim) milk before their second birthday, as it does not contain enough fat for brain development. After 2 years of age, you should discuss your child's nutritional needs, including choice of milk products, with your pediatrician.

Dairy substitutes, such as milks made from nuts, rice, or soy, are increasingly popular in the grocery aisle; however, they usually do not provide appropriate nutrition for your young child. Typically, compared to cow's milk, they may contain less protein and calories, although most do contain vitamin D. Check the labels to compare nutritional content when making a choice and always ask your pediatrician about the appropriateness of any milk substitution.

CHOOSING A FORMULA

To maintain safety standards, the US Food and Drug Administration (FDA) governs the nutrient content and safe manufacturing and distribution of all infant formulas sold in the United States. When shopping for infant formula, you'll find several basic types. Infant formula with cow-milk, goat-milk, and soy protein isolate are all acceptable choices for infant formula base.

Cow's-milk-based formulas account for the majority of formula sold in the United States. Although cow's milk is the basis for many formulas, the milk has been heat treated and fortified during the process making it safe for infants. The same is true for infant formula made from goat's milk. Both dairy milks are specifically treated during the process of making the infant formula in order to make the protein more digestible. More milk carbohydrate (lactose) is added to make the concentration more similar to that found in breast milk. Many US infant formulas use a skim or non-fat milk base and then add additional vegetable oils that support energy needs of the infant and also provide dietary essential fatty acids important for normal growth and development. The use of whole milk fat instead of skim milk is more common outside the United States and is growing in

availability and acceptance in the US medical community. However, infant formulas with whole milk fat must also contain some additional vegetable oils to provide essential fatty acids to support normal growth and development.

All infant formulas have additional iron added. These iron-fortified formulas have dramatically reduced the rate of iron-deficiency anemia in infancy in recent decades. Some infants do not have enough natural reserves of iron, a mineral necessary for normal human growth and development. For that reason, the American Academy of Pediatrics currently recommends that iron-fortified infant formula be used for all infants who are not breastfed, or who are only partially breastfed, from birth to 1 year of age. Additional iron is available in many foods (including baby food), especially in meats, egg yolks, and iron-fortified cereals. Low-iron formulas are not recommended and should not be used. Some parents may worry about iron causing constipation, but the amount of iron in infant formula does not contribute to constipation. Most formulas also have docosahexaenoic acid (DHA) and arachidonic acid (ARA) added to them. These are fatty acids that are found in human milk and are important for the development of a baby's brain and eyes.

Some formulas contain probiotics, types of "friendly" bacteria thought to support gut health. Others may contain added prebiotics, such as oligosaccharides, in an attempt to mimic the natural breast milk oligosaccharides, which are substances that promote gut development and particularly support the intestinal lining. (For more information on probiotics, see page 65.)

Goat-milk-based infant formulas are newer to the US market but are routinely used around the world to feed infants. Experts have thoroughly reviewed the nutritional content of goat's milk infant formula. They've found that, when adapted for infant formula, goat's milk protein is equal to that of cow's-milk-based infant formula and supports normal growth and development in infants. However, raw goat's milk, like raw cow's milk, is not safe to feed a baby.

Soy infant formulas contain a soy protein isolate instead of dairy milk and include carbohydrates such as modified corn syrup instead of the lactose typically used in dairy-milk-based infant formula. Soy-protein-based

infant formulas have typically been recommended when there is a concern about dairy milk protein sensitivity or intolerance or suspected allergic reaction to cow's milk, although around half of infants allergic to milk protein are also allergic to soy. Soy protein infant formulas are rarely used as a starter infant formula unless there is a history of intolerance with dairy-based feedings. Soy protein formulas may be recommended for infants with a rare genetic condition called galactosemia.

Another type of formula is called *hydrolyzed formula,* which contains varying levels of enzymatically digested protein that has been broken down into smaller pieces to support digestion. Elemental formulas or amino-acid-based formulas are also available for infants with allergies or other medical conditions and are well tolerated when needed. Ask your pediatrician to recommend a brand of hydrolyzed or elemental formula if one is needed for allergies or other medical conditions. These formulas do tend to be costlier than regular formulas.

With a milk protein allergy, also called FPIAP, causing bloody stools in well infants, and possibly colic, failure to thrive, and diarrhea, the reaction is to the protein in the cow's milk formula. Up to half the infants who have FPIAP are also sensitive to soy protein and thus must be given specialized formula (such as amino-acid-based or elemental) or breast milk while their mother eliminates milk and/or soy in her diet.

Some strict vegetarian and vegan parents choose to use soy formula because it contains no animal products. Remember that breastfeeding is the best option for vegetarian and vegan families. And while some parents believe a soy formula might prevent or ease the symptoms of colic or fussiness, there is no evidence to support this.

There are specialized formulas for infants with specific disorders or diseases, including for premature babies. If your pediatrician recommends a specialized formula, follow their guidance about feeding requirements (amounts, scheduling, special preparations), since these may be different from regular formulas.

PROBIOTICS

"Probiotics" (meaning "for life") is a word you may see when shopping for infant formula and supplements. Some formulas are fortified with these probiotics, which are types of live bacteria.

Research is ongoing about whether probiotics benefit health and, if they do, which ones and in what doses. Before giving your child a supplement or infant formula fortified with probiotics, discuss the issue with your pediatrician. (For more information about probiotics, see page 441.)

FEEDING AND ORAL HEALTH

As the number one chronic disease in US children, dental caries (cavities) should be a concern for all parents. Research has shown that diet and hygiene practices in the first 24 months after birth play a significant role in the risk of cavities as the child becomes older. While much more beneficial than cow's milk or formula, breast milk contains a sugar, lactose. Breastfeeding until up to 12 months of age decreases the risk of dental caries by half, most likely due to other immune-modulating effects and a protective microbiome, despite the lactose sugar in breast milk.

It's not clear whether nighttime breastfeeding after 12 months causes dental caries, but the increased risk of dental caries with nighttime bottle-feeding has been more clearly established. To protect teeth from the natural sugars in breast milk and formula, the AAP recommends the nighttime routine of "brush, book, bed." This encourages nighttime toothbrushing and keeps kids from needing to feed in order to fall asleep. If it is not possible to brush before a nap or bedtime after feeds, the teeth should be wiped to minimize risk of caries. As children get older and get more teeth, it gets more important to protect teeth from the natural sugars in milk. Seeking counseling from a pediatric dentist to review individual dental caries risk factors by age 1 can help families make healthy choices for their situation.

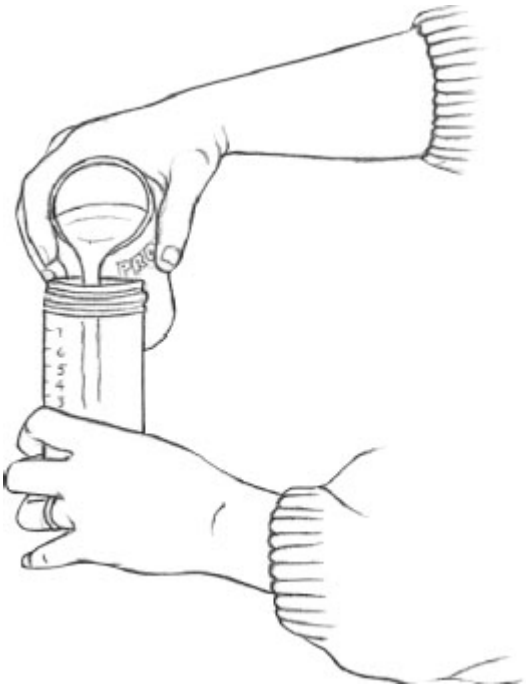
PREPARING, STERILIZING, AND STORING FORMULA

Most infant formulas are available in ready-to-feed liquid forms, concentrates, and powders. Although ready-to-feed formulas are very convenient, they are also the most expensive. Formula from concentrate is prepared by adding water as the manufacturer directs. Unused concentrate may be covered and refrigerated for no more than forty-eight hours. Powder, the least expensive, comes either in premeasured packets or in a larger can. It's important to read the label and make sure you mix the right amounts of powder and water. Mix thoroughly to ensure that there are no clumps of

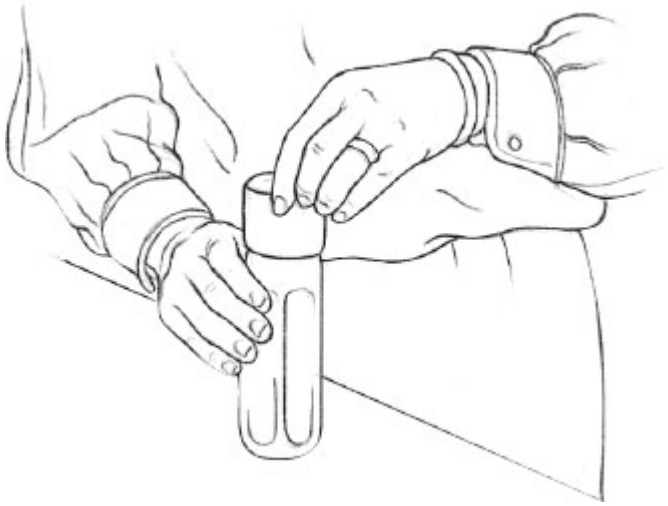
undissolved powder. Always read the label instructions for mixing the formula properly. Please note that some international formulas, for example, may have different mixing instructions, so always use the scoop that comes with the container and follow the specific directions on the formula container you are using.

Powder is also light and portable. The powder will not spoil, even if it stays in the bottle several days before adding water. If you choose a formula requiring preparation, be sure to follow the manufacturer's directions exactly. Too much water and your baby won't get the calories and nutrients needed for proper growth; too little and the extra-concentrated formula could cause diarrhea or dehydration and will give your infant more calories than needed.

PREPARING FORMULA FROM CONCENTRATE (ONE BOTTLE AT A TIME)



Wash hands and measure concentrate.



Pour in an equal amount of water. Shake and use promptly. Unused concentrate may be covered and refrigerated for no more than forty-eight hours.

Use a safe water source to mix your infant formula. If you use well water or are concerned about the safety of your local tap water, or if your baby was born prematurely or has a weakened immune system, you can boil the water for approximately one minute, and then let it cool for approximately five minutes before adding it to the formula per the package directions. Make sure to let it return to room temperature before feeding. (If there is any concern, it may be a good idea to have your well water tested for bacteria or other contaminants.) You also can use bottled water.

Powdered infant formula is not commercially sterile and on rare occasions has been associated with a severe illness attributed to *Cronobacter* bacteria. However, the illness is very uncommon, and the World Health Organization has issued guidelines to improve the safety of powdered infant formula. The CDC and other US organizations recommend heating the water to *at least* 158 degrees Fahrenheit (70 degrees Celsius) before mixing with powder and allowing it to cool to a safe temperature to reduce the possibility of infection with this bacteria. These instructions may be found at cdc.gov/cronobacter/outbreaks/source-date/index.html.



Be sure to test the temperature of warmed formula before feeding it to your child.

Make sure all bottles, nipples, and other utensils used in preparation and feeding are clean. If your home has chlorinated water, a dishwasher or hot tap water with dishwashing detergent can be used. Rinse in hot tap water. If your home has non-chlorinated water, boil the utensils for five to ten minutes.

PREPARING FORMULA FROM POWDER



Wash your hands and then add powder.



Measure water and stir to mix thoroughly.

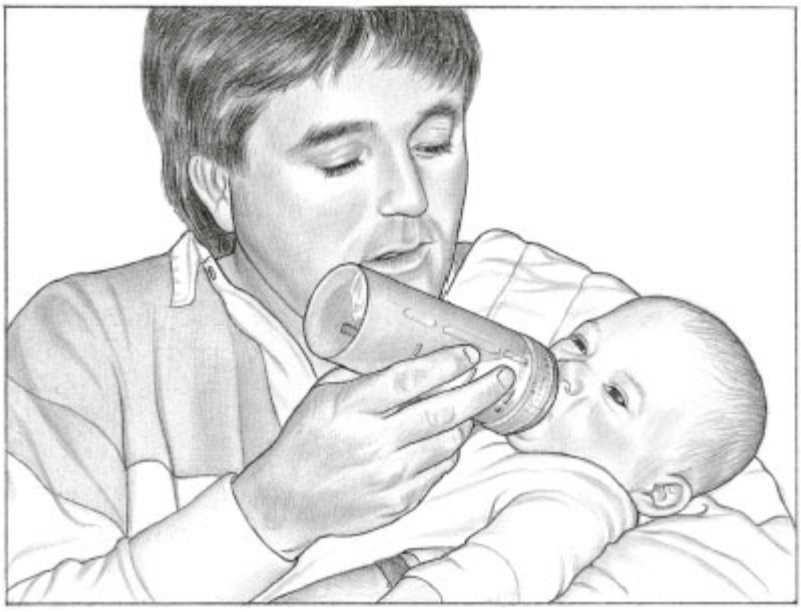


Fill clean bottles and place in refrigerator.

Store formula prepared in advance in the refrigerator to discourage bacterial growth. Unused refrigerated formula should be discarded after twenty-four hours. Refrigerated formula doesn't necessarily have to be

warmed, but most infants prefer it at least at room temperature. To warm it, you can either leave the bottle out for an hour or warm it in a pan of hot water (again, do not use a microwave). If you warm it, test it in advance to make sure it's not too hot by shaking a few drops onto the inside of your wrist.

Bottles are usually made of glass, stainless steel, or BPA-free plastic. As your baby begins holding their own bottle, avoid using breakable glass bottles. Also, bottles designed to promote self-feeding are not recommended, as they may contribute to early childhood caries (ECC, formerly known as baby bottle tooth decay) by promoting constant feeding and overexposing the teeth to sugars. When milk or any other sugar-containing liquid sits in contact with tooth enamel over a prolonged period, bacterial overgrowth and acid production occur. ECC is most commonly seen in children 6 months and older who use a bottle or breastfeed to fall asleep or demand at-will feedings throughout the night. Also, self-feeding while lying on the back has been shown to contribute occasionally to ear infections. (See *Middle Ear Infections,* page 542.) Your baby should not have a bottle to suck on overnight. If you give your infant a bedtime feeding, take away the bottle and brush their teeth before they fall asleep to prevent ECC.



You may need to try several nipples before finding the one your baby prefers. There are standard silicone or rubber nipples, orthodontic ones, and

special designs for premature infants and for babies with cleft palates. Whichever type is used, always check the size of the hole. If the hole is too small, your baby may suck so hard that they'll swallow too much air; if it's too big, the formula may flow so fast they might choke. Ideally, formula should flow from an upended bottle at a rate of one drop per second and stop dripping after a few seconds.



THE FEEDING PROCESS

Feeding times should be relaxing, comforting, and enjoyable. They provide opportunities to show your love and to get to know each other. If you are calm and content, your infant will respond in kind. If you are nervous or uninterested, your baby may sense these negative feelings and a feeding problem can result.

You will probably be most comfortable in a chair with arms or with pillows that let you prop up your arms as you feed your infant. Cradle your baby in a semi-upright position and support their head. Don't feed your baby when they are lying down flat, as this will increase the risk of choking and may also cause formula to flow into the middle ear, leading to possible infection.

Hold the bottle so that formula fills the neck of the bottle and fills the nipple. This will prevent your baby from swallowing air as they suck. To get

your baby to open their mouth and grasp the nipple, stimulate the rooting reflex by stroking the nipple against the lower lip or cheek. Once the nipple is in your baby's mouth, they will begin to suck and swallow naturally.

AMOUNT AND SCHEDULE OF FORMULA FEEDINGS

Paced feedings are recommended to avoid overfeeding, a problem commonly seen with bottle-fed babies that can lead to reflux and obesity. In the first week after birth, babies should be eating no more than 1 to 2 ounces (30–60 ml) per feed. This volume increases gradually over the first month until babies take 3 to 4 ounces (90–120 ml) per feed, resulting in about 32 ounces (960 ml) per day. Formula-fed babies typically feed on a more regular schedule, such as every three to four hours. This happens because all of the nutrients in formula are always exactly the same. Breast milk components vary over the twenty-four-hour period and result in more irregular feeding patterns. Breastfed infants also take smaller, more frequent feedings than formula-fed infants. During the first few weeks, if your baby sleeps longer than four to five hours and starts missing feedings, wake them up and offer a bottle. By the end of the first month, your baby will be up to at least 3 to 4 ounces (120 ml) per feeding, with a fairly predictable schedule of feedings about every three to four hours. By 6 months, your baby will consume 6 to 8 ounces (180–240 ml) at each of four or five feedings in twenty-four hours.

On average, your baby should consume about 2½ ounces (75 ml) of formula a day for every pound (453 g) of body weight. But your baby probably will regulate their intake from day to day to meet their own specific needs, so let them tell you when they've had enough. If your baby becomes fidgety or easily distracted during a feeding, they're probably finished. If they drain the bottle and continue smacking their lips, they might still be hungry. There are high and low limits, however. If your baby consistently seems to want more or less, discuss this with your pediatrician. Your baby should usually drink no more than an average of about 32 ounces (960 ml) of formula in twenty-four hours, although this is not a strict maximum. Some babies have higher needs for sucking and may just want to suck on a pacifier after feeding.

WHERE WE STAND

The American Academy of Pediatrics believes that healthy children receiving a normal, well-balanced diet do not need vitamin supplementation over and above the recommended dietary allowances, which includes 400 IU (10 mcg) of vitamin D a day for infants less than 1 year of age and 600 IU (15 mcg) a day for children over 1 year of age. Megadoses of vitamins—for example, large amounts of vitamins A, C, or D—can produce toxic symptoms, ranging from nausea to rashes to headaches and sometimes even more severe effects. Talk with your pediatrician before giving vitamin supplements to your child.

Initially it is best to offer formula-fed newborns a bottle on demand, or whenever they cry with hunger. As time passes, your baby will begin to develop a fairly regular timetable of their own. As you become familiar with their signals and needs, you'll be able to schedule feedings around your baby's routine.

Between 2 and 4 months of age (or when they weigh more than 12 pounds [5.4 kg]), most babies no longer need middle-of-the-night feedings. They're consuming more during the day, and their sleeping patterns have become more regular (although this varies considerably from baby to baby). Their stomach capacity has increased, too, which means they may go longer between daytime feedings—occasionally up to four or five hours. If your baby still seems to feed frequently or consume larger amounts, try distracting them with play or a pacifier. Sometimes patterns of obesity begin during infancy, so it is important not to overfeed your baby.

The most important thing to remember, whether you breastfeed or bottle-feed, is that your baby's feeding needs are unique. No book can tell you precisely how much or often they need to be fed or exactly how you should handle them during feedings. You will discover these things as you and your baby get to know each other.

TOO MUCH FEEDING

Some signs that your baby may be overfeeding:

- If bottle-fed, the baby is consuming more than 4 to 6 ounces (120 to 180 ml) per feeding.
- Your baby vomits most or all of the food after a complete feeding.
- Their stools are loose and very watery, and occur eight or more times a day. (Keep in mind that breastfed babies normally tend to have much more frequent and looser stools.)

TOO LITTLE FEEDING

Some signs that your baby may be underfeeding:

- If breastfed, the baby falls asleep while feeding after a short time, and does not seem satisfied after the feeding.
- They wet fewer than four diapers per day; particularly if your baby has begun sleeping through the night, they may be feeding inadequately (since most babies feed at least once during the night), and may urinate less often and become mildly dehydrated.
- They have infrequent or very hard stools in the first month.
- They appear hungry, searching for something to suck shortly after feedings.
- Your baby becomes more yellow, instead of less, during the first week.
- They seem excessively sleepy or lethargic.

FEEDING ALLERGY OR DIGESTIVE DISTURBANCE

Signs of a feeding allergy or problem with digestion:

- Your baby vomits most or all food after a complete feeding or has copious watery diarrhea leading to dehydration.
- They produce loose and very watery stools eight or more times a day or have trouble gaining weight.
- They have blood in the stools.
- They have a severe skin rash.
- They have symptoms of anaphylaxis (combination of vomiting, hives, swelling, wheezing, or loss of consciousness) after feeding.

Supplementation for Breastfed and Bottle-Fed Infants

WATER AND JUICE

Until your baby starts eating solid foods, they'll get all the water they need from breast milk or formula. In the first 6 months, additional water or juice is not needed for breastfed or bottle-fed infants. After 6 months, you may offer small amounts of water in a cup, but don't force it or worry if the baby rejects it. They may prefer to get the extra liquid from more frequent

feedings. Juice is not recommended for babies in the first year. It is much healthier for infants to eat fruit and drink water instead of drinking juice.

Once your baby is eating solid foods, their need for liquid will increase. Getting your infant used to the taste of water is a healthy habit that will last a lifetime. When infants become used to drinking juice instead of water, they may want only sweet drinks as they get older, which has been associated with overweight and obesity.

Your baby may need extra fluids when ill, especially when a fever, vomiting, or diarrhea is present. The best fluid for a breastfed infant who is ill is breast milk. Ask your pediatrician what liquids are best and how much to give at these times.

WHERE WE STAND

The American Academy of Pediatrics recommends fruit juice not be given to infants under 12 months of age, since it offers no nutritional benefit in this age group and may increase the risk of tooth decay while causing a preference for sweeter flavors instead of plain water. For children older than 12 months, fruit juice offers no nutritional benefits over whole fruit, but 4 ounces (120 ml) of juice per day given as part of a meal may be a reasonable option. Whole fruits also provide fiber and other nutrients. Children should not be given fruit juice at bedtime, nor as a treatment for dehydration or management of diarrhea. For children ages 1 to 6 years old, limit fruit juice consumption to 4 to 6 ounces (120–180 ml) each day.

FLUORIDE SUPPLEMENTS

Fluoride is a naturally occurring mineral that strengthens your child's enamel and prevents tooth decay. Babies under 6 months should *not* receive fluoride supplementation. After that time, breastfed and formula-fed infants need appropriate fluoride supplementation if local drinking water contains less than 0.3 parts per million (ppm) of fluoride. If you have well water, have the well tested to determine the amount of natural fluoride in the water. If your baby consumes bottled water or your home has a municipal water supply, check to see if the water is fluoridated. If your family prefers bottled water, you should consider purchasing water marketed for babies with fluoride added (sometimes called "nursery water"). It is available in the baby food aisle and can be used when mixing formula.

Your pediatrician or pediatric dentist can advise you on whether there is a need for fluoride drops and prescribe the appropriate dosage. Formula-fed infants receive some fluoride from their formula if the drinking water is fluoridated. The American Academy of Pediatrics recommends that you check with your pediatrician or pediatric dentist to find out if any additional fluoride supplements are necessary.

Remember, appropriate fluoride supplementation is based on each child's unique needs. A supplement should be considered by you and your doctor until all of a child's permanent teeth are present in the mouth.

Burping, Hiccups, and Spitting Up

BURPING

Young babies naturally fuss and get cranky when they swallow air during feedings. Although this occurs in both breastfed and bottle-fed infants, it's seen more often with the bottle. When it happens, it may be helpful to stop the feeding rather than letting your infant fuss and feed at the same time. Continued fussing will cause your baby to swallow even more air, which only increases discomfort and may make them spit up.

One thing you can try is to burp the baby frequently, even if they show no discomfort. The pause and the change of position alone will slow gulping and reduce the amount of swallowed air. If your baby is bottle-feeding, burp them after every 2 to 3 ounces (60–90 ml). If nursing, burp them when they switch breasts. Some breastfed babies don't swallow very much air and therefore they may not need to burp.

HICCUPS

Most babies hiccup from time to time. Usually this bothers parents more than the infant, but if hiccups occur during a feeding, change your baby's position, try to get them to burp, or help them relax. Wait until the hiccups are gone to resume feeding. If they don't disappear in five to ten minutes, try to resume feeding for a few minutes. Doing this usually stops them. If your baby gets hiccups often, try to feed your baby when they are calm and before they are extremely hungry. This will usually reduce the likelihood of hiccups occurring during the feeding.

SPITTING UP

Spitting up is another common occurrence during infancy. Sometimes it means your baby has eaten more than their stomach can hold; sometimes they spit up while burping or drooling. Although it may be a bit messy, it's usually no cause for concern. It almost never involves choking, coughing, discomfort, or danger to your child, even if it occurs during sleep. Know that even if your baby has frequent spit-ups, the best position for sleep is on their back and with the mattress flat, not elevated.

HOW DO YOU BURP A BABY?

Here are a few tried-and-true techniques. After a little experimentation, you'll find which ones work best for your child.

- Hold the baby upright with their head on your shoulder to support their head and back while you gently pat their back with your other hand.
- Sit the baby on your lap, supporting their chest and head with one hand while patting their back with your other hand.
- Lay the baby on your lap with their back up. Support their head so that it is higher than their chest, and gently pat or rotate your hand on their back.



If your baby still hasn't burped after several minutes, continue feeding and don't worry; no baby burps every time. When they've finished, burp them again and keep them in an upright position for ten to fifteen minutes so they don't spit up.





Some babies spit up more than others, but most are out of this phase by the time they are sitting. A few heavy spitters will continue until they start to walk or are weaned to a cup. Some may continue throughout their first year.

It is important to know the difference between spitting up and true vomiting. Unlike spitting up, which most babies don't even seem to notice,

vomiting is forceful and usually causes great distress and discomfort for your child. It generally occurs soon after a meal and produces a much greater volume than spitting up. If your baby vomits on a regular basis (one or more times a day) or if you notice blood or a bright green color in your baby's vomit, consult your pediatrician. (See *Vomiting,* page 451.)

While it is practically impossible to prevent all spitting up, the following tips will help you decrease the frequency and amount of spit-up.

- Make each feeding calm, quiet, and leisurely.
- Avoid interruptions, sudden noises, bright lights, and other distractions during feedings.
- Burp your bottle-fed baby at least every three to five minutes during feedings.
- Avoid feeding while your infant is lying down.
- Hold the baby in an upright position for twenty to thirty minutes after each feeding.
- Do not jostle or play vigorously with the baby immediately after feeding.
- Try to feed your baby before they get frantically hungry.
- If bottle-feeding, make sure the hole in the nipple is neither too big (which lets the formula flow too fast) nor too small (which frustrates your baby and causes them to gulp air). If the hole is the proper size, a few drops should come out when you invert the bottle, and then stop.

BUILDING CONFIDENCE IN BREASTFEEDING

Breastfeeding is natural, sure, but it's also a skill that can take some time and assistance to master, for both you and your baby. There's plenty of help available, and you should take advantage of expert advice, counseling, classes, and group meetings available. For example, you can:

- Talk to your obstetrician and pediatrician. They can provide not only medical information but also encouragement and support when you need it most.
- Talk to your prenatal instructors and attend a breastfeeding class; invite your partner to come with you.
- Watch online videos and talk to women who have breastfed or are breastfeeding successfully and ask their advice.
- Talk to members of La Leche League or other mother-to-mother support groups in your community. La Leche League is a worldwide organization dedicated to helping families learn

about and enjoy the experience of breastfeeding. Information and support for parents is available at llli.org.

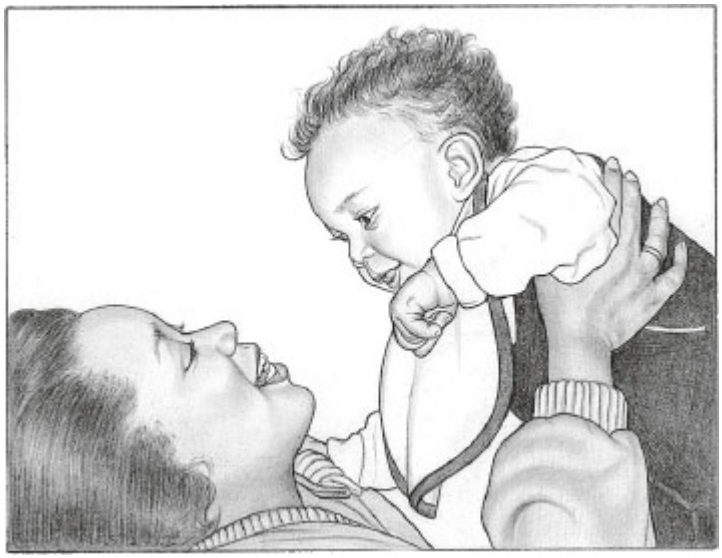
- See if there is a Baby Café in your area. Find out at babycafeusa.org.
- Read about breastfeeding. A recommended book is the American Academy of Pediatrics' *New Mother's Guide to Breastfeeding,* ed. J. Y. Meek, 4th ed. (New York: Bantam Books, 2024).

(For more information on breastfeeding, visit HealthyChildren.org.)

Feeding your baby is one of the most important and, at times, confusing challenges you'll face as a parent. The recommendations in this section apply to infants in general. Please remember that your child is unique and may have special needs. If you have questions that these pages have not answered to your satisfaction, ask your pediatrician to help you find the answers that apply specifically to you and your infant.

CHAPTER 4

Basic Infant Care



After all the anticipation and planning, the arrival of your new baby is a big transition. Routine tasks such as diapering and dressing them can fill you with anxiety—especially if you haven't spent much time around babies. But it doesn't take long to develop the confidence of an experienced parent, and you'll have help. While in the hospital, the nursery staff and your pediatrician will give you instructions and support. Family and friends can be helpful; don't be bashful about asking for assistance. Start to identify positive resources for you and your partner. Your baby will give you the most important information—how they like to be treated, talked to, held, and comforted. They'll bring out parental instincts that will guide you to many of the right responses, almost as soon as they're born.

The following sections address the most common questions and concerns during the first months after birth.

Day to Day

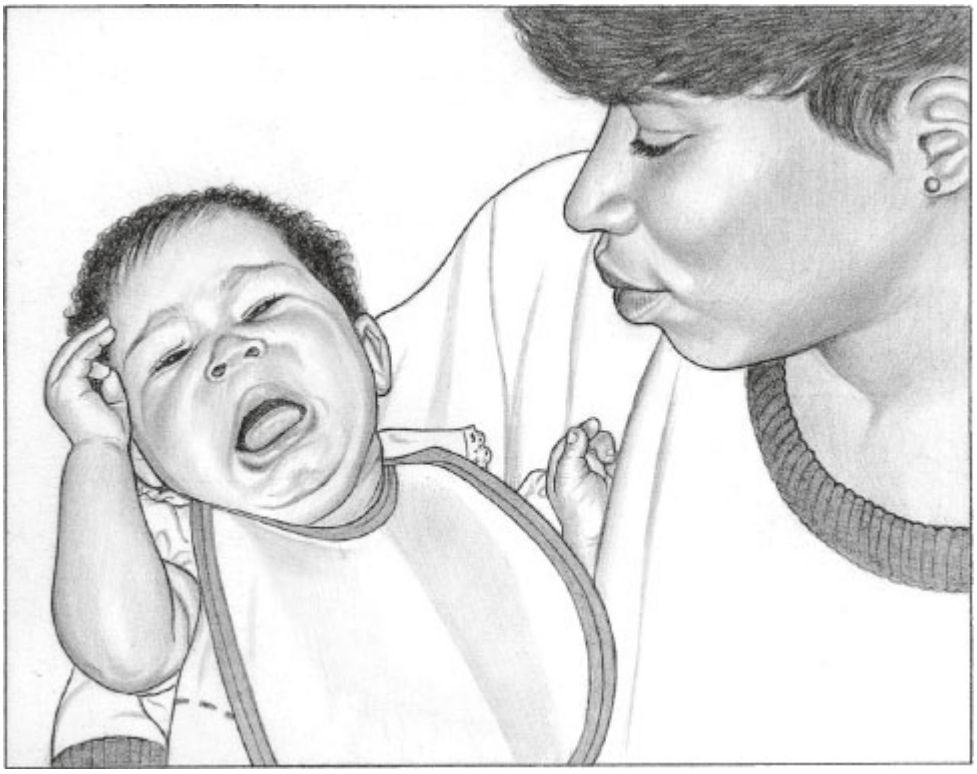
RESPONDING TO YOUR BABY'S CRIES

Crying is common for babies. Crying serves several useful purposes for your baby. It allows them to call for help when they're hungry or uncomfortable. It shuts out sights, sounds, and other sensations too intense to suit them. And it helps them release tension.

You may feel like your baby's crying reflects on your parenting, but remember, they're not crying because you're a bad parent or because they don't like you. All babies cry, often without any apparent cause. Newborns routinely cry one to four hours a day. It's part of adjusting to this strange new life outside the womb.

You may notice your baby has fussy periods, even when they're not hungry, uncomfortable, or tired. At times it may seem like nothing can console them. Right after these spells, they may seem more alert than before, and then may sleep more deeply than usual. This kind of fussy crying seems to help babies get rid of excess energy to allow for a more contented state. As you get to know your infant's crying patterns, you may feel as if you can identify specific needs by the way they cry. Are they hungry? Angry? Distressed or in pain? Sleepy? Each baby will use their voice differently.

Sometimes different types of cries overlap. Newborns generally wake up hungry and crying for food. If you're not quick to respond, your baby's hunger cry may turn to a wail of rage. You'll hear the difference. As your baby matures, their cries will become stronger, louder, and more insistent. They'll also begin to vary more, as if to convey different needs and desires. The best way to handle crying is to respond promptly during their first few months. You cannot spoil a young baby with attention, and if you answer their calls for help, they'll cry less overall.



Respond promptly to your infant whenever they cry during their first few months. You cannot spoil a young baby by giving them attention.

When responding to your child's cries, try to meet their most pressing need first. If they're cold and hungry and their diaper is wet, warm them up, change their diaper, and then feed them. If there's a shrieking or panicked quality to the cry, consider if a piece of clothing or something else is making them uncomfortable. Perhaps a strand of hair is caught around a finger or toe. If they're warm, dry, and well fed but the crying won't stop, try the following consoling techniques. Find the ones that work best for your baby:

- Rocking, either in a rocking chair or in your arms as you sway from side to side
- Gently stroking their head or patting their back or chest
- Safe swaddling (wrapping them snugly in a receiving blanket)
- Singing or talking
- Playing soft music
- Walking them in your arms, a stroller, or a carriage
- Rhythmic soft noise and vibration

- Burping them to relieve any trapped gas bubbles
- Warm baths (*most* babies like this, but not all)

Sometimes, if all else fails and your baby doesn't seem to be ill, the best approach is simply to leave the baby alone in a safe location such as a crib. Many babies cannot fall asleep without crying and will fall asleep quicker if left to cry. The crying shouldn't last long if the child is truly tired.

If the crying does not stop, but intensifies and persists throughout the day or night, it may be caused by colic. Unfortunately, there is no definite explanation for why this happens. Most often, colic means simply that the child is unusually sensitive to stimulation or cannot self-console or regulate their nervous system. As they mature, this inability to self-console—marked by constant crying—will improve. Some people try "gas drops" (simethicone) or "gripe water" (any number of ingredients), but research has never shown these products to work.

You can look into more non-medication options such as reevaluating your diet, slow feeding, and ensuring appropriate burping to help. If bottle-feeding, try a slower-flow nipple and/or tipping the bottle to prevent milk flow for a few seconds intermittently to allow the baby to better organize their swallowing and breathing and realize when they are full. If your baby is inconsolable, they may be sick. Check their temperature (see *Taking a Rectal Temperature,* page 98). If you take it rectally and it is 100.4 degrees Fahrenheit (38 degrees Celsius) or higher, they could have an infection; contact your pediatrician.

The more relaxed you remain, the easier it will be to console your child. Even very young babies are sensitive to tension and react to it by crying. Hearing a wailing newborn can be agonizing, but letting your frustration turn to anger or panic will only intensify your infant's screams. If you start to feel you can't handle the situation, set the baby down in a crib and get help from a family member or friend. This will give you needed relief, and a new face can sometimes calm your baby. No matter how impatient or angry you feel, *do not* shake or hit the baby. Shaking an infant hard can cause blindness, brain damage, or even death. It's important to share this information on crying with anyone else who cares for your baby, including your spouse, partner, or babysitter.

No parent can console their child *every* time they cry, so don't expect to be a miracle worker. Instead, take a realistic approach. Line up some help, get plenty of rest, and enjoy all those wondrous moments with your child.

HELPING YOUR BABY SLEEP

Initially your infant doesn't know day from night. Their stomach holds only enough to satisfy them for two to four hours, regardless of the time. There's no escaping the round-the-clock waking and feeding those first few months. But even at this age, you can begin to teach them that nighttime is for sleeping and daytime for play. Keep nighttime feedings as calm and quiet as possible. Don't turn up the lights or prolong diaper changes. Instead of playing, put them right back down after feeding and changing them. If they're napping longer than three or four hours, particularly in late afternoon, wake them up and play with them. This will train them to save extra sleeping for nighttime. Also, begin to develop a routine before bedtime. Experiencing a strong sensation (like a sponge bath) followed by soothing time (like applying a bit of unscented, hypoallergenic moisturizing lotion and reading or singing) and then a final feeding followed by a short bedtime story can help signal to your baby that the longer nap is coming.

HOW YOUR BABY SLEEPS

Even before birth, your baby had periods of sleep and wakefulness. By the eighth month of pregnancy, their sleep periods had the same distinct phases we all experience:

1. Rapid eye movement (REM, "active") sleep, the times they do their active dreaming. Their eyes will move beneath their lids, almost as if they were watching a dream take place. They also may seem to startle, smile, twitch their face, and make jerking motions with their hands and feet. All are normal signs of REM sleep.
2. Non-REM (or quiet) sleep, which consists of four phases: drowsiness, light sleep, deep sleep, and very deep sleep. In newborns, however, non-REM sleep is undifferentiated, with well-defined stages appearing by 6 months of age. During the progression from drowsiness to deepest sleep, your baby becomes less and less active, and their breathing slows and becomes very quiet. In deepest sleep they are virtually motionless. They may also make suckling movements. Very little, if any, dreaming occurs during non-REM sleep.

At first your newborn will probably sleep about sixteen hours a day, divided into three-or four-hour naps evenly spaced between feedings.

Each of these sleep periods will include relatively equal amounts of REM and non-REM sleep, organized in this order: drowsiness, REM sleep, light sleep, deep sleep, and very deep sleep.

After about 2 to 3 months the order will change. As they grow older, they will cycle through all the non-REM phases before entering REM sleep. This pattern remains through adulthood. Young children achieve non-REM deep sleep fairly quickly upon sleep onset and it is difficult to wake them from it. With age, the amount of REM sleep decreases, and their sleep will generally become calmer. By the age of 3, children spend one-third or less of total sleep time in REM sleep.

POSITIONING FOR SLEEP

The American Academy of Pediatrics recommends that healthy infants be placed on their backs for sleep, as this is the safest position for an infant to sleep. **Placing your baby to sleep on their back decreases their chances of sudden unexpected infant death (SUID),** which is responsible for more infant deaths in the United States than any other cause during the first year (beyond the newborn period).

In addition, recent findings suggest that certain regions of the brain may be underdeveloped in babies who die from SUID. When these sleeping babies encounter a situation challenging to their well-being, they may fail to wake up to remove themselves from danger. Babies who sleep on their stomachs sleep more deeply, and so it is harder for them to wake up; this is probably why stomach sleeping is so dangerous. Since it is impossible to identify which babies may not arouse normally, and because the relationship between SUID and sleep position is so strong, the Academy recommends that all infants be placed to sleep on their backs. Some doctors once thought that sleeping on the side might be a reasonable alternative to back positioning, but we now know that side sleeping is just as dangerous as stomach sleeping for babies. Babies placed to sleep on their sides can roll onto their stomachs, which increases the risk of SUID. Do not use a positioning device, like a wedge or blanket roll, to keep your baby on their back. These can lead to suffocation. It is enough just to put your baby on their back. All healthy babies, including those with gastroesophageal reflux, should sleep on their backs. Your pediatrician will tell you if your baby has one of the rare medical conditions that require them to sleep in a different position. Once the infant can roll both back to front and front to back, you may let them stay in the sleep position they choose.

It is also important to avoid placing your baby to sleep with or on soft surfaces such as pillows, quilts, comforters, bumper pads, or bean bags—even stuffed toys—in the infant sleep area, which may block their airway if

they burrow their face into them. Also avoid having them sleep on an adult's chest because of the risk of the adult falling asleep while holding the baby. Waterbeds, sofas, and soft mattresses are also especially unsafe sleep environments for babies. Never put your baby to sleep in anything inclined or slanted: infant "bouncers," car safety seats (it's okay if a baby falls asleep in the car safety seat while riding in the car, but it is not safe for sleep outside of the car), strollers, swings, infant carriers, or slings. Especially under 4 months of age, infants cannot easily turn their heads if they're suffocating. A flat, firm (hard) crib mattress (in a safety-approved crib or bassinet) covered by a fitted sheet is the safest bedding. Do not pad the mattress with pillows or blankets to make it softer; this will make it more dangerous. Keep all soft toys and stuffed animals out of your child's crib throughout the first year. Keep the temperature in your baby's room comfortable. Use sleep clothing (such as a one-piece sleeper) with no other covering, instead of blankets. If you are worried that your baby will be cold, you can use layers of clothing, a wearable blanket sleeper, or a sleep sack as safe alternatives.

RECOMMENDATIONS FOR SAFE INFANT SLEEP

- Place your baby on their back to sleep for every sleep.
- Use a firm, flat, non-inclined sleep surface to reduce the risk of suffocation or wedging/entrapment.
- Feeding of breast milk is recommended because it is associated with a reduced risk of SUID/SIDS.
- It is recommended that infants sleep in the parents' room, close to the parents' bed, but on a separate surface designed for infants, ideally for at least the first 6 months.
- Keep soft objects, such as pillows, pillow-like toys, quilts, comforters, mattress toppers, fur-like materials, and loose bedding, such as blankets and non-fitted sheets, away from the infant's sleep area to reduce the risk of SUID, suffocation, entrapment/wedging, and strangulation.
- Once breastfeeding is well established, offering a pacifier at nap time and bedtime is recommended to reduce the risk of SUID.
- Avoid smoke and nicotine exposure during pregnancy and after birth.
- Avoid alcohol, marijuana, opioids, and illicit drug use during pregnancy and after birth.
- Avoid overheating and head covering in infants during naps and bedtime.
- It is recommended that those pregnant obtain regular prenatal care.
- It is recommended that infants be immunized in accordance with guidelines from the AAP and CDC.
- Do not use home cardiorespiratory monitors as a strategy to reduce the risk of SUID.
- Supervised, awake tummy time is recommended to facilitate development and to minimize the risk of one side of the head becoming flat. Parents are encouraged to place the infant in tummy

time while awake and supervised for short periods of time beginning soon after hospital discharge, increasing gradually to at least fifteen to thirty minutes total daily by 7 weeks of age.

Source: R. Y. Moon, R. F. Carlin, I. Hand, and the American Academy of Pediatrics Task Force on Sudden Infant Death Syndrome and Committee on Fetus and Newborn, "Sleep-Related Infant Deaths: Updated 2022 Recommendations for Reducing Infant Deaths in the Sleep Environment," *Pediatrics* 150, no. 1 (2022): e2022057990.

Many parents have felt the temptation to keep their babies in bed with them, especially when they are exhausted and the babies are fussy. Bed-sharing, however, raises the risk of infant death. Instead, place the baby's bassinet or crib in your room, where you can monitor them and comfort them as needed, always returning them to a safe sleep environment. Your baby is safest sleeping in your room on their own separate sleep surface close to your bed, ideally for the first 6 months of age.

Pacifiers may also help reduce the risk of SUID. However, if your baby doesn't want the pacifier or it falls out of their mouth, don't force it. If you are breastfeeding, wait until breastfeeding is well established, usually around 3 or 4 weeks of age, before using a pacifier. If you are formula-feeding or giving expressed breast milk, you can start the pacifier at any time. Pacifiers should not have strings, ties, or stuffed animals attached to them, since these can pose a strangulation risk.

Swaddling can help calm your baby, but it must be done safely. Swaddling should allow ample room for hip and knee movement to allow for proper leg development. Your baby has a very sensitive hip joint that can be harmed by too much pressure or stress from abnormal hip positions or restricted motion, potentially causing lifelong problems like arthritis. Swaddling should be snug around the infant's chest, leaving enough space so that the caregiver's hand can fit between the blanket and the baby's chest. If the swaddle becomes loose, it can result in suffocation or strangulation. Always lay your swaddled infant on their back. When an infant exhibits signs of attempting to roll, it's time to stop swaddling, since a swaddled infant in the prone position is at high risk for SUID/SIDS and suffocation. Swaddles should not be weighted or have any weighting materials added to them.

While sleeping on the back is important, your baby should also spend time on their stomach *when awake and being observed.* This will help to

develop your baby's shoulder muscles and head control and avoid flat spots on the back of their head. Be sure to spend part of their alert time every day playing with them in this position.

As their stomach grows, your baby will go longer between feedings. In fact, you'll be encouraged to know that while the average longest sleep period for infants from birth to 5 months is 5.7 hours, this increases to 8.3 hours by 6 to 24 months of age. Many infants can last for as long as 6 hours between feedings when they reach 12 or 13 pounds (5.44–5.89 kg). Larger babies may begin sleeping for longer periods at a time a little sooner. As encouraging as this sounds, don't expect the sleep struggle to end all at once. Most children swing back and forth, sleeping beautifully for a few weeks, even months, then returning abruptly to a late-night wake-up schedule. This may be due to growth spurts, when babies need more food; later, teething or developmental changes can cause increased awakenings.

WHERE WE STAND

Based on an evaluation of current sudden unexpected infant death (SUID) data, the American Academy of Pediatrics recommends that healthy infants always be placed for sleep on their backs—whether for nap time or nighttime. Despite common beliefs, there is no evidence that choking is more frequent among infants lying on their backs (the supine position) when compared to other positions, nor is there evidence that sleeping on the back is harmful to healthy babies. Babies with gastroesophageal reflux (excessive spitting up) should still be placed on their backs.

Since 1992, when the American Academy of Pediatrics began recommending this sleep position, the annual SUID rate has declined more than 50 percent. However, there has also been an increase in accidental suffocation deaths. A safe sleep environment (baby on their back in a crib close to the parents' bed without any blankets or soft objects) is important to protect your baby from SUID or an accidental suffocation death.

From time to time, you will need to help your baby fall asleep or go back to sleep. Especially as a newborn, they will probably doze off most easily if given gentle continuous stimulation. Some infants are helped by rocking, walking, patting on the back, or a pacifier. That said, if you always rock your baby to sleep, they may not learn to fall asleep on their own. Practice putting them to bed while they are sleepy but not fully asleep so that they can build this skill. For others, music can be very soothing if played quietly.

DIAPERS

Since disposable diapers were introduced about eighty years ago, they have been meeting the needs and expectations of most parents; however, diaper choice is a decision every new parent faces. Ideally, make the choice between cloth and disposable diapers (or both) before the baby arrives, in order to stock up or make delivery arrangements. In planning, be aware that most newborns use about ten diapers a day.

HOW TO DIAPER YOUR BABY

Before you start, make sure you have all the necessary supplies within arm's reach. Never leave your baby alone on the changing table—not even for a second. Babies wiggle and squirm and can easily fall off a changing table. In addition, it won't be long before they can turn over, and if they do when your attention is diverted, a serious injury could result.

When changing a newborn, you will need:

- A clean diaper (possibly including fasteners if a cloth diaper is used)
- Unscented diaper wipes, or a small basin (or a mug or bowl) with lukewarm water and a washcloth; soft paper towels can also be used
- Diaper ointment or petroleum jelly
- *Do not* use baby powder, since babies can breathe the dust from powder, potentially irritating the lungs

This is how you proceed:

1. Remove the dirty diaper and use the lukewarm water and cotton ball, soft paper towel, or unscented diaper wipe to gently wipe your baby clean. (Remember to wipe front to back on female infants.)
2. Use the diaper ointment recommended by your pediatrician if needed. Make sure the diaper area is completely dry before applying.

DISPOSABLE DIAPERS. Most disposable diapers consist of an inner liner designed to help keep wetness away from the skin, an absorbent core, and an outer waterproof covering. Some diapers now have a stripe that changes color to indicate wetness. Over the years, they have become thinner and lighter, while continuing to meet the needs for containment, comfort, ease of use, and skin care. When changing a soiled diaper, do not flush the diaper, as it can block plumbing. Wrap the diaper in its outer cover and discard in a waste receptacle. Afterward, always wash your hands.



CLOTH DIAPERS. Like disposable diapers, reusable cloth diapers have improved over the years, and are available in a variety of absorbencies and textures. If you want to use a diaper service, shop around; ideally, a diaper service should pick up dirty diapers and drop off clean ones twice a week. If you choose to wash diapers yourself, keep them separate from other clothes. After you dump stool into the toilet, consider rinsing the diaper with a diaper sprayer or pouring cold water over it into the toilet, then placing the damp diaper in a diaper pail until washing it in hot water and mild detergent. Some newer diaper types offer a disposable cloth liner with a reusable outer cover. Regardless, always remember to wash your hands afterward.

DIAPER CHOICE. Diaper choice has been complicated in recent years by the debate on the environmental effects of diapers, mostly centered on disposable diapers and landfill space. Actually, a number of scientific studies have found that both cloth and disposable diapers have environmental effects, including raw material and energy usage, air and water pollution, and waste disposal. Disposable diapers add to municipal solid waste, while cloth diapers use more energy and water in laundering and contribute to air and water pollution. In the end, you must make your own decision about diaper type based on your concerns and needs or simply decide to use both.





There are health aspects to consider as well. Excessively wet skin and contact with urine and stool can cause diaper rash. Because cloth diapers can't keep wetness away from your baby's skin as effectively as disposables, it's especially important to change cloth diapers quickly after they become wet or soiled. Some parents primarily use cloth diapers for their babies but use a disposable diaper at bedtime or on long outings to minimize contact with wetness when diapers can't be changed as often.

DIAPER RASH

"Diaper rash" describes a rash or irritation in the area covered by the diaper. The first sign of diaper rash is usually redness or small bumps on the lower abdomen, buttocks, genitals, and thigh folds—surfaces in direct contact with a wet or soiled diaper. This type of diaper rash is rarely serious and usually clears in three or four days with appropriate care. The most common causes of diaper rash include:

- Leaving a wet diaper on too long. The moisture makes the skin susceptible to chafing. Over time, the urine in the diaper decomposes, forming chemicals that can further irritate the skin.
- Leaving a stool-soiled diaper on too long. Digestive agents in the stool then attack the skin, making it more susceptible to a rash.

Regardless of how the rash begins, once the skin surface is damaged, it becomes even more vulnerable to irritation by urine and stool, and susceptible to subsequent infection with bacteria or yeast. Yeast infections are common in this area and often appear as a rash on the thighs, genitals, and lower abdomen, but they almost never appear on the buttocks.

Although most babies develop diaper rash at some point, it happens less often in babies who are breastfed. Diaper rash occurs more often at particular ages and under certain conditions:

- Among babies 8 to 10 months old
- If babies are not kept clean and dry
- When babies have diarrhea
- When a baby starts to eat solid food (probably due to changes in the digestive process caused by the new variety of foods)
- When a baby is taking antibiotics (because these drugs alter the germs in the gut and the acidity of the stool and encourage the growth of yeast organisms that can infect the skin)

To reduce your baby's risk of diaper rash, make these steps part of your diapering routine:

1. Change the diaper as soon as possible after a bowel movement. Cleanse the diaper area with a diaper wipe or soft cloth and water after each bowel movement.
2. Change wet diapers frequently to reduce skin exposure to moisture.
3. Expose the baby's bottom to air whenever feasible. When using diaper covers or disposable diapers with tight gathers around the abdomen and legs, make sure air can circulate inside the diaper.

If a diaper rash develops in spite of your efforts, begin using a diaper rash ointment as a barrier to prevent further irritation and to allow the skin to heal. The rash should improve noticeably within two to three days. If it doesn't improve or it gets worse (or if you see pimple-like pustules), consult your pediatrician.

URINATION

Your baby will gradually increase the number of wet diapers in the first few days after birth. After the first week or two, your baby may urinate as often as every one to three hours or as infrequently as four to six times a day. If they're ill or feverish, or when the weather is extremely hot, their usual output of urine may drop by half and still be normal. Urination should never be painful. If you notice any signs of distress while your infant is urinating, notify your pediatrician. This could be a sign of infection or another problem in the urinary tract.

In a healthy child, urine is light to dark yellow in color. (The darker the color, the more concentrated the urine; the urine will be more concentrated when your child is not drinking a lot of liquid.) In the first week after birth, you may see a pink or brick-red stain on the diaper, often mistaken for blood. In fact, this stain is usually a sign of highly concentrated urine, which has a pinkish color. As long as the baby is wetting at least four diapers a day, there is probably no cause for concern. If the pinkish staining persists, consult your pediatrician.

Newborn girls may have a small spot of blood in the diaper, also usually in the first week after birth; this blood is caused by the mother's hormones affecting the baby's uterus. After that time, however, the presence of actual blood in the urine or a bloody spot on the diaper is never normal, and your pediatrician should be notified. It may be due to nothing more serious than a diaper rash sore, but it also could be a more serious problem. If this bleeding is accompanied by other symptoms, such as abdominal pain, poor feeding, vomiting, fever, or bleeding in other areas, seek medical attention immediately.

BOWEL MOVEMENTS

For the first few days after birth, your baby's first bowel movements will be a substance known as meconium. This thick black or dark green substance filled your baby's intestines before birth, and once the meconium has been passed, the stools turn yellow-green.

Baby stools vary in color and consistency due to their immature digestive system. If your baby is breastfed, their stools should be yellow liquid mixed with some particles that remind many parents of little seeds. Until a baby starts to eat solid foods, the consistency of the stools may range from very soft to loose and runny. If they're formula-fed, their stools will usually be tan or yellow in color. They will be firmer than a breastfed baby's but should be no firmer than soft clay. Green stools are not unusual, either, and they should not cause you alarm. If your formula-fed infant is having firm, dry, or formed stools, ensure you are mixing formula per the instructions, by adding the water to the bottle first and then adding the formula.

Whether your baby is breast-or bottle-fed, hard or very dry stools may be a sign they are not getting enough fluid or are losing too much fluid due to illness, fever, or heat. Once solids are introduced, hard stools might indicate they're eating too many constipating foods, such as cereal, cow's milk, or cow's-milk-based formula before their system can handle them. (Whole cow's milk is not recommended for babies under 12 months.) Underripe bananas can also be a common culprit of hard stools and constipation in babies and toddlers.

Here are some other important points to keep in mind about bowel movements:

- Occasional variations in color and consistency of the stools are normal. For example, if the digestive process slows down because of foods requiring more effort to digest (e.g., large amounts of cereal), the stools may become green, or if the baby is given supplemental iron, the stools may turn dark brown. If there is a minor irritation of the anus, streaks of blood may appear on the outside of the stools. However, if there are large amounts of blood or any blood in the stool of a newborn, or mucus or water in the stool, call your pediatrician immediately. These symptoms may warrant attention from your doctor.
- Because an infant's stools are normally soft and a little runny, it's not always easy to tell when a young baby has mild diarrhea. The telltale signs are a sudden increase in frequency (to more than one bowel movement per feeding) and unusually high liquid content in the stool. Diarrhea may be a sign of intestinal infection, or it may be caused by a change in the baby's diet.
- The main concern with diarrhea is the possibility of dehydration. If fever (a rectal temperature of 100.4 degrees Fahrenheit [38 degrees Celsius] or higher) is also present and your infant is less than 3 months old, call your pediatrician. If your baby is over 3 months and the fever lasts more than a day, check their urine output and rectal temperature, then report your findings to your doctor for consideration. Make sure your baby continues to feed frequently. As much as anything else, if they simply look sick, let your doctor know.

The frequency of bowel movements varies widely among babies. Many pass a stool soon after each feeding, a result of the gastrocolic reflex, which causes the digestive system to become active whenever the stomach is filled with food.

By 3 to 6 weeks of age, some breastfed babies have only one bowel movement a week and still are normal. Breast milk leaves very little solid waste to be eliminated from the child's digestive system. Thus, infrequent stools are not a sign of constipation and should not be considered a problem as long as the stools are soft and your infant is otherwise normal, gaining weight steadily, and nursing regularly. Babies with this breastfed stool variant usually have a large volume of stool if it has been a few days (so you should be prepared with lots of wipes to clean up).

If your baby is formula-fed, they should have at least one bowel movement a day. If they have fewer than this and appear to be straining, they may be constipated. Check with your pediatrician for advice on how to handle this problem. (See *Constipation,* page 429.)

BATHING

Your infant doesn't need much bathing if you wipe or wash the diaper area thoroughly during diaper changes. A short bath with a mild cleanser three times a week during their first year may be enough. More frequent bathing may dry out their skin, particularly if drying or irritating soaps are used or moisture is allowed to evaporate from the skin. Patting your baby dry and applying a fragrance-free, dye-free hypoallergenic moisturizer (ointment or cream is best) immediately after bathing can help prevent dry skin (see page 461).

In a warm room, lay the baby anywhere that's flat and comfortable for both of you—a changing table, bed, floor, or counter next to the sink will do. Pad hard surfaces with a blanket or fluffy towel. If the baby is on a surface above the floor, use a safety strap or keep one hand on them *at all times* to make sure they don't fall.

For sponge baths, have a basin of water, a damp, double-rinsed washcloth (with no soap residue), and a supply of mild baby cleanser within reach before you begin. Keep your baby wrapped in a towel and expose only the parts of their body you are washing. Use the dampened cloth with no

soap to wash their face. Then use the soapy water to wash the remainder of their body, ending with the diaper area. Pay special attention to creases under the arms, behind the ears, and around the neck. Avoid cleaning the vagina/vulva with soap, as it can lead to irritation.



Baby towels with built-in hoods are a very effective (and cute) way to keep your baby's head warm when they're wet.

For uncircumcised boys, foreskin care during each bath time is important to prevent irritation and infection. In most newborns, the foreskin cannot be retracted due to natural adhesions to the head of the penis. Gentle retraction can be performed to allow cleaning of the foreskin and head where easily reached, but the foreskin should never be retracted forcefully, which can cause pain and scarring. It is very important to replace the foreskin after retraction. Each boy's foreskin can be completely retracted at variable times over childhood, but most can retract completely by puberty. Excellent educational videos are available from reputable sources online to improve comfort with foreskin care. For circumcised boys, the genital skin, including the head of the penis, can be cleaned with a regular cleanser and water. Once the circumcision is healed, some redundant or leftover foreskin may be present in circumcised boys, and it is safe to clean

under this. The appearance of any redundant skin improves in most boys with natural growth.

Prior to the time when the umbilical cord dries and falls, you should avoid putting soap and water in the umbilical area, as it delays the cord's natural way of healing and may increase the risk of infection. It might be best to stick with sponge baths to avoid getting the stump wet. Do not clean the stump with alcohol or any other cleaning agents, as it might increase the risk of infection by killing the natural bacteria. Do not pull the stump. It is best to let the stump fall off on its own. If the skin around the stump becomes red or has any pus, this can be very dangerous and you need to seek urgent care with your pediatrician. Once the umbilical area is healed, you can try placing your baby directly in the water. Their first baths should be as gentle and brief as possible. They will probably protest; if they seem miserable, go back to sponge baths for a week or two, then try again. They will make it clear when they're ready.

Most parents find it easiest to bathe a newborn in a small bathtub, sink, or plastic tub lined with a clean towel. Fill the basin with 2 inches (5 cm) of water that feels warm—not hot—to the inside of your wrist or elbow. If you're filling the basin from the tap, turn the cold water on first (and off last) to avoid scalding yourself. The hottest temperature at the faucet should be no more than 120 degrees Fahrenheit (48.9 degrees Celsius) to avoid burns; in many cases you can adjust your water heater. Only place your baby in the basin once you have finished filling it and checked the final temperature.

Supplies should be at hand and the room warm before undressing the baby because babies lose body heat easily. You'll need the same supplies you used for sponge bathing, but also a cup for rinsing with clear water. When your child has hair, you'll need baby shampoo, too.

BATHING YOUR BABY

Once you've undressed your baby, place them in the warm water immediately so that they don't get chilled. Bubble baths and other additives can be irritating; plain water is best. Use one hand to support their head and the other to guide your baby in, feet first. Speak encouragingly, and gently lower their body until they're in the tub. Most of their body and face should be well above the water level for safety, so you'll need to pour warm water over their body frequently to keep them warm.



Use a soft cloth to wash their face and hair, cleansing once or twice a week. Massage their entire scalp gently, including over their fontanelles (soft spots). When you rinse the soap or baby shampoo from their head, cup your hand across their forehead so that the suds run toward the sides, not into their eyes. Should you get some cleanser in their eyes, simply take the wet washcloth and liberally wipe their closed eyes with plain, lukewarm water until the cleanser is gone, and they will open their eyes again. Wash the rest of their body from the top down.

If you've forgotten something or need to step away, *you must take your baby with you,* so keep a dry towel within reach. *Never leave a baby alone in*

the bath, even for an instant.

If your baby enjoys their bath, give them extra time to splash and explore the water. The more fun your child has, the less they'll be afraid of the water. As they get older, bath time will lengthen until most of it is play. Bathing should be a relaxing and soothing experience, so don't rush unless they're unhappy.

Bath toys are not needed for very young babies. The stimulation of water and washing is exciting enough. Once a baby is old enough for the bathtub, however, toys become a fun addition. Containers, cups, age-appropriate toys, and even waterproof books make wonderful distractions as you cleanse your baby. Remember that bath toys can grow mold if they stay wet, so squeeze or shake out any water and give them a chance to dry between uses.

Baby towels with built-in hoods are the most effective way to keep your baby's head warm when the bath is over. Bathing a baby of any age is wet work, so be prepared to keep yourself dry.

Many parents find that a bath is a relaxing way to prepare their baby for sleep if it works in their daily routines.

SKIN AND NAIL CARE

Your newborn's skin may be susceptible to irritation from chemicals found in new clothing and from soap residue on washed clothes. Double-rinse all baby clothes, bedding, blankets, and other washable items before exposing the child to them. It is common for a baby's skin to peel in the first few weeks, as their body is clearing away the extra skin cells from being in amniotic fluid.

Babies don't routinely need skin moisturizer during the first month after birth. If your baby's skin tends to be dry, or if you choose to give your baby a bath every day, it is helpful to apply an oil, lotion, cream, or ointment that contains no scents or coloring agents. If your baby has a persistent bumpy or dry rash, ask the pediatrician if your baby may have eczema (see page 461).



In the early weeks, your baby's fingers are so small and their nails grow so quickly that you may have to trim them twice a week.

Your child's nails only require trimming. You can use a soft emery board, baby nail clippers, or blunt-nosed toenail scissors, but be very careful when using clippers or scissors. A good time to trim nails is after a bath if your baby will lie quietly, but you may find it easiest when they're asleep. Keep their fingernails as short and smoothly trimmed as possible to help them avoid scratching themselves (or you). In the early weeks, their fingers are so small and their nails grow so quickly that you may have to trim them twice a week. Avoid the temptation to bite your child's nails as a way of trimming them, as this habit can lead to a skin infection.

By contrast, your baby's toenails grow much more slowly and are usually soft and pliable. They needn't be kept as short as fingernails, so they may only have to be trimmed once or twice a month. Because they are so soft, they sometimes look ingrown, but there's no cause for concern unless the skin alongside the nail gets red, inflamed, or hard, or you see an area of pus. As your baby gets older, their toenails will become harder and better defined.

DRESSING AND UNDRESSING YOUR BABY









Support your baby on your lap or changing table and stretch the garment's neckline to pull it over your baby's head. Use your fingers to keep it from catching on their face or ears.

Don't try to push your baby's arm through the sleeve. Instead, put your hand into the sleeve from the outside, grasp your baby's hand, and pull it through.

When undressing, take off the sleeves one at a time while you support your baby's back and head. Then stretch the neckline, lifting it free of your baby's chin and face as you gently slip it off.

CLOTHING

Unless the temperature is hot (over 75 degrees Fahrenheit [24 degrees Celsius]), your newborn will need several layers of clothing to keep warm. It's generally best to use an undershirt and diaper, covered by pajamas, and then wrap the baby in a receiving blanket. If your baby is premature, they may need still another layer of clothing until their weight increases and their body is better able to adjust to the temperature. In hot weather you can reduce clothing to a single layer. A good rule of thumb is to dress the baby in one more layer of clothing than you are wearing.

SWADDLING

During the first few weeks, your baby may like to be wrapped in a receiving blanket. Not only does this keep them warm, but the slight pressure around the body seems to give some newborns a sense of security. To swaddle, spread the blanket out flat, with one corner folded over. Lay the baby face-up on the blanket, with their head at the folded corner.











Wrap the left corner over their body and tuck it beneath them. Bring the bottom corner up over their feet, and then wrap the other corner around them, leaving only their head and neck exposed. As an option, you can keep their hands close to their chin, so that they can still self-soothe or display hunger cues. It is important that the hips and legs are allowed to move freely within the blanket. Tight swaddling of the hips could lead to dysplasia or even dislocation. Never place your swaddled baby in any position other than on the back. Stop swaddling as soon as your baby starts trying to roll over (even when they are not swaddled), usually around 2 to 3 months of age, because being on their stomach while swaddled can be dangerous. Babies born early may need to be swaddled for longer. (For more information on swaddling, visit HealthyChildren.org/swaddling.)

If you've never taken care of a newborn before, the first few clothing changes can be quite frustrating. Not only is it a struggle to get that tiny little arm through the sleeve, but your infant may shriek in protest through the whole process. They don't like the rush of air against their skin, nor do they enjoy being pushed and pulled through garments. It may be easier to hold them on your lap while changing the upper half of their body, then lay them on a bed or changing table while doing the lower half. When dressing them in one-piece pajamas, pull the pajamas over their legs before putting on the sleeves. Pull T-shirts over their head first, then guide one arm at a time through the sleeves. Use this opportunity to ask, "Where's the baby's hand?" As they get older this will turn into a game, with them pushing their arm through just to hear you say, "*There's* the baby's hand!"



Certain clothing features can make dressing much easier. Look for garments that:

- Snap or zip all the way down the front, instead of the back
- Snap or zip down both legs to make diaper changes easier
- Have loose-fitting sleeves so that your hand fits inside to gently pull the baby's arm through
- Have no ribbons or strings to knot up, unravel, or wrap around the neck (which could cause choking)
- Are made of soft stretchy fabric (avoid tight bindings around arms, legs, or neck)

Your Baby's Basic Healthcare

TAKING A RECTAL TEMPERATURE

Very few babies get through infancy without a fever, usually a sign of infection. A fever often indicates that the immune system is actively fighting viruses or bacteria, so—in this respect—it is a positive sign that the body is protecting itself. Because young babies give very few signs when ill, any child younger than 3 months with a fever needs an urgent evaluation by a physician to determine the cause; if it is due to a minor viral infection, it will

usually resolve on its own, while a bacterial infection or more serious viral infection (e.g., herpes) will usually require immediate treatment with medications and frequently, in infants under 2 months of age, hospitalization.

An infant or toddler cannot hold a thermometer steady in their mouth for an oral temperature, and "fever strips" that are placed on the child's forehead are not accurate. While temporal artery thermometers (electronic devices that measure the skin temperature of the forehead) can be reliable, tympanic thermometers (devices that fit inside the ear canal) are unreliable in infants, especially under 6 months of age. An axillary (armpit) temperature can be a useful screen, but the best way to measure fever in a young child is rectally. Once you know how to take a rectal temperature, it is quite simple, but it's best to learn the steps in advance so that you're not nervous about them when your child is actually sick. For a complete description of taking a rectal temperature properly, or other means of properly taking temperatures in infants and children, see Chapter 30, *Fever.*

VISITING THE PEDIATRICIAN

You will probably see more of your pediatrician in your baby's first year than at any other time. The baby's first examination takes place immediately after birth. The schedules on pages 742 and 743 list the minimum routine checkups from infancy through adolescence. Your pediatrician may want to see your child more often.

Ideally, parents and/or regular caregivers should attend these early visits. These appointments give you and your pediatrician a chance to get to know each other and exchange questions and answers. Don't restrict yourself to medical questions; your pediatrician is also an expert on general childcare issues and a valuable resource if you're looking for childcare help, parent support groups, or other outside assistance. Many pediatricians offer information that covers common concerns, but it is a good idea to make a list of questions before each visit.

If only one parent or caregiver can attend, try to get a friend or a relative to join the parent who does. It's much easier to concentrate on your discussions with the doctor if you have a little help dressing and undressing

the baby and gathering all of their things. While you're getting used to outings, an extra adult can help carry the diaper bag and hold doors.

The purpose of these early checkups is to make sure your child is growing and developing properly and has no serious abnormalities. Specifically, the doctor will check the following areas.

GROWTH. You will undress your baby to be weighed on an infant scale. Their length may be measured on a flat table and their head size measured with a special tape. These measurements should be plotted in order to determine their growth curve from one visit to the next. (You can plot your baby's growth curve in the same way using the charts on pages 748–55.) This is the most reliable way to judge whether they're growing normally, and it will show you their position on the growth curve in relation to other children their age. If you are unsure about how your baby is growing, going into the office for additional weight checks may be reassuring.

HEAD. The soft spots (fontanelles, normal skin-covered openings in the skull) should be open and flat for the first few months. By 2 to 3 months of age, the spot in the back should be closed. The front soft spot should close before 2 years (around 18 months of age).

EARS. The doctor will look inside both ear canals and at the eardrums with an otoscope. This detects any evidence of fluid or infection in the ear. You'll also be asked if the child responds normally to sounds. Formal hearing tests are done in the newborn nursery and later if a problem is suspected.

EYES. The doctor will catch your baby's attention and track their eye movements. The doctor also may look inside the baby's eyes with a lighted instrument called an ophthalmoscope—repeating the internal eye examination first done in the hospital nursery. This is particularly helpful in detecting cataracts (clouding of the lens of the eye). (See *Cataracts,* page 603.)

MOUTH. The mouth is checked for signs of infection and, later, for teething progress. The doctor may feel the roof of the mouth to look for a cleft palate, a condition where the bones or soft tissue does not close completely during development.

HEART AND LUNGS. The pediatrician will use a stethoscope on the front and back of your baby's chest to listen to the heart and lungs. This examination determines whether there are any abnormal heart rhythms, sounds, or breathing difficulties.

ABDOMEN. By placing their hand on the child's abdomen and gently pressing, the doctor is checking for enlarged organs or unusual masses or tenderness.

GENITALIA. The genitalia are examined at each visit for any unusual lumps, tenderness, or signs of infection. In the first exam or two, the doctor pays special attention to a boy's circumcised penis to make sure it's healing properly. Pediatricians also check all boys to make certain both testes are down in the scrotum.

HIPS AND LEGS. The pediatrician will check for problems with the hip joints. The movements your pediatrician will perform with your baby's legs are designed to detect dislocation or problems with the hip sockets. Doing this is important, as early detection can lead to proper referral and correction. Later, after the baby starts to walk, the doctor will watch them take a few steps to make sure the legs and feet are properly aligned and move normally.

DEVELOPMENTAL MILESTONES. The pediatrician also asks about the baby's general development—how your baby plays, learns, speaks, acts, and moves. Among other things, they'll observe and discuss when your baby starts to smile, roll over, sit up, and walk, and how they use their hands and arms. During the exam, the pediatrician will test reflexes and general muscle tone. (See Appendix and Chapters 5 through 16 for details of developmental milestones.) If you have any concerns about your child's development, make sure to talk with your child's pediatrician. Families can monitor their child's

development and share information with their child's doctor by knowing what milestones to expect at what age.

IMMUNIZATIONS

Your child should receive most childhood immunizations before their second birthday. These will protect them against thirteen major diseases: hepatitis B, diphtheria, tetanus, pertussis (whooping cough), polio, *Haemophilus influenzae* type b (Hib) infections, pneumococcal infections, rotavirus, measles, mumps, rubella, chickenpox, and hepatitis A. In addition, after 6 months of age your baby will receive a yearly flu vaccine and possibly a COVID-19 vaccine. (See Chapter 34, *Immunizations,* for more information on each of these diseases, and see the Appendix for the immunization schedule recommended by the American Academy of Pediatrics.)

This chapter has dealt with basic infant care. However, your baby is a unique individual. Questions specific to them and them alone are best answered by your own pediatrician.

CHAPTER 5

Your Baby's First Month



At first it may seem your newborn does nothing but eat, sleep, cry, and fill their diapers. By the end of the first month, they will be much more alert and responsive. Gradually their movements will be smoother and more coordinated—especially in getting their hand to their mouth. You'll realize your newborn will listen when you speak, watch you as you hold them, and occasionally move in response to you or to attract your attention. But before we explore their expanding capabilities, let's look at the physical changes during the first month.

Growth and Development

PHYSICAL APPEARANCE AND GROWTH

At birth, your newborn's weight included excess body fluid. This fluid was lost during the first few days. All newborns lose weight during the first seven

days. Beginning on about the fifth day after birth they should start gaining steadily, and by about 2 weeks of age they should have returned to their original birth weight. Almost all will have regained their birth weight by 3 weeks of age. You can plot your baby's growth on the charts in the Appendix.

Most babies gain weight very rapidly, especially during growth spurts, which usually occur at around 7 to 10 days and again between 3 and 6 weeks. The average newborn gains weight at a rate of almost an ounce (28 g) per day. They tend to grow between 1½ and 2 inches (3.8–5 cm) during this month.

Your pediatrician will pay attention to your newborn's head growth, a reflection of brain growth. The bones in your newborn's skull are growing faster during the first four months than at any other time in their life. The average newborn's head circumference measures about 13¾ inches (35 cm), growing to about 15 inches (38 cm) by 1 month.

During these first weeks your newborn's body will straighten from the tightly curled position they held inside the uterus. They will stretch their arms and legs and may arch their back from time to time.

If your newborn's skull appeared misshapen at birth, it will soon resume its normal shape. Any scalp bruising or eyelid swelling that occurred during birth will be gone by the end of the first week or two. Any red spots in the eyes will disappear in about three weeks.

You may discover that the fine hair that covered your child's head at birth begins falling out. They may develop a temporary bald spot on the back of their head from sleeping on their back, even if the rest of their hair remains. This loss is not medically significant. The bare spots will be covered with new hair in a few months.

Another normal development is baby "acne"—pimples that break out on the face, usually during the third to fifth week. Doctors once thought this was due to maternal hormones stimulating glands in babies' skin, but they now think it may be a normal response to bacteria and yeast on the skin, and it has been renamed neonatal cephalic pustulosis. If your baby does have this pimply rash, washing the face gently once a day with a mild baby soap is sufficient. The rash usually resolves on its own in a few weeks. In severe cases your pediatrician may prescribe a face cream. Drops of breast milk applied to the rash may also help.

Your newborn's skin may also look blotchy, ranging in color from pink to blue. Their hands and feet in particular may be colder and bluer than the rest of their body, the blood vessels being more sensitive to temperature changes and tending to shrink in response to cold. If you move their arms and legs, however, they will quickly turn pink again. Your baby's mouth, lips, and tongue should always appear pink or red.

Your baby's internal "thermostat," which causes them to sweat or shiver, won't be working properly for some time. Also, in these early weeks, they lack the insulating layer of fat that helps protect against sudden temperature shifts. It's important to dress your baby warmly in cool environments and lightly when it is hot. A general rule of thumb is to dress them in one more light layer of clothing than you would wear in the same weather conditions. Don't automatically bundle them up because they're a baby.

Between one and three weeks after birth, the stump from the umbilical cord should have dried and fallen off, leaving behind a clean, well-healed area. Occasionally a raw spot is left, and it may even ooze a little blood-tinged fluid. Just keep it dry and clean and it will heal by itself. If it is not completely healed and dry after three weeks, or if there is any oozing or redness that continues after it falls off, consult your pediatrician.

CHECKUPS

After the newborn visit, your baby's next health maintenance exam will be around 2 to 4 weeks of age. This visit is mainly to check growth and development and to help with any problems or adjustment hiccups you've encountered. There is an option to give the second dose of hepatitis B vaccine if a month has passed since the first dose, but otherwise there are no vaccines at this visit.

REFLEXES

Much of your baby's activity in the first weeks is reflexive, meaning that it is involuntary or happens without the child intending it. If you put your finger in your newborn's mouth, they will reflexively suck your finger. Some reflexes remain for months, while others vanish in weeks.

In some cases, reflexes change into voluntary behavior. For example, your baby is born with a rooting reflex that prompts them to turn their head

toward your hand if you stroke their cheek or mouth. This helps your baby find the nipple at feeding time. At first, babies will root from side to side, turning their head toward the nipple and then away in decreasing arcs. Soon, they will simply move their head into position and open their mouths widely to attach to the breast and suckle.

Sucking is another survival reflex present even before birth. If you had an ultrasound during pregnancy, you may have seen your baby sucking their thumb. After birth, when the baby attaches to your breast, they automatically begin to suck. This motion has two stages. First, your baby places their chin against your breast at the edge of the areola, or dark circle that surrounds the nipple. Then, when your baby opens wide, point your nipple to meet the roof of your baby's mouth (or toward their nose and forehead). Your baby's nose will not touch your breast, and their chin will be buried in your breast. You should not feel any nipple pinching, rubbing, or pain. Your baby's attachment should feel comfortable to you, such that even if the baby feeds frequently, your nipples would not be sore. If you feel any discomfort, use your pinky finger to break the seal and reattach your baby until it feels comfortable to you and/or reach out for help from a breastfeeding medicine doctor or lactation consultant. When attached effectively, your baby squeezes the breast behind your nipple between the tongue and palate (called expression); this action forces the milk out. In the second phase, or milking action, the tongue moves from the areola to the nipple. This whole process is helped by the suction that secures the breast to the baby's mouth.

Coordinating these rhythmic sucking movements with breathing and swallowing is a relatively complicated task for a newborn. So even though this is a reflexive action, not all babies suck efficiently at first. If you do not hear swallows while your baby is attached to the breast, use gentle breast compression to help the milk flow; consider also using hand expression after the feeding to give your body more signals to produce milk, and feed the expressed milk to your baby. For bottle-fed babies, consider trying a different nipple size. With practice, however, your baby will become an expert at breastfeeding. Most babies, by the time they are two to three weeks past their due date, have breastfeeding going well, and in the meantime, you

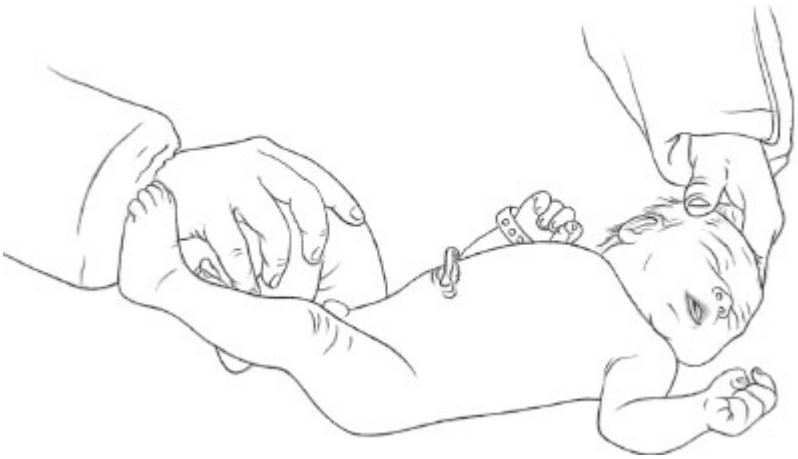
can help them get what they need and send signals to your body that they are here and for how much milk your baby needs.

Offer the breast every time your baby shows signs of hunger. Babies need to eat at least eight to twelve times in twenty-four hours. Rooting, sucking, and bringing their hand to their mouth are considered feeding cues in the first weeks after birth.



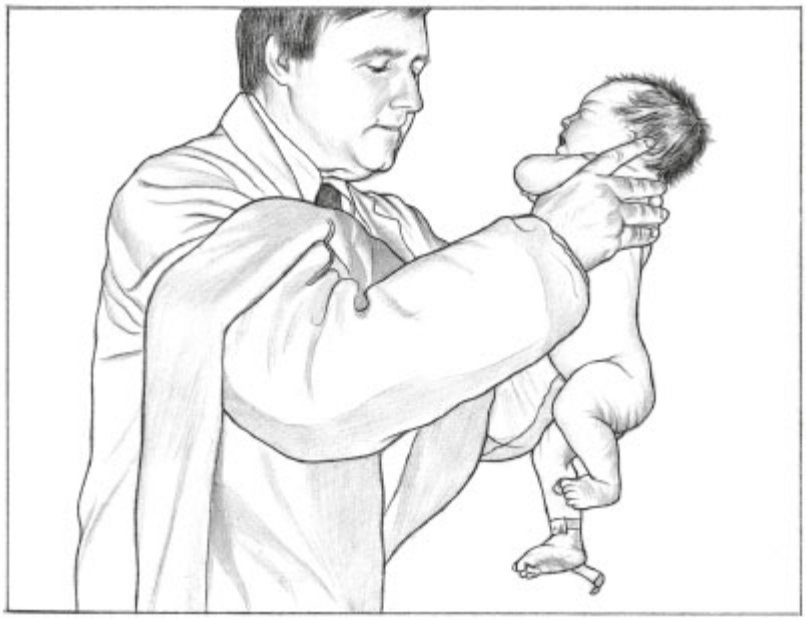
Moro reflex

A dramatic reflex during these first few weeks is the Moro (or startle) reflex. If your newborn's head shifts position abruptly or falls backward, or if they get startled by something loud or abrupt, they will extend their arms and legs and neck, then rapidly bring their arms together. They may even cry loudly. The Moro reflex, which is present in varying degrees in different babies, peaks during the first month and then disappears after 2 months of age.



Tonic neck reflex

A more interesting automatic response is the tonic neck reflex, or the fencing posture. You may notice that when your baby's head turns to one side, their corresponding arm will straighten, with the opposite arm bent, as if they're fencing. You may not see this response, however, since it is subtle, and if your baby is disturbed or crying, they may not perform it. It disappears at 5 to 7 months of age.



Walking/stepping reflex

Both the Moro and tonic neck reflexes should be present equally on both sides of the body. If you note that the reflex seems different on one side, or

that the baby moves one side of the body better than the other, tell your pediatrician.

EARLY BRAIN DEVELOPMENT

Research shows during the first three years of a child's life the brain grows and develops significantly. Holding your baby skin-to-skin in the early weeks is especially important for these early brain connections. Patterns of thinking and responding are established. This means you have a special opportunity to help your baby develop appropriately and thrive socially, physically, and cognitively throughout their life. The first years last forever.

Studies have shown that children need certain elements in the early stages to grow and develop to their full potential:

- A child needs to feel special, loved, and valued.
- They need to feel safe.
- They need to feel confident about what to expect from their environment.
- They need guidance.
- They need a balanced experience of freedom and limits.
- They need to be exposed to a diverse environment filled with language, play, exploration, books, music, and toys.

While it may seem that a baby's brain activity would be relatively simple compared to an adult's, in fact a baby's brain is twice as active as an adult's. Seven hundred new connections or synapses form every second. During the first three years, a time neuroscientists have identified as especially important, the human brain has the greatest potential for learning. Not only is learning occurring rapidly, but basic ways of thinking, responding, and solving problems are being established. For example, notice how easy it is for a child to pick up words in a foreign language. How difficult is that same task for an adult?

This means that you and the environment you create will influence the way your baby deals with their emotions, the way they interact with people, the way they think, and the way they grow physically. By creating an appropriate environment, you are allowing normal brain development to take place. An appropriate environment is one that is child-centered and provides learning opportunities geared to your child's development, interests, and personality. Fortunately, components of a good environment include basic things that many parents naturally provide: proper nutrition; a warm, responsive, and loving family and other care providers; fun playtime; consistent positive reinforcement; engaging conversation; good books to read and to listen to; music to stimulate brain activities; and the freedom to explore and learn from their surroundings.

Review the following elements of children's health and how each one contributes to a child's brain development:

- *Language.* Direct face-to-face communication between parents (and other caregivers) and their young children supports language development, as does reading to them beginning in early infancy.

- *Early identification of developmental concerns* can help children receive services to support their development of typical early childhood skills. Due to the rapid development of the brain in early childhood, the earlier that delays are detected, the more effective interventions may be. Children with disabilities and other special healthcare needs also can greatly benefit from close monitoring of early brain development.
- *Responsive feeding.* Feeding based on your baby's cues as to when they are hungry and when they are full sets them up to eat only when they are hungry and not to overeat later in life.
- *Positive parenting.* Raising a child in a loving, supportive, and respectful environment enhances self-esteem and self-confidence, and has a great impact on the child's development. Your parental nurturing and your responsiveness to your infant will play a critical role in shaping your baby's future.
- *Stimulating environment.* Exploring and problem-solving in a variety of safe places promote learning.

More and more behavioral researchers are discovering how much environment plays a role in shaping a baby's life. This new science helps us understand exactly how significant our role is in a child's brain development.

To build a positive environment for your baby in your home and in your community, follow these suggestions:

- *Those who are pregnant should find good prenatal care.* Since brain development begins in the womb, good prenatal care can help ensure the healthy development of your child's brain. By starting prenatal care early, seeing a doctor regularly, and following their instructions—eating a balanced, healthy diet, taking prenatal vitamins, and avoiding recreational drugs, including alcohol, marijuana, and tobacco—those who are pregnant can contribute to their child's future health.
- *Try to create a "village" around you.* Since it's hard to raise a child on your own, seek support from your family, friends, and community. Talk to your pediatrician about parent support groups and activities.
- *Interact with your child as much as possible.* Talk with your child, read, listen to music, draw pictures, and play together. These kinds of activities allow you to spend time focused on your child's thoughts and interests, making your child feel special and important. You also can teach the language of communication that your child will use to form healthy relationships over a lifetime.
- *Feed your baby when they show signs of hunger* and do not overfeed them.
- *Give your child plenty of love and attention.* A warm and loving environment helps children feel safe, competent, and cared for, and it allows them to develop concern for others. Such attention cannot spoil a child.
- *Provide consistent routines.* Be sure you and other care providers are working with the same routines. Also, be sure your own guidelines are consistent while taking into account your child's growing competency. Consistency helps children feel confident about what to expect from their environment.

YOUR BABY'S STATES OF CONSCIOUSNESS

	Description	What Your Newborn Does

State 1	Deep sleep	Lies quietly without moving
State 2	Light sleep	Moves while sleeping; startles at noises
State 3	Drowsiness	Eyes start to close; may doze
State 4	Quiet alert	Eyes open wide; face is bright; body is quiet
State 5	Active alert	Face and body move actively
State 6	Crying	Cries, perhaps screams; body moves in very disorganized ways

CRYING AND COLIC

From about 2 weeks on, infants cry. Some parents hesitate to pick up a crying baby, believing they'll spoil their child. But babies can't be spoiled, and their needs should be met as best as you can.

There are great variations in the crying patterns and temperaments of babies. Sometimes babies cry for no apparent reason, and it can be difficult to figure out what's behind the sobs. As the crying persists, parents can understandably become upset and stressed out.

Does your baby have a regular fussy period each day when it seems nothing will comfort them? This is quite common, particularly between 6:00 P.M. and midnight—just when you, too, are feeling tired from the day. These periods of crankiness may feel like torture, especially if you have other demanding children or work to do, but fortunately this phase usually improves within a few weeks or months. The length of this fussing usually peaks at about three hours a day by 6 weeks and then declines to one or two hours a day by 3 to 4 months. As long as the baby calms within a few hours and is relatively peaceful the rest of the day, there's no reason for alarm.

When you're feeling tense and anxious, have a family member or a friend look after the baby—and get out of the house. Even an hour or two away will help you maintain a positive attitude. If no other adult is available to help, it's okay to lay the baby on their back in the crib and leave the room for a few minutes. No matter how impatient or angry you become, a baby should *never* be shaken or hit. Shaking or slamming an infant can cause blindness, brain damage, or even death (see *Abusive Head Trauma: Shaken Baby Syndrome* on page 110). Let your personal doctor know if you are

anxious or depressed or are having trouble dealing with your emotions, as they can recommend ways to help.

If the crying intensifies and persists, it may be caused by colic. About one-fifth of all babies develop colic, usually between the second and fourth weeks. It may occur even after changing your baby's diaper, feeding them, or soothing them by cuddling, rocking, or walking. Colicky children cry inconsolably, often screaming, extending or pulling up their legs, and passing gas. The crying spells can occur around the clock, although they often become worse in the early evening.

Unfortunately, colic has no definite explanation. Most often, colic means simply that the child is unusually sensitive to stimulation or cannot self-console or regulate their nervous system (also known as an immature nervous system). As they mature, this inability to self-console—marked by constant crying—will improve. Generally, colicky crying stops by 3 to 4 months, but it can last until 6 months. Colicky behavior also may signal a medical problem, such as a hernia or some type of illness. If you are worried about your baby's crying, consult your pediatrician.

Although you may simply have to wait it out, several things might be worth trying. First, of course, consult your pediatrician to make sure that the crying is not related to any serious medical condition that may require treatment. Then ask your doctor which of the following would be most helpful.

- If the fussiness seems directly related to feeds rather than time of day, consider talking with your pediatrician about dietary changes. If the baby is taking breast milk (inclusive of those bottle-feeding their infants breast milk) or you are nursing, you can try to eliminate milk products, soy, eggs, and nuts from your own diet. This is a good thing to discuss first with your pediatrician, as a trial of elimination in your diet should be complete (checking all food products for the substance you are eliminating) and needs to be done for about two weeks before you can expect to see any changes. Be sure to eliminate only one thing at a time. If you're feeding formula to your baby, talk with your pediatrician about a protein hydrolysate formula. Less than 5 percent of colicky crying is

due to food sensitivity, but in rare cases a change may help within a few days.

- Do not overfeed your baby, which could make them uncomfortable. If the baby is breastfed and you have a lot of milk, sometimes babies can get fussy because they are taking in too much milk. Your baby may be satisfied after eating on just one breast. You can offer the second side if they are still hungry, and if not, then wait until they show signs of hunger and start on the other side for the next feeding. If you are bottle-feeding, consider trying different nipples to increase or decrease the flow rate based on your baby's hunger cues. You can also use paced feeding techniques to slow feeds and avoid overfeeding.
- Walk your baby in a baby carrier. The motion and body contact will help comfort and reassure your baby. Make sure you can always see your baby's face and that they are pink and comfortably breathing.
- Rock them, run the vacuum in the next room, or place them where they can hear the clothes dryer, a fan, or a white-noise machine. Steady, rhythmic motion and a calming sound may help them fall asleep. However, never place your child *on top* of the washer/dryer. Go for a ride in the car with your baby safely strapped in an approved car safety seat.
- Introduce a pacifier once breastfeeding is well established to help calm your baby and help them fall asleep. (See page 117.)
- Lay your baby tummy down across your knees and gently rub their back or give them a gentle massage. The pressure against their belly may help comfort them. If they fall asleep this way, you will want to place them in their crib on their back.
- Swaddle them in a large, thin, breathable cotton blanket so that they feel secure and warm. Make sure their legs have kicking room, and make sure the blanket does not go above their shoulders, so their airway is clear and nothing is near their face.

ABUSIVE HEAD TRAUMA: SHAKEN BABY SYNDROME

Shaking a baby is a serious form of child abuse occurring mostly in infants in the first year. The act of repeatedly shaking or slamming a baby—which may also include striking the baby's head—is often

the result of a parent's or caregiver's frustration or anger in response to a baby's or toddler's constant crying or irritability. Shaking or striking a baby's head can cause serious physical and mental damage, even death.

Serious injuries associated with abusive head trauma may include blindness or eye injuries, brain damage, damage to the spinal cord, and delay in normal development. Signs and symptoms may include irritability, lethargy (difficulty staying awake), tremors (shakiness), vomiting, seizures, difficulty breathing, and coma.

It is *never* okay to shake your baby. If you suspect that a care provider has shaken or hurt your baby—or if you or your spouse has done so in a moment of frustration—take your baby to the pediatrician or an emergency room immediately. Any brain damage that might have occurred will only get worse without treatment. Don't let embarrassment or fear keep you from getting treatment for your baby.

If you feel as if you might lose control when caring for your baby:

- Take a deep breath and count to ten.
- Put your baby in their crib or another safe place, leave the room, and let them cry alone for a few minutes.
- Call a friend or relative for emotional support.
- Give your pediatrician a call. Perhaps there's a medical reason your baby is crying.

THE FIRST SMILE

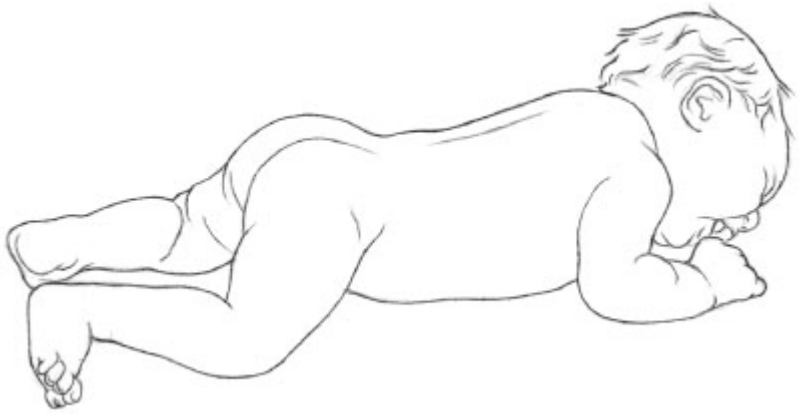
A few of the most important developments during this month are your baby's first smiles and giggles. These start during sleep, for reasons not understood. While it's great fun to watch a newborn smile their way through a nap, the real joy comes near the end of this month when they begin to grin back at you intentionally during alert periods.

Those first loving smiles will help you tune in even more closely, and you'll soon discover you can predict a smile, a look, a sound, and, equally important, a pause from play. Gradually you and your child will recognize each other's patterns of responsiveness, so play becomes a kind of dance in which you take turns leading and following. By identifying and responding to your child's subtle signals, even at this young age, you are telling them that their thoughts and feelings are important and that they can affect the world around them. These messages are vital to their developing self-esteem and sense of fun.

MOVEMENT

For the first week or two, your baby's movements will be very jerky. Their chin may quiver and their hands may tremble. They'll startle easily when

moved suddenly or from a loud sound, and the startling may lead to crying. If they appear overly sensitive to stimulation, they may be comforted if you hold them close or swaddle them snuggly (see guidelines for safe swaddling on pages 96–97). There are even special blankets for swaddling small babies who are particularly difficult to console. (Babies should not be swaddled tightly when laid down to sleep, however, and they should never sleep in a weighted blanket.) By the end of the first month, as their nervous system matures and their muscle control improves, these shakes and quivers give way to smoother arm and leg movements that can look like they're riding a bicycle. Lay them on their stomach now and they will make crawling motions with their legs and may even push up on their arms.



FIRST MOVEMENTS

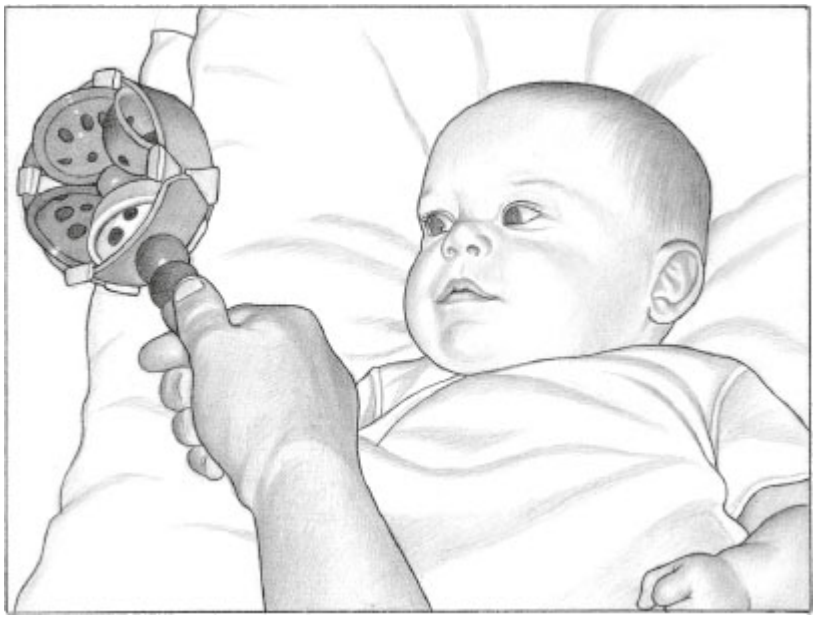
- Makes jerky, quivering arm thrusts
- Brings hands within range of eyes and mouth
- Moves head from side to side while lying on stomach
- Head flops backward if unsupported
- Keeps hands in tight fists
- Strong reflex movements

Your baby's neck muscles also will develop rapidly, giving them more control over their head movements. Lying on their stomach, they may lift their head and turn it from side to side. However, they won't be able to hold their head up independently until about 3 months, so make sure you support it when holding them.

Your baby's hands, a source of endless fascination throughout much of this first year, will probably catch their eyes during these weeks. Their finger movements are limited, since their hands are likely clenched fists most of the time when they are awake. But they can flex their arms and bring their hands to their mouth or into their line of vision. While they can't control their hands precisely, they'll watch them closely as long as they're in view.

VISION

Your baby's vision will go through many changes this first month. They are born with better peripheral vision (the ability to see to the sides) than central vision, but they'll gradually be able to focus on a single point in the center of their visual field. They like to look at objects held about 8 to 12 inches (20.3–30.4 cm) in front of them, but by 1 month they'll focus briefly on things as far away as 3 feet (91 cm).

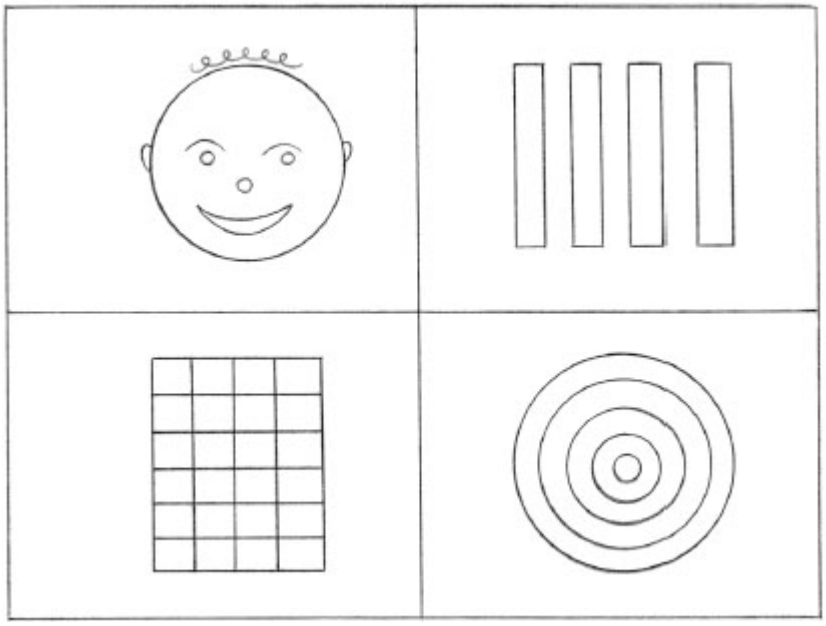


Your baby likes to look at objects held about 8 to 12 inches (20.3 to 30.4 cm) in front of them.

At the same time, they'll learn to follow moving objects. Move your head slowly from side to side as they face you, or pass a patterned object up and down or side to side in front of them (making sure it's within their range of focus), and watch them follow your face or the object. At first, they may only be able to follow large objects moving slowly through a limited range, but soon they'll be following smaller, speedier movements.

At birth your baby was very sensitive to bright light, and their pupils were smaller than those of an adult. At 2 weeks, their pupils will begin to enlarge and become more reactive to light. Some sensitive babies may cry when exposed to a very bright light. As their retinas develop, their ability to see and recognize patterns will also improve. The more contrast in a pattern, the more it will attract a baby's attention, which is why babies are most attentive to black-and-white pictures or high-contrast patterns, such as stripes, bull's-eyes, checkerboards, and very simple faces.

Color vision becomes more developed after 4 months, so if you show your newborn similar colors, such as green and turquoise, they probably can't tell the difference.



Babies are most attentive to black-and-white pictures or high-contrast patterns, such as stripes, bull's-eyes, checks, and very simple faces.

VISION AT 1 MONTH OLD

- Focuses 8 to 12 inches (20.3–30.4 cm) away
- Eyes may occasionally cross or drift outward
- Prefers black-and-white or high-contrast patterns
- Prefers the human face to other patterns

HEARING

Your baby should have had a hearing screen shortly after birth; in fact, the American Academy of Pediatrics recommends that newborn hearing screenings occur prior to discharge from the hospital, and parents should ask for the results. (See *Hearing Loss [Hearing Impairment],* pages 532–36.)

Infants with normal hearing abilities will pay close attention to human voices during the first month, especially high-pitched ones speaking "baby talk." When you talk to them, they'll turn their head to search for you and listen closely. Watch carefully and you may even see them make subtle movements of their arms and legs in time with your speech.

Your infant also will be sensitive to noise levels. If you make a loud clicking sound in their ear or bring them into a noisy, crowded room, they may shut down, becoming as unresponsive as if they had heard nothing. Or they may be so sensitive that they startle, erupt into crying, and turn their entire body away from the noise. Substitute a soft rattle or quiet music and they'll become alert and turn to locate the source of this interesting sound.

Not only does your baby hear well, but they'll remember some of the sounds. As some research supports, some mothers who repeatedly read a story aloud late in their pregnancy have found that their babies seem to recognize the story when it is read to them again after birth—the babies became quiet and looked more attentive. Try reading your favorite children's story aloud for several days in a row when your baby is alert and attentive. Then wait a day or two before reading it again. Do they seem to recognize it?

HEARING AT 1 MONTH OLD

- Hearing is fully mature
- Recognizes and reacts to loud sounds
- May look or turn toward familiar sounds and voices

SMELL AND TOUCH

As with patterns and sounds, babies are also particular about tastes and smells. They will breathe deeply to catch a whiff of your breast milk, vanilla, banana, or sugar, but will turn up their nose at the smell of alcohol or

vinegar. By the end of their first week, if they're nursing, they'll turn toward their mother's breast but will ignore the breasts of other nursing mothers.

Babies are equally sensitive to touch and the way they're handled. They'll nestle into a soft piece of flannel but pull away from scratchy burlap. When they are stroked gently with a palm, they'll relax and become quiet. If picked up roughly, they'll probably take offense and start to cry. If rocked slowly, they'll become quiet and attentive. Holding, stroking, rocking, or cuddling will calm them when they're upset and make them more alert when they're drowsy. It also sends a clear message of a parent's love and affection. Long before they understand a word parents say, babies understand parental moods and feelings from their touch.

SMELL AND TOUCH AT 1 MONTH OLD

- Prefers sweet smells
- Avoids bitter or acidic smells
- Recognizes the scent of their own mother's breast milk
- Prefers soft to coarse sensations
- Dislikes rough or abrupt handling

TEMPERAMENT

Consider these two babies, both from the same family:

- The first baby is calm and quiet, happy to play by themselves. They watch everything around them but rarely demand attention themselves. Left on their own, they sleep for long periods and eat infrequently.
- The second baby is fussy and startles easily. They thrash their arms and legs, moving almost constantly whether awake or asleep. While most newborns sleep fourteen hours a day, this baby sleeps only ten, and wakens to the slightest nearby activity. They seem in a hurry to do everything at once and even eat in a rush, gulping their feedings and swallowing so much air that they need frequent burping.

Both these babies are normal and healthy. One is no "better" than the other, but because their personalities are so far apart, the two will be treated

very differently from birth.

Your baby will demonstrate many unique personality traits from the earliest weeks after birth. Discovering these traits is one of the most exciting parts of having a baby. Are they active and intense, or slow-going? Are they timid when faced with a new situation, such as the first bath, or do they enjoy it? You'll find clues to their personality in everything they do, from falling asleep to crying. The more you pay attention and respond appropriately to their unique personality, the calmer and more predictable your life will be in the months to come.

While most of these early character traits are built into the newborn's hereditary makeup, their appearance may be delayed in babies born prematurely. Premature babies don't express their needs—such as hunger, fatigue, or discomfort—as clearly as other newborns. They may be extra sensitive to light, sound, and touch, and these stimuli may cause them to become fussy and look away. When this happens, it's up to the parent to stop and wait until the baby is alert and ready for more attention. Eventually most of these early reactions will fade away, and the baby's natural character traits will become more evident. Neonatal intensive care units are now using developmental care that promotes attachment, taking into account a newborn's states of alertness and responsiveness to hearing their mother's voice, and providing kangaroo care when the baby's condition is stable enough to do so safely.

TOYS APPROPRIATE FOR YOUR 1-MONTH-OLD

- Mobile with highly contrasting colors and patterns (do not attach to the sleeping surface)
- Music players with soft music
- Soft, brightly colored, and patterned toys that make gentle sounds (remember not to leave these in the crib during sleep times)

Low-birth-weight babies—those who weigh less than 5½ pounds (2.5 kg) at birth—even if full-term, may also be less responsive than other newborns. At first, they may be very sleepy and not seem very alert. After a few weeks, they seem to wake up, eating eagerly but still remaining restless

and hypersensitive to stimulation between feedings. This sensitivity may last until they grow and mature further.

From the beginning, your baby's temperament will influence the way you treat them and feel about them. If you had specific ideas about child-rearing, reevaluate them now to see if they're in tune with your baby's character. The same goes for expert advice—from books, articles, and especially from well-meaning relatives and friends about the "right way" to raise a child. The truth is, there is no single way that works for every child. You must create your own guidelines based on your child's unique personality, your own beliefs, and the circumstances of your family life. The important thing is to remain responsive to your baby's individuality. Don't try to box them into some previously set mold or pattern. Your baby's uniqueness is their strength, and respecting that strength from the start will lay the best possible foundation for their self-esteem and for loving relationships with others.

Basic Care

BOWEL MOVEMENTS

In the first week, your baby should have at least one bowel movement per day. If this is not happening, your baby should be seen by their pediatrician for a weight check. In the first few days, the stools will appear black in color and very tarry. By day five, the bowel movements will be a bright mustard-yellow color. While we often refer to normal newborn stool as being yellow, soft, and seedy, normal stool colors can also vary widely, from light tan to forest green. The only colors that should prompt concern are white, which can indicate liver or gallbladder disease, and red at any point or tarry black after one or two meconium stools have passed, which can be a sign of bleeding within the stomach or intestines.

If your baby is having bowel movements that are not turning yellow by day five or that are hard like marbles or rabbit pellets, they should be checked by their pediatrician. Around 1 month of age, your breastfeeding baby's bowel movements may space out to once every few days or once a week. This is normal as long as the stools come out soft. If your infant is

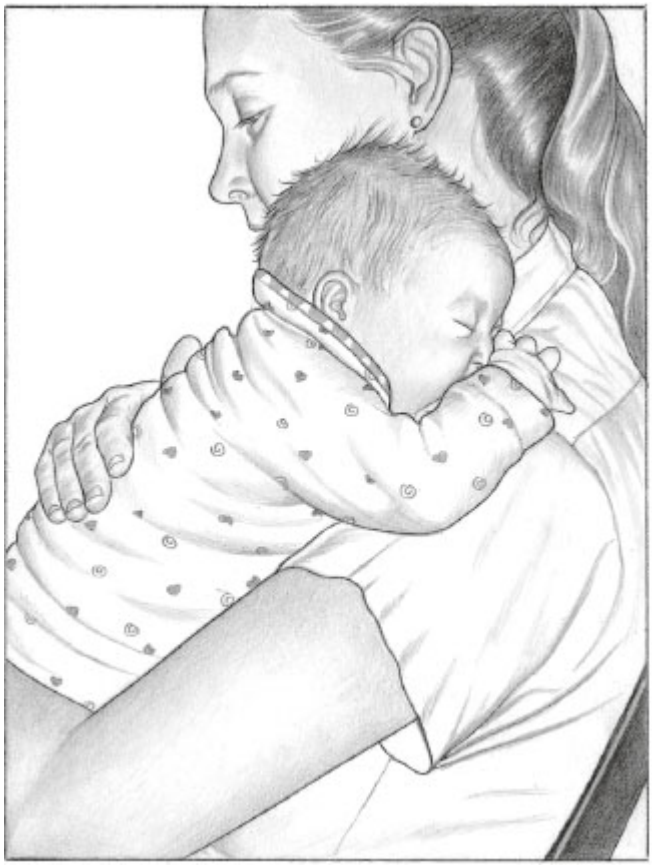
otherwise feeding normally, there is a wide range of acceptable bowel patterns.

CARRYING YOUR BABY

A newborn has almost no head control and needs to be carried in a way that protects their head from flopping from side to side or snapping from front to back. This is done by cradling the head when carrying the baby in a lying position and supporting the head and neck with your hand when carrying upright.

PACIFIERS

Once breastfeeding is well established, offering a pacifier when your baby is going to sleep may help reduce the risk of SUID (sudden unexpected infant death). However, if your baby doesn't want it or if it falls from their mouth, don't force it. Babies who suck their fingers or hands have an advantage, since hands are always available. Once older, your baby will have the hand coordination to find and replace it themselves.



A very young infant who has not developed head control needs to be carried in a way that keeps their head from flopping from side to side or snapping from front to back.

Look for a pacifier model that is age-appropriate for your baby, has a soft nipple, is rounded in appearance (not flat on one side), and does not have any pieces that could break off and become a choking hazard (avoid models that break into two pieces). Clean pacifiers with warm, soapy water as needed.

Never fasten the pacifier with a cord, because of the risk of strangulation. Babies can choke or strangle on cords, strings, ribbons, and fasteners attached to pacifiers. Also, for safety reasons, it's never a good idea to make pacifiers out of bottle nipples. Babies have pulled the nipple out of such homemade pacifiers and choked on them. Follow the recommended age range on the packaging. Never attach objects, such as blankets, plush or stuffed toys, and other items that may present a suffocation or choking risk, to pacifiers.

GOING OUTSIDE

Fresh air and a change of surroundings are good for both you and your baby, even in their first month, so take them out for walks when the weather is nice. Be sure to dress them properly for outings, since their internal temperature control isn't fully mature yet. As stated before, follow the one-light-layer-more-than-yourself rule.

Here are a few suggestions for those outings with your baby:

- Your infant's skin is extremely susceptible to sunburn during the first six months, so keep them out of direct sunlight and remember that water, snow, sand, and concrete can reflect enough sunlight to cause a sunburn. If you must take them out in the sun, dress them in lightweight and light-colored clothing, with a hat to shade their face. If you'll be staying in one place, make sure the spot is shady, and adjust their position as the sun moves. Sunscreen can be used on exposed areas if protective clothing, hats, and shade are not available. Apply it only on small areas such as the face and the backs of the hands as needed, testing ahead of time their sensitivity to it on a small patch on their back. Although sunscreen can be applied to all areas that the sun can reach, be careful to avoid the eyes.
- In hot-weather months, do not let baby equipment (such as car safety seats and strollers) sit in the sun for long periods. The plastic and metal parts can get hot enough to burn. Check the surface temperature of such equipment before allowing your baby to come in contact with it, and throw a blanket or towel over the car safety seat when the car is parked to keep it out of direct sunlight.
- In uncomfortably cold or rainy weather, keep your baby inside as much as possible. If you must go out, bundle them up and use a warm hat to cover their head and ears. You can shield their face with a blanket when you're outside, ensuring their mouth and nose are not covered, but make sure you can always see their face. If you need to drive, remember to remove thick coats and bulky clothes before strapping the baby into their car safety seat.
- To check whether they are clothed appropriately, feel their hands and feet and the skin on their chest. Their hands and feet should be slightly cooler than their body, but not cold. Their chest should feel warm. If

their hands, feet, and chest feel cold, take them to a warm room, unwrap them, and hold them close so that the heat from your body warms them. Until their temperature is back to normal, these other methods are more effective to warm them before wrapping them in additional blankets or clothing.

FINDING HELP AT HOME

Many families need in-home help with a new baby. In two-parent households, if both are able to take off from work, this will help a lot. If not, one option is to ask a close relative or friend, or consider hiring a postpartum doula. Some families hire a professional baby nurse to help out. If you think you'll need the extra help, especially of a baby nurse, it is wise to make these arrangements in advance rather than waiting until after delivery.

Some communities have a visiting nurse or housekeeping service. Some neighborhoods and faith communities will arrange "meal trains." These services will not solve middle-of-the-night problems, but will provide an hour or two during the day to catch up on work or simply rest. It may be helpful to arrange these in advance if possible.

Be selective about the help you seek. Look for assistance from those who will really support you and your feeding and parenting decisions. Your goal is to reduce the stress level in your home, not add to it.

Before you start interviewing or asking friends or family for assistance, decide exactly what kind of help you need. Ask yourself the following questions:

- Do you want someone to help tend to the baby, or do the housework, or cook meals—or a little bit of everything?
- During what hours do you want help?
- Do you need someone who can drive (to pick up other children at school, shop for groceries, run errands, and the like)?

Once you know what you need, make sure the person you choose understands and agrees to meet those needs. Explain your expectations clearly, and if this is an employment situation, put those expectations in writing. This person should be someone you trust. If employing help, be

certain a background check has been performed and the person has taken an approved CPR class (from the American Red Cross, for example) and has learned how to respond when a child is choking or not breathing. If the person will be driving, their driving record should be checked. Regardless of whether this is a relative, friend, or employee, ask this person to notify you if they become ill so that you can take steps to prevent the infection from being passed to your baby (for example, that person should not come to work if ill, or if mildly ill, they might walk the dog or leave groceries on your front step rather than directly caring for your baby).

YOUR BABY'S FIRST SITTER. Sometime in the first month or two, you may need to leave your baby for the first time. The more confidence you have in your babysitter, the easier this experience will be. Therefore, you may want your first sitter to be someone very close and trusted—a grandparent, close friend, or relative who's familiar with both you and the child.

After your first separation, you may want to look for a regular babysitter. Ask your friends, neighbors, and co-workers for recommendations, or see if your pediatrician or nurse practitioner can refer you to someone. Local childcare agencies or referral services are great resources. You might also contact the placement services at local colleges for a listing of child development or early education students who babysit. A number of online services can help you find a sitter and will even perform background checks and provide references, often for a small fee. **It is absolutely essential you check references, inquiring about the sitter's responsibility, maturity, and ability to adhere to instructions and respect your parenting and feeding preferences—particularly for someone you've only recently met or don't know well.**

Try to observe a candidate in person with your baby prior to hiring. You should be looking for someone who is affectionate, is capable, and supports your views about childcare. If you feel comfortable with the individual after talking, let them hold the baby so that you can see how they handle the infant. Ask if they've had experience caring for babies. Although experience, references, and good health are very important, the best way to judge a babysitter is by doing a trial run while you're home. It will give your baby and the babysitter a chance to get to know each other before they're alone,

and it will give you an opportunity to make sure you feel comfortable with the sitter.

Whenever you leave your child with a sitter, provide a list of all emergency phone numbers, including those where you or other family members can be reached; the sitter should know where you'll be and how to reach you at all times. Establish clear guidelines about what to do in an emergency and reinforce that the sitter should call the local emergency number; clearly post the home address on an emergency sheet to give to emergency responders. Show the sitter where all exits to your home are located, as well as smoke detectors and fire extinguishers. Make sure your sitter has taken an approved CPR class (from the American Red Cross, for example) and has learned how to respond when a child is choking or not breathing. (See *Cardiopulmonary Resuscitation [CPR] and Mouth-to-Mouth Resuscitation* and *Choking,* page 567.) Some local YMCAs or American Red Cross chapters can provide a list of babysitters who have taken CPR or babysitting safety courses. Give your sitter any other guidelines you feel are important (e.g., never open the door to strangers, including delivery people) and stress that the sitter can call you or a trusted neighbor if they are having difficulty with the baby and are getting frustrated. Let friends and neighbors know about your arrangement so they can help if there's an emergency, and ask them to tell you if they suspect any problems in your absence.

TRAVELING WITH YOUR BABY

Always perform a safety inspection of any crib or play yard provided by a hotel for your baby to sleep in. (See *Cribs,* page 381.)

- When traveling by car, make sure your child is safely strapped into their car safety seat. (For more information on car safety seats, see pages 397–405.) The backseat is the safest place for children to ride. Rear-facing seats should never be placed in the front seat with a passenger-side airbag. At this age a baby should always ride in the rear-facing position. The same car seat safety rules apply in rental cars, taxis, and any other vehicle your baby rides in. Give yourself extra time to properly install the car safety seat in such vehicles before you need to start traveling.

- If you can afford to, it is safest to use a car safety seat on planes, instead of holding the baby on your lap. This means your baby ideally would have their own ticket/seat on the plane. Besides protecting them from injuries in severe turbulence, riding in their familiar car safety seat may help keep your baby calm and quiet during the flight. It also ensures you will have a safe, appropriate car safety seat available at your destination. If you're not sure how to secure your baby safely on a plane, ask a flight attendant to help you.
- When breastfeeding, know that you are legally allowed to breastfeed your baby in the airport, in public places, and on the plane. Most airports now have private spaces to feed your baby and express your milk as needed.

KEEPING SIBLINGS HAPPY

With all the excitement over the new baby's arrival, siblings will probably need some time to adjust. They may be upset over their parents' absence, especially if this was their first prolonged separation. Even after parents return home after the birth, they may have trouble understanding why they are tired and cannot play as much as they're used to. There are a number of ways you can help with the adjustment process by making special space for older siblings.

Here are some suggestions to help soothe your older children and make them feel more involved during the first month home with your new baby.

- If possible, have the siblings visit in the hospital.
- When the family comes home from the hospital, bring each sibling a special gift to celebrate, and have them help you "bring" the baby into the house and show the new baby their toys and room.
- Set aside a special time to spend alone with each sibling every day. Make sure that parents have time with each child, individually and together.
- While you're taking pictures of the new baby, take some of the older children—alone and with the baby.
- If both the new baby and the siblings want you at the same time, as long as you can hear the new baby's cries and you know they are safe, you can tend to the older child first and even say out loud to the baby, "I hear you, and I know you are hungry/want a diaper change, and I will be there as soon as I tend to your sibling."
- Ask the grandparents or other close relatives to take the older children on a special outing—to the zoo, a movie, or just dinner. This special attention may help them through moments when they feel abandoned.
- Have some small gifts for the older child and present them when friends come with gifts for the baby.
- Especially during the first month, when the baby needs to eat so often, older children can get jealous of the intimacy their parents have with the baby during feedings. One way to address this

issue is to give a sibling a job to do, such as helping hold the bottle if you use one, picking out a burp cloth, or bringing you water.

- Reading stories that specifically deal with issues of jealousy encourages a toddler or preschooler to voice their feelings so that you can help them become more accepting. There are also a number of books about nursing a new baby geared to the older sibling that are fun for story time.

Health Watch

The following medical problems are of particular concern to parents during the first month. (For problems that occur generally throughout childhood, check the listings in Part 2.)

BREATHING DIFFICULTIES. Normally, your baby should take twenty to forty breaths per minute. This pattern is most regular when they are asleep and healthy. When awake, occasionally they may breathe rapidly for a short period, then take a brief pause (less than ten seconds) before returning to normal breathing. This is called periodic breathing. A runny nose may interfere with breathing because your baby's nasal passages are narrow and fill easily. This condition can be eased by using a cool-mist humidifier and gently suctioning the nose with a bulb syringe (ordinarily given to you by the hospital; for its use, see page 34). Read and follow the cleaning instructions for humidifiers and bulb syringes carefully. Alternatively, you can use a breath-powered aspirator. Occasionally, mild salt-solution nose drops or a saline mist inhaler can help thin the mucus and clear the nasal passages. If your baby has a fever, their breathing may become faster, increasing by about two breaths per minute for each degree of temperature elevation. When the number of breaths exceeds sixty per minute, or if the baby's skin is pulling in between, over, or under their ribs (retractions), their nose is flaring, or they are coughing a lot, be sure to contact your pediatrician. A fever with a rectal temperature of 100.4 degrees Fahrenheit (38 degrees Celsius) or higher in a baby younger than 3 months old may be serious, and warrants urgent evaluation.

In the first month after birth, a baby with otherwise normal breathing at birth may develop stridor. Stridor is a high-pitched noise usually heard during inspiration (breathing in). Stridor results from rapid airflow across a narrowing, primarily at the level of the larynx (voice box) or trachea

(windpipe). The most common cause is called laryngomalacia, which may worsen during feeds, while lying on the back, or during crying. Most babies with stridor from laryngomalacia are able to gain weight well and do not need any change in feeding pattern. Difficulty with feeding (coughing, choking, sputtering), inability to gain weight or maintain weight, or symptoms such as retractions, sleep difficulty, or changes in color warrant urgent evaluation by a pediatrician and/or a pediatric otolaryngologist.

DIARRHEA. After feedings in the first month after birth, healthy and thriving breastfed babies may occasionally have frequent, watery, yellow, green, or orange-brown-colored stools that some people mistake for diarrhea. The danger, especially at this young age, is fluid loss and becoming dehydrated. The first signs of dehydration are dry mouth and a significant decrease in the number of wet diapers. But don't wait for dehydration to occur. Call your pediatrician if the stools are very loose or occur more often than after each feeding (more than eight per day), or if you see any bright red blood in the stools.

CONSTIPATION. Constipation in babies presents as infrequent, very hard stools. Babies should be producing a stool at least once a day the first week after birth. If your baby is having fewer stools, skipping days, or having hard stools, it may be a sign that your baby isn't getting enough to eat or needs some extra fluid to push everything through. Call your pediatrician if your baby is stooling less often than usual, is having hard, pellet-like stools, or isn't feeding well.

EXCESSIVE SLEEPINESS. Since each baby requires a different amount of sleep, it's difficult to tell when a baby is excessively drowsy. If your infant starts sleeping much more than usual, it might indicate an infection, so notify your pediatrician. Another possible cause of sleepiness could be medication or herbal supplements taken by a breastfeeding mom (babies this age should not be taking any herbal supplements).

EYE INFECTIONS/TEAR DRAINAGE PROBLEMS. Some babies are born with one or both tear drainage ducts partially or totally blocked, which may become

noticeable when tear production increases starting at 2 to 4 weeks. If the ducts remain blocked, you may notice tearing and mucus because the tears are unable to drain into the nose and then flow back to the inner corners of the eyes. The ducts open up in most babies by 1 year of age without treatment. You may also help open them by gently massaging the area from the inner corner of the eye down the side of the nose. However, do this only at the direction of your pediatrician.

If the ducts remain blocked, the presence of mucus does not necessarily mean your baby has an infection. This mucus may look like greenish yellow or white discharge at the inner corner of the eye, and the eyelashes may be stuck together when your baby wakes from sleeping. Because this discharge does not usually indicate an infection, it is often not treated with an antibiotic. (See *Tear [or Lacrimal] Production Problems,* page 609.) On the other hand, if an infection is suspected, it will usually be treated with antibiotic eye drops or ointment prescribed after examining the eyes. In many cases, only gentle cleansing with water is needed. When eyelashes are sticky, dip a cotton ball or soft washcloth in warm water, and gently wipe the eyelid from the nose to the outer eyelid. Use a clean washcloth or cotton ball with each pass.

Although this type of discharge may recur several times, it will not damage the eye or affect the vision, and your baby will probably outgrow it. In rare cases, blocked tear ducts require surgical treatment, usually if they don't open by 9 to 12 months of age.

If the eye itself is bloodshot or pink with excessive discharge, your infant could have conjunctivitis, or "pinkeye," and you should notify your pediatrician (see *Eye Infections,* page 604).

FEVER. Whenever your child is unusually cranky or feels warm, take their temperature. (See *Taking a Rectal Temperature,* page 98.) If their rectal temperature reads 100.4 degrees Fahrenheit (38 degrees Celsius) or higher on two separate readings, and they're not overly bundled up, call your pediatrician at once. Fever can signal infection, and babies this age can become seriously ill quickly.

FLOPPINESS. Newborn infants all seem somewhat floppy because their muscles are still developing, but if your baby feels exceptionally loose or floppy, it could be a sign of a more serious problem, such as an infection. Consult your pediatrician immediately.

HEARING. Pay attention to how your baby responds to sounds even if they passed their newborn hearing screening. Do they startle at loud or sudden noises? Do they become quiet, or look toward you when you talk to them? If they do not respond normally to sounds around them, ask your pediatrician about formal hearing testing. (See *Hearing Loss [Hearing Impairment],* pages 532–36.) Testing is recommended if your infant was extremely premature, if they were deprived of oxygen or had a severe infection at birth, or if your family has a history of hearing loss in early childhood. If there is any suspicion of hearing loss, your infant should be tested as early as possible, as a delay in diagnosis and treatment is likely to interfere with normal language development.

JAUNDICE. Jaundice is a normal yellowing of the skin that can appear shortly after birth, and sometimes last for more than two to three weeks in breastfed babies. In formula-fed babies, most jaundice goes away within two weeks. If your baby is jaundiced for more than three weeks or the jaundice seems to be increasing at any time, see your pediatrician. (For additional information about jaundice, see page 33.)

JITTERS. Many newborns have quivery chins and shaky hands, but if your baby's whole body seems to be shaking, it could be a sign of low blood sugar or calcium levels, or some type of seizure disorder. Notify your pediatrician so that they can determine the cause. If you can, try to take a video of the event, which can help your pediatrician determine how concerned to be.

RASHES AND INFECTIONS. Common newborn rashes include the following:

- *Cradle cap (seborrheic dermatitis)* appears as scaly patches on the scalp. Washing the hair and brushing out the scales daily helps with control. It usually disappears on its own within the first few months but may need

treatment with a special shampoo. (See *Cradle Cap and Seborrheic Dermatitis,* page 707.)

- *Fingernail or toenail infections* will appear as redness around the edge of the toenail or fingernail, which may seem to hurt when touched. These infections may respond to warm compresses, but for a baby at this age they should be taken seriously and be examined by a doctor, as they may require medication.
- *Umbilical infections* are rare, but if one occurs it often appears as redness around the umbilical stump. There's usually pus and often tenderness. Babies with these infections should be examined by your pediatrician. If your baby is also running a fever, see your pediatrician right away, as they may need antibiotics or hospitalization. It is normal, however, to have a small amount of clear oozing, drops of blood, and a scab around the umbilical stump without any redness or fever. If this is the case, watch it for a few days; if it doesn't heal on its own, see your pediatrician.
- *Diaper rash.* See instructions for handling this problem on pages 87–88.

THRUSH. White patches in the mouth may indicate that your baby has thrush, a common yeast infection. This condition is often treated with an oral antifungal medication prescribed by your pediatrician, but milder cases may resolve without treatment.

VOMITING. Although spitting up small amounts after feedings is very common, if your baby starts forcefully vomiting (shooting out several inches rather than dribbling from the mouth), contact your pediatrician at once to make sure they do not have an obstruction of the valve between the stomach and the small intestine (pyloric stenosis; see page 451). Any vomiting that persists for more than eight hours or two to three feedings, or is accompanied by diarrhea or fever or by fewer wet diapers, should be evaluated by your pediatrician.

WEIGHT GAIN. Your baby should be gaining weight rapidly (⅔ to 1 ounce [20–30 g] per day) after the first few days following birth. If they aren't, your pediatrician will want to make sure that they are getting adequate calories in

their feedings and that they are absorbing them properly. Be prepared to answer these questions:

- How often does the baby eat?
- If breastfeeding, do you hear your baby swallowing? Do your breasts feel lighter after feeds? Does the baby seem satisfied?
- If bottle-feeding, what type of formula is used? How is it prepared? How much do they eat at a feeding?
- How many bowel movements does the baby have each day?
- What is the color and consistency of the stools?
- How often does the baby urinate?

If your baby is eating well and the contents of their diapers are normal in amount and consistency, there is probably no cause for alarm. Your baby may be getting off to a slow start, or their weight could have been inaccurately measured. Your pediatrician may want to schedule another office visit in two or three days to reevaluate the situation.

■ YOUR BABY AT 1 MONTH OLD CHECKLIST ■

Safety Check

CAR SAFETY SEATS

- Your baby should ride in a properly installed, federally approved car safety seat *every time* they ride in the car. If you are carrying your baby to the car in the car safety seat, make sure they are strapped in securely. Do not use it as a place for them to nap in the house, because the angle of the car safety seat when removed from the car becomes an unsafe sleeping position. At this age, they should ride only in the backseat in the car safety seat in the rear-facing position. Never place a baby in the front seat of a car, as the passenger-side airbag can cause serious life-threatening injury. Car safety seats have an expiration date, so if you are

using an older car safety seat, check to see if it is still within date. If your car was manufactured after 2002, you can use the LATCH system or the vehicle seatbelt (not both) to attach the car safety seat.

BATHING

- A separate baby bathtub may be more convenient and easier to manage than bathing your baby in a regular bathtub.
- Fill it and test the water temperature before you put your child in the tub. Never leave the faucet running while your baby is in the sink; instead, fill the sink first, test the temperature, and then put the baby in the water. The water should feel just slightly warm to the touch. Always hold your baby under their arms while bathing them. If you are bathing your baby in the sink, seat them on a washcloth or bath mat to prevent slipping and hold them under their arms. Never leave your baby unsupervised in the water, even for just a brief amount of time. Never run the dishwasher while bathing your baby in the kitchen sink; otherwise, you risk scald burns from the dishwasher's hot water.
- Adjust the maximum temperature of your water heater to 120 degrees Fahrenheit (48.9 degrees Celsius) or lower so that hot water can't scald the child. Any modern water heater should indicate where this setting is, so check your manual or call your plumber if you're unsure.

CHANGING SURFACES

- Never leave your baby unattended on any surface (such as changing tables, chairs, tables, sofas, beds, and countertops) above the floor. Always keep a hand on your baby if they are on a raised surface. Even at this young age, babies can wiggle and move and push against things, and these movements can result in a fall. Place your baby in a safe place such as a crib or play yard when you cannot be with them.

SUFFOCATION PREVENTION

- Keep the crib free of all objects. Make sure the mattress fits tightly and use a fitted sheet only.
- Don't have your baby sleep in your own bed next to you. Keep them in their crib or bassinet next to your bed.

- Do not cover your baby in loose blankets or comforters that they could get tangled in or suffocate under. Instead, dress them in appropriate-weight sleepwear (like a wearable blanket or sleep sack).
- Always place your baby on their back for sleep. They should not sleep on a soft comforter, sheepskin, soft mattress, cushion, or pillow. Place them to sleep only on their back on a firm surface.
- Never leave plastic bags or wrappings where your baby can wiggle or roll into them.

FIRE AND BURN PREVENTION

- Do not use a microwave oven to heat formula or breast milk, as it can leave hot spots in the fluid. Be sure to test the temperature of formula or heated breast milk on your wrist before feeding it to your baby.
- Do not carry your baby and hot liquids like coffee, tea, or soup at the same time. Also, do not hold or cradle your baby near hot liquids on the stove or tabletops. Even a small splash could scald your baby.
- Install smoke and carbon monoxide detectors in the proper places throughout your home and check them regularly to be sure they are working.

SUPERVISION

- Never leave your baby unattended in the bathtub, yard, or car. If you need to walk away from your baby inside the house, place your baby in a crib or play yard.
- Never leave your baby in the car unattended, even for a minute. Placing a teddy bear or an infant toy in the front seat or an item you need, like your wallet or purse, in the backseat next to your baby can help remind you.
- Never place an infant car carrier (with infant buckled in) near the edge of a table or counter. It is a falling risk, as an infant in a carrier can easily fall to the ground.

NECKLACES AND CORDS

- Don't let strings or cords (e.g., from a window shade) dangle in or anywhere near the crib or around your baby. Keep cribs away from windows and blind or curtain cords. The US Consumer Product Safety Commission recommends using cordless window coverings in homes where young children live or visit, but if that is not possible, tie cords high out of reach and keep the crib at least 3 feet away.
- Don't attach pacifiers, medallions, or other objects to the crib or to your baby with a cord.
- Don't place a string or necklace around the baby's neck, including amber teething necklaces; they have never been shown to reduce pain.
- Don't use clothing with drawstrings.

HEAD SUPPORT

- Do not jerk or shake the baby. Cradle and rock them gently.
- Always support the baby's head and neck when holding or moving their body.

CHAPTER 6

Your Baby at 2 Months



By the beginning of the second month, much of the awe, exhaustion, and uncertainty you may have felt has likely given way to more of a routine and self-confidence. You have hopefully settled into a fairly routine (if still demanding) schedule around your baby's feedings and naps. You've adjusted to having a new family member and are beginning to understand their general temperament. And you probably have already received the crowning reward that makes all the sacrifice worthwhile: their first true smile. This smile is just a glimmer of the delights in store over the next three months. Will the coming months continue to be frustrating and challenging? Of course. If you feel overwhelmed, activate your support network, and when you don't know where to turn, your child's pediatrician should be able to share some ideas.

You may also be returning to work and need to find infant-centered daycare. Chapter 17 will help you select the proper type of childcare depending on your circumstances. Many new parents feel sad or anxious

leaving their babies in others' care, but as you and the care team get to know each other, such feelings are likely to fade. Many childcare centers allow parents to visit during the day or to check on their children via remote video feeds; ask your center what policies they find work best for parents and staff.

Between 1 and 4 months, your baby will undergo a dramatic transformation from a totally dependent newborn to an active and responsive infant. They'll lose many of their newborn reflexes while acquiring control of their body. You'll find them inspecting their hands and watching their movements. They'll also become increasingly interested in their surroundings, especially people close to them. They'll often smile when they see or hear you. Sometime during their second or third month, they'll begin "talking" back in gentle but intentional coos and gurgles. With each new discovery, you'll see a new part of your child's personality.

Occasionally there will be moments when your baby's development seems to lag, usually followed by a spurt in progress. They may seem to be stretching out their nighttime feedings for several weeks, but then begin waking up again to feed more frequently. It's probably a sign they're about to take a major developmental leap forward. In a week or two (although this varies from child to child), they'll probably be sleeping longer at night again and maybe take fewer naps, although each nap may be longer. In addition, they'll have longer periods during the day where they will be considerably more alert and responsive to people and events. Many other types of developmental progress, including physical growth, may occur in spurts and pauses, with periods of setback or lag. As challenging as this may be, you'll soon learn to read the signals, anticipate these periods of change, and appreciate them.

Growth and Development

PHYSICAL APPEARANCE AND GROWTH

From months 1 through 4, your baby will continue growing at the same rate they did during their first few weeks. In general, babies gain between 1½ and 2 pounds (0.7–0.9 kg) and grow 1 to 1½ inches (2.5–4 cm) each month during this period. Their head size will increase in circumference by about ½ inch (1.25 cm) each month. These figures are only averages, so keep track

of your child's development as it compares to the growth charts in the Appendix.

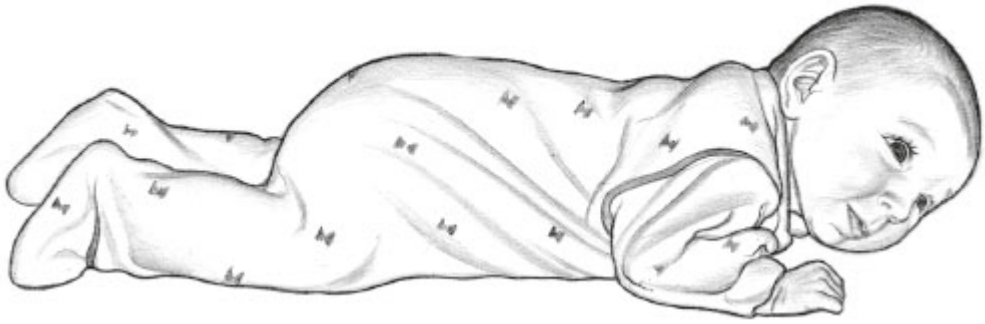
At 2 months, the soft spots on your baby's head should still be open and flat, but by 3 months, the one at the back should be closed. Also, their head is more likely to be proportionately larger compared to their body, since it grows faster. This is normal; their body will soon catch up.

At 2 months, your baby will look round and chubby, but as they start using their arms and legs more actively, muscles will develop. Their bones will grow rapidly, and as their limbs loosen up, they'll seem to stretch out, appearing taller and leaner.

MOVEMENT

Many of your baby's movements will still be reflexive at the beginning of this period. They may assume a "fencing" position every time their head turns (tonic neck reflex; see page 105) or extend their arms if they hear a loud noise or feel that they're falling (Moro reflex; see page 105). But, as mentioned, most of these common newborn reflexes will begin to fade by the second or third month. They may temporarily seem less active after the reflexes have diminished, but now their movements, however subtle, are intentional and will build steadily toward mature activity.

One of the most important developments of these early months will be your baby's increasing neck strength. Starting at birth, take a few opportunities every day to let them play with you on their tummy (tummy time). Before 2 months, they'll struggle to raise their head to look around. Even if they succeed for a second or two, they'll have a slightly different view of the world. These small exercises will strengthen the muscles at the back of their neck so that by around 4 months they'll be able to hold their head and chest up on their elbows. This is a major accomplishment, giving them freedom and control to look around at will. Giving them plenty of awake time off the back of their head will also help to prevent torticollis and plagiocephaly, or neck tightness and flattening of the back of their head.



For you, it's also welcome because you no longer have to support their head as much when carrying them (although sudden movements or force will still require head support). If you use a front or back carrier, they'll now be able to hold their head up and look around as you walk.

A baby's control over the front neck and abdominal muscles develops more gradually, so it will take longer for your baby to raise their head lying on their back. At 1 month, if you gently pull your baby by the arms to a sitting position, their head will flop backward; by 4 months, however, they'll hold it steady in all directions.



By four months, your baby will be able to hold up their head and chest as they support themselves on their elbows.



At one month, your baby's head will flop backward if you gently pull them to a sitting position (so always support your baby's head when picking them up).

Your child's legs also will become stronger and more active. During the second month, they'll start to straighten from their inward-curving newborn position. Although their kicks will remain mostly reflexive, they'll quickly gather force, and by the end of the third month they might even kick themselves over from front to back. (They probably won't roll from back to front until around 6 months old.) Since you cannot predict when they'll begin rolling over, you'll need to be especially careful whenever they're on the changing table or any other surface above floor level.

Another newborn reflex, the stepping reflex, allows them to take steps when they are held under their arms and their feet touch the floor. This reflex will disappear at about 2 months, and you may not see your baby step again until they're ready to walk.

MOVEMENT/PHYSICAL DEVELOPMENT MILESTONES

- Holds head up when on tummy
- Moves both arms and both legs
- Opens hands briefly



Many changes continue to occur within a month or two. Your baby's hands will relax and their arms will open outward. Over the next two months, they'll now bring objects to their mouth and drop them only after exploring them fully. (The more lightweight the toy, the better they can control it.) They'll never seem to tire of their hands themselves; just staring at their fingers will amuse them for stretches of time.

VISION

At 1 month, your baby still can't see clearly beyond 15 inches (38 cm) or so, but they'll closely study anything within this range, such as the crib corner or the mobile dangling above the crib. The human face is their favorite image, however. As you hold them, they are drawn automatically to your face, particularly your eyes. Often the mere sight of your eyes will make them smile. Gradually their visual span will broaden and they will take in your whole face. As this happens, they'll be more responsive to facial expressions involving your mouth, jaw, and cheeks.



By two months your baby's eyes are more coordinated and can work together to move and focus at the same time.



Soon they'll be able to track an object moving through an entire half-circle in front of them.

In their early weeks, your baby will have a hard time following an object moving in front of their face. If you wave an object quickly in front of them, they'll seem to stare through it. This will change dramatically by 2 months, when their eyes are better coordinated and can follow objects more smoothly, from their left to their right and back. This increased visual

coordination and developing depth perception will help them look at objects as they move toward and away from them.

VISUAL DEVELOPMENTS FOR YOUR BABY AT 2 MONTHS

- Watches faces intently
- Follows moving objects
- Starts using hands and eyes in coordination



Your infant's color vision is also developing in the first few months after birth. At 1 month, they'll prefer bold patterns in sharply contrasting colors or black and white.

HEARING AND MAKING SOUNDS

Just as your baby naturally prefers the human face over other visual patterns, they also prefer the human voice to other sounds. They will recognize and respond to those voices they hear most. They associate them with warmth, food, and comfort. Babies like high-pitched voices in general—a fact that most adults seem to understand intuitively and respond to accordingly, without even realizing it.

LANGUAGE/COMMUNICATION MILESTONES FOR YOUR BABY AT 2 MONTHS

- Makes sounds other than crying
- Reacts to loud noises



Listen to yourself the next time you talk to your baby. You'll probably notice that you raise your pitch, slow your speech, exaggerate syllables, and widen your eyes and mouth more than normal. This dramatic approach is guaranteed to capture almost any baby's attention—and usually makes them smile.

By listening to you and others, your baby will discover the importance of speech long before they understand or repeat specific words. By 1 month, they'll be able to identify you by voice, even if you're in another room. As you talk to them, they'll be reassured, comforted, and entertained. When they smile and gurgle at you, they'll see the delight on your face and realize talk goes both ways. These first conversations teach them many of the subtle rules of communication, such as turn-taking, vocal tone, imitation, pacing, and speed of verbal interaction.

SOCIAL/EMOTIONAL DEVELOPMENT

By the second month, your baby will spend much of each day watching and listening to the people around them. Your baby learns that these people will entertain and soothe them, feed them, and make them comfortable. During their first month, they'll experiment with primitive grins and grimaces. Then, during the second month, these movements will turn to genuine signals of pleasure and friendliness.

If you've experienced their first true smile, then you know it's a major turning point for both of you; you'll do everything in your power to keep those smiles coming. For their part, your baby will suddenly discover that just by moving their lips they can have "conversations" with you. Smiling will also give them another way besides crying to express their needs and exert control over what happens to them. The more engaged they are with you and your smiles and the rest of the world around them, the more their brain development advances, and the more they'll be distracted from internal sensations (hunger, gas, fatigue) that once strongly influenced their behavior. Their increasing socialization is further proof they enjoy and appreciate these new experiences. Expanding their world with these experiences is fun for both of you and important to their overall development.



At first your baby may seem to smile past you without meeting your gaze, but don't let this disturb you. Looking away from you gives them some control and protects them from being overwhelmed. It's their way of taking in the total picture without being "caught" by your eyes. In this way, they can pay equal attention to your facial expressions, your voice, your body warmth, and the way you're holding them. As you get to know each other,

they'll gradually hold your gaze for longer and longer periods, and you'll find ways to increase their tolerance—perhaps by holding them at certain distances, adjusting your voice level, or modifying your expressions.

SOCIAL/EMOTIONAL MILESTONES FOR YOUR BABY AT 2 MONTHS

- Calms down when spoken to or picked up
- Looks at your face
- Seems happy to see you when you walk up to them
- Smiles when you talk to or smile at them

Like adults, your infant may prefer certain people, often their primary caretakers. Grandparents or familiar sitters may receive a hesitant smile at first, followed by coos and body talk. By contrast, strangers may receive no more than a curious stare or fleeting smile. This selective behavior shows they're starting to sort out who's who in their life.

These early exchanges play an important part in their social and emotional development. By responding quickly and enthusiastically to their smiles and engaging them in these "conversations," you'll let them know they're important to you, can trust you, and have a certain amount of control in their life. By recognizing their cues when they're "talking," you'll also show you are interested in and value them. This contributes to their developing self-esteem.

As your baby grows, communication will vary with their needs and desires. On a day-to-day basis you'll find they have three general levels of need, each of which shows a different side of their personality:

1. When their needs are urgent—hunger or pain, for instance—they'll let you know, perhaps by screaming, whimpering, or using desperate body language. In time you'll learn to recognize these signals so quickly you usually can satisfy them almost before they know what they want.
2. When your baby is peacefully asleep, or alert and entertaining themselves, you've met all their needs for the moment. This is a

welcome opportunity to rest or take care of other business. Playing by themselves provides you with wonderful opportunities to observe—from a distance—how they are developing important new skills such as reaching, tracking objects, or manipulating their hands. These activities set the stage for self-soothing, which will help them settle down and ultimately sleep through the night. These are especially important skills to learn for more colicky or difficult-to-console babies.

3. Each day there will be periods when your baby's obvious needs are met but they're still fussy or fitful. They may whine, cry, have agitated movements, or exhibit spurts of aimless activity between moments of calm. They probably won't even know what they want, and any of several responses might help calm them. Playing, talking, singing, rocking, and walking may work. Simply repositioning them or letting them fuss it out may also be a successful strategy. This is okay as long as you have checked to make sure they don't need to be changed or fed, and that nothing else is bothering them. You might also find that while a particular response works momentarily, they'll soon become even fussier and demand more attention. This cycle may continue until you either let them cry a few minutes or distract them with something different—for example, taking the baby outside.

There may be times, however, when you feel frustrated, even angry, because your baby will not stop crying. People may not always talk about these feelings, but they are completely normal. The best thing to do here is gently place them back in the crib and take a little break for yourself. It is most important you resist any temptation to shake or strike your baby in any way. Shaking or slamming your baby can cause serious harm and even death. "Shaken baby" situations are one form of child abuse that continues to be a problem around the world. If crying difficulties remain an issue, discuss this in detail with your pediatrician, who will give you other ideas for how to get through these episodes. Be sure you share these new techniques for quieting your infant with your childcare provider, who may feel similar frustrations with inconsolable crying.

Over time your baby's periods of acute need will decrease, and they'll be able to entertain themselves for longer stretches. In part this is because you're learning to anticipate care for many of their problems. But also their nervous system will be maturing, and as a result, they'll be better at coping with everyday stresses. With greater bodily control, they'll amuse and console themselves and experience fewer frustrations. The periods when they seem most difficult to satisfy probably won't disappear for a few years, but as they become more active, it will be easier to distract them. Ultimately, they should learn to overcome these spells on their own.

During these early months, don't worry about spoiling your baby. Observe them closely and respond promptly when needed. You may not calm them every time, but it never hurts to show how much you care. At this age, they need frequent reassurance to feel secure about themselves and you. By helping them establish this sense of security now, you're laying a foundation for the confidence and trust that will allow them to gradually separate from you and become a strong, independent person.

Basic Care

FEEDING

Your baby will continue exclusively nursing or bottle-feeding until 4 to 6 months of age. The best way to monitor whether your baby is getting enough is by monitoring their growth. Your doctor will measure their weight, length, and head at each visit. Most breastfed babies will continue to feed on demand throughout the day and night. Pay attention to your baby's cues for hunger and fullness when deciding how much to feed; these are even more important than the amount of breast milk or formula your baby consumes.

Infants fed formula or expressed breast milk in a bottle will usually increase the amount of formula or breast milk from 2–4 ounces (60–120 ml) per feeding to 4–6 ounces (120–180 ml) per feeding by 4 months of age. When babies are solely breastfeeding, they will continue to feed eight to twelve times in each twenty-four-hour period. At times a breastfed infant may start demanding to eat more often, such as every ninety minutes to two hours. This is your baby's way of telling you that they are having a growth spurt and need more milk. The more frequent feedings will send messages to

your brain to make more hormones that produce breast milk, your milk supply will increase, and your baby will then return to feeding less frequently. It usually takes two to three days for the milk supply to increase. If your baby still seems persistently hungry after four to five days, call your pediatrician for a weight check appointment. If a breastfeeding infant is not gaining weight, your milk supply may have decreased. This can be associated with your return to work without adequate pumping, increased stress, longer sleeps for the baby, or a variety of other factors. Your pediatrician can help determine the cause of your decreased milk supply and suggest techniques to increase your milk supply and the baby's intake. This may include increasing the feeding frequency and using a breast pump between or after feedings to increase milk production as well as ensuring that you are getting enough nutrition and fluids in your diet. You may hear that adding cereal to the bottle will help your baby sleep through the night, but this is a myth, and it can lead to overweight and obesity.

Frequent or repeated coughing during feeds is not normal and should be brought to the attention of the pediatrician. Frequent pauses during feeds or facial color changes that require the child to pull off the breast or bottle to breathe may indicate that your baby is having a hard time breathing; these should be brought to the attention of your pediatrician.

Even without any additions to your baby's diet, you'll probably notice a change in their bowel movements. Their intestines can hold more and absorb a greater amount of nutrients, so their stools may be more solid than they were during the first month. The gastrocolic reflex (see *Bowel Movements,* page 117) is also diminishing, so they should no longer have bowel movements after each feeding. In fact, between 2 and 3 months, stool frequency in both breastfed and formula-fed babies may decrease dramatically; some breastfed babies have only one movement every three or four days, and a few perfectly healthy breastfed infants have one a week. As long as your baby is eating well and gaining weight, and their stools are not too hard or dry, there's no reason to be alarmed by this decrease in stool frequency. If you are worried about stool changes, call your pediatrician.

Some breastfed infants who are getting close to 4 months of age may begin to sleep more than five hours at a stretch during the night. These babies may feed more often during the day, and these fortunate mothers

usually appreciate a longer stretch of sleep at night. At this stage, there is no need to wake a breastfed baby during the night to feed.

As mentioned earlier, some mothers will need to return to work between six weeks and six months after giving birth. This can be more stressful for the breastfeeding mother than the baby. For mothers who will be returning to work, begin offering expressed breast milk in a bottle occasionally by the time your infant is 1 month of age. This will allow a mother to get used to breast milk expression and the baby to get used to sucking from a bottle. This also will allow a breastfed baby to feed if the mother is away for a period of time. A mother can get information from her baby's pediatrician, a lactation consultant, and in many cases her state's Women, Infants, and Children (WIC) program on choosing a breast pump and learning how to use it. In the month before returning to work, many mothers will start expressing breast milk regularly once or twice a day between feedings and freezing the milk to get a supply of frozen breast milk for the daycare or caregiver. It is important for a mother returning to work to discuss her return and need to express milk during work hours with the appropriate work management before her actual return date. Returning to work part-time rather than full-time can make it easier to express breast milk and continue breastfeeding. A new mother may want to ask her manager if she can return on reduced hours for the first one to two months of work. Mothers may notice a decrease in milk supply when they return to work, possibly from the stress of returning to work. Mothers also will need to discuss with the baby's daycare program or caregiver that they will be supplying expressed breast milk. It is more than a full-time job to return to work and care for the household and yourself, so be prepared to ask for and accept help with jobs that can be done by others.

SLEEPING

By 2 months, your baby will be more alert and social and spending more time awake during the day. Meanwhile, their stomach capacity will be growing, and they'll need fewer feedings; they may soon start spacing out their night feedings.

Remember, your baby should be placed to sleep on their back. (See Chapter 38 for detailed information on sleep.)



Your child should be placed on their back when going to sleep.

SIBLINGS

By the second month, although you may be used to having a new baby, your older children still may be adjusting. Especially if the baby is your second child, your first may be saddened by not being the primary focus.

Sometimes older children might display frustration by talking back, doing something known to be forbidden, or literally shouting for attention. A child might also regress, suddenly wetting the bed or having daytime accidents even though they've been toilet trained for months. To a child there is no such thing as negative attention. They would rather get attention for inappropriate behavior than be ignored. This can quickly escalate into a vicious cycle of undesirable behavior associated with receiving more and more attention. One important way to reverse this frustrating cycle is to actively catch them being good. Giving them praise for playing by themselves or reading a book makes those activities more likely to occur the next time they're looking for attention. Having each parent spend some time with them alone each day may help, too. You may also need to pick your

battles. If your child is doing something to get your attention that is not harmful or dangerous (whining, for example), ignoring the behavior is often the best way to change it.



Invite older siblings to play with the baby.

However, you'll need to take more direct action if your older child takes out their frustration on the baby—interfering with feeds or even hitting the baby. Sit down and talk with them. Be prepared to hear things like "I wish that baby had never come here." Try to keep the older child's frustration and their other feelings in mind as you confront them. Reassure them you still love them very much, but explain firmly they must not hurt the baby. Make an extra effort to include them in all family activities, and encourage them to interact with the newborn. Make them feel like an important "big kid" by giving them specific baby-related jobs, such as carrying the diaper bag, putting away toys, helping dress the baby, or being in charge of making sure visitors and others wash their hands before they hold "their" baby.



Set clear and consistent rules, such as never picking up the baby without permission.

TOYS AND ACTIVITIES APPROPRIATE FOR YOUR 2-MONTH-OLD

- Images or books with high-contrast patterns
- Bright, varied hanging mobile
- Rattles (sturdy enough not to break)
- Singing to your baby
- Playing soft music on low volume
- Appropriate chewable toys for oral stimulation between feedings to foster oral sensing

STIMULATING INFANT BRAIN GROWTH: AGE 2 MONTHS

- Provide healthy nutrition as your baby grows; have periodic checkups and timely immunizations from a regular source of medical care.
- Give consistent, warm, physical contact—hugging, skin-to-skin, body-to-body contact—to establish your infant's sense of security and well-being. Talk, read, and sing to your baby during dressing, bathing, feeding, playing, walking, and driving. Use simple, lively phrases and address your baby by name. Respond to their gestures, as well as to the faces and the sounds they make.
- Read to your baby every day, starting at birth. This time provides close physical contact, helps them learn your voice, and develops a wonderful lifelong habit.
- Be attentive to your baby's rhythms and moods. Learn to read their cues and respond to them when they are upset as well as when they are happy. Babies cannot be spoiled.
- Provide colorful objects of different shapes, sizes, and textures that they can play with. Show them children's picture books and family photographs.

- Your face is by far the most interesting visual object at this age. Play peekaboo with your baby.
- If you speak multiple languages, use them all at home.
- Avoid subjecting your baby to stressful or traumatic experiences, physical or psychological.
- Make sure other people who provide care and supervision for your baby understand the importance of forming a loving and comforting relationship with your child and also provide consistent care.

Health Watch

Newborns can get very sick very quickly, so if your infant is under 3 months and has a rectal temperature of 100.4 degrees Fahrenheit (38 degrees Celsius) or higher, call your pediatrician. The following medical problems are common between the ages of 2 and 4 months. If you are concerned your baby has any of these conditions while younger than 2 months, contact your pediatrician. Check Part 2 of this book for these and other illnesses and conditions that occur throughout childhood.

DIARRHEA (see also *Diarrhea,* page 435)
EAR INFECTIONS (see also *Middle Ear Infections,* page 542)
EYE INFECTIONS (see *Eye Infections,* page 604)
SPITTING UP (see *GER [Gastroesophageal Reflux],* pages 451–53)
RASHES AND SKIN CONDITIONS (see *Eczema,* pages 461–63)
RESPIRATORY SYNCYTIAL VIRUS (RSV) INFECTIONS (see *Bronchiolitis,* pages 491–93)
UPPER RESPIRATORY INFECTION (URIs) (see also *Colds/Upper Respiratory Infection,* pages 540–42)

■ YOUR BABY AT 2 MONTHS OLD CHECKLIST ■

Immunization Update

Your baby should receive the hepatitis B vaccine soon after birth and before they are discharged from the hospital, and again at least four weeks after the first dose.

At 2 months, your baby should receive:

- DTaP vaccine
- Inactivated polio vaccine
- Hib (*Haemophilus influenzae* type b) vaccine
- Pneumococcal vaccine
- Rotavirus vaccine
- Hepatitis B vaccine (if not given at 1 month of age)

(For detailed information, see page 100 and Chapter 34, *Immunizations.*)

Safety Check

FALLS

- Never place the baby in an infant seat on a table, chair, or any other surface above floor level.
- Never leave your baby unattended on a bed, couch, changing table, or chair. When purchasing a changing table, look for one with 2-inch (or higher) guardrails. To avoid a serious fall, don't place it near a window. (For more information about changing tables, see page 383.)
- On all kinds of gear, always buckle the safety straps.

BURNS

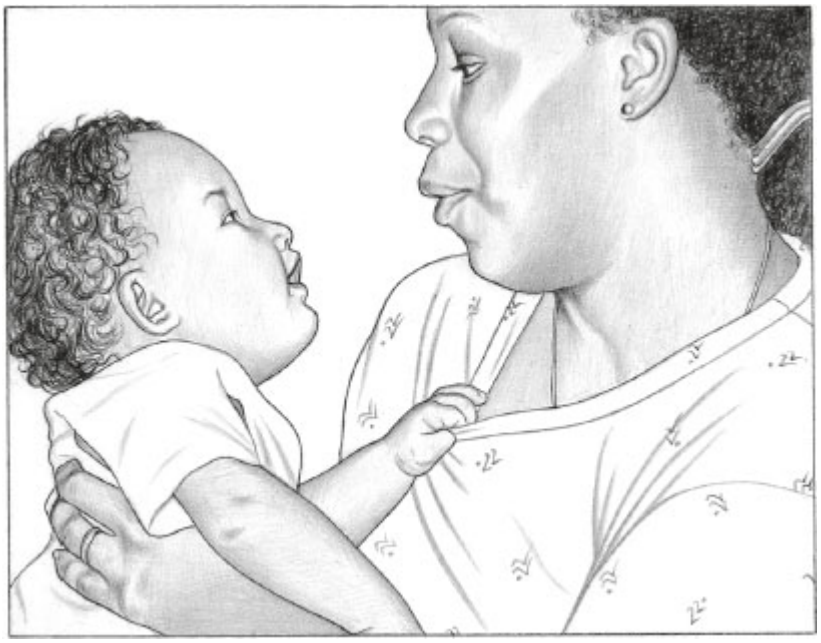
- Never hold your baby while smoking, drinking a hot liquid, or cooking by a hot stove or oven.
- Never allow anyone to smoke around your baby.

CHOKING

- Routinely check all toys for small parts that could be pulled or broken off. Also look for sharp edges, which can pose a danger. Check and follow the age recommendations for toys.
- For this age group, do not attach a toy to the crib, since the baby could pull it down or become entangled in it.

CHAPTER 7

Your Baby at 4 Months



By your infant's 4-month birthday, you'll probably have more of a daily routine for their feeding, napping, bathing, and sleeping at night. This routine helps your baby feel secure while allowing you to budget time and activities. The schedule should be flexible, though. During a growth spurt, your baby will eat more frequently; if they're ill, they may have trouble sleeping. And sometimes you might want to have some spur-of-the-moment fun. Short strolls when the sun finally appears on a dreary day, an unexpected lunch visit from grandparents, or a family excursion to the zoo are all wonderful excuses to break the routine. Being open to life events and impulses will make life together more enjoyable and help your baby learn to adapt to the changes in their life ahead.

Many parents will be going back to work during this time, and this may cause added stress during the first year. As exciting as it is to have a new

baby, you and your family are still adjusting, and it's natural to feel tired and worried at times. If those feelings become overwhelming, however, reach out for help.

For the time being, the most important changes are internal. At 4 months of age, babies will learn to coordinate their emerging perceptive abilities (vision, touch, and hearing) and their increasing motor abilities to develop skills like holding their head steady, making grasping motions, and bringing their hands to their mouth. The control evident in their budding motor skills will extend to every part of their life. Instead of reacting primarily by reflex, they'll now choose what they will and won't do. As a newborn, they sucked on almost anything placed in their mouth, but now they have definite favorites. Before, they merely looked at a strange new toy, but now they can use their arms to swing or bat at toys, and soon they will be able to mouth a toy, manipulate it, and explore its qualities. Infants who have experienced adversity such as spending time in the NICU, substance exposures prenatally, or neglect may still need more support with safe and nurturing routines.

Your baby will better communicate their emotions and desires now, and they'll voice them frequently. They'll cry not only when they're hungry or uncomfortable, but also when they want a different toy or a change in activity.

However, in these months before stranger anxiety, your child will probably go through a period of delightful showmanship, smiling and playing with everyone they meet. Their personality will be coming out in full bloom, and even people first meeting your baby will notice their many unique character traits. Take advantage of their sociability and acquaint them with people who will care for them in the future, such as babysitters, relatives, or childcare workers. This may help smooth the waters later when your baby hits the stranger-anxiety period.

Growth and Development

PHYSICAL APPEARANCE AND GROWTH

Your baby will grow rapidly over the next few months, but every baby is different. The best way to track growth is for your baby's doctor to measure

their weight, length, and head circumference and compare them to charts from the World Health Organization. If you want to keep track as well, sample growth charts are provided in the Appendix.

MOVEMENT

By 3 or 4 months, they'll flex and straighten their legs at will. Lift them upright with their feet on the floor and they'll push down and straighten their legs so that they're virtually standing by themselves (except for the support you're providing). Then they'll try bending their knees and will discover they can bounce. Although parents are often concerned that this kind of bouncing may be harmful, it is perfectly healthy and safe.

Previously, your baby established the muscle control needed to move both their eyes and head, so they could follow objects. They'll now begin to take on even greater challenges. They'll accomplish this as their back and neck muscles gradually strengthen and they develop better balance in their trunk, head, and neck. First they'll raise their head and hold it up while lying on their stomach. Encourage this by placing them on their stomach and extending their arms forward when they are awake; then get their attention with an attractive toy and coax them to hold their head up and look at you. This also is a good way to check their hearing and vision.

Once able to lift their head, your baby will start pushing up on their arms, first on their elbows and then with straight arms, arching their back to lift their chest. This strengthens their upper body, which will be essential to remaining steady and upright when they are learning to sit between 6 and 9 months of age. At the same time, they may rock on their stomach, kick their legs, and "swim" with their arms. These abilities, which usually appear at about 5 months, are necessary for rolling over and crawling. By the end of this period, they'll probably be able to roll over in both directions, although the time frame varies for different babies. Most children roll from stomach to back before the opposite direction, although doing it in reverse is perfectly normal.







Once your baby can raise their chest, help them practice sitting up. Hold them up or support their back with pillows as they learn to balance themselves. By 6 months, they will learn to "tripod," leaning forward as they extend their arms to balance. Interesting toys in front of them will give them a focus as they gain their balance. It will be some time before they can maneuver themselves to sitting without your assistance. Helping your baby develop their balancing skills will help them learn to sit and discover all the wonderful things the world has to offer from this new vantage point.



By 4 months, they will be able to hold their head steady in all directions.

Your baby's hand and arm movements will also develop rapidly during these months. During the third month, their hands will be half open most of the time, and you'll notice them carefully opening and shutting them. In the beginning, their hands are tightly clenched fists with their thumb inside; if you uncoil the fingers, they'll grasp objects automatically, yet they won't be able to move or bring them to their mouth. They'll gaze at their hands with interest when they are in view, but they probably won't be able to bring them to their face on their own.

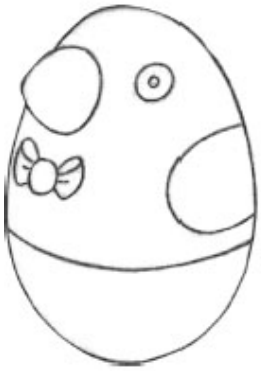
By the fourth month, your baby can easily bring their hands to their mouth and are able to use their arms to swing and bat at toys. By 6 months your baby will easily reach for, grab, and put things in their mouth. So, if you have not already, remove any objects from their environment that they could choke on or injure themselves with.

MOVEMENT/PHYSICAL DEVELOPMENT MILESTONES FOR YOUR BABY AT 4 MONTHS

- Holds head steady without support when you are holding them
- Holds a toy when you put it in their hand
- Uses their arms to swing at toys
- Brings hands to mouth
- Pushes up on elbows/forearms when on tummy

TOYS APPROPRIATE FOR YOUR BABY AT 4 MONTHS

- See-through rattles that show the pieces making noise
- Cloth books with colorful pictures
- Unbreakable plastic or mylar mirror
- Soft balls, including some that make soft, pleasant sounds
- Textured toys that make sounds







VISION

As your baby works on their motor skills, have you noticed how closely they watch everything they're doing? Their concentration reaching for a toy may remind you of a scientist engrossed in research. It's obvious their good vision is playing a key role in their early motor and cognitive development. Conveniently, their eyes become fully functional just when they need them most.

Although your baby could see at birth, their total visual ability has taken months to develop. Only now can they distinguish subtle shades of reds, blues, and yellows. Don't be surprised if you notice they prefer red or blue to other colors; these seem to be favorites among many infants this age. Most babies also like increasingly complex patterns and shapes as they get older—something to keep in mind when shopping for picture books or posters for your child's nursery.

By 4 months, they'll also have the arm and hand control needed to bat at objects as they move close to them; their aim won't be very good yet, but the practice will help them develop hand-eye coordination. If you think your baby's eyes may not be tracking together by 3 months of age, talk with your pediatrician.

Your baby's distance vision also is developing. You may notice them smiling at you halfway across the room or studying a toy several feet away. By 4 months, you'll catch them staring at the distant wall hanging or looking out the window. These are clues to normal development.

By 4 months, your baby's visual range has increased to several yards or more, and it will continue to expand. (See Chapter 28, *Eyes,* for more information on eye maturity.) At the same time, they'll follow faster and faster movements with their eyes. In the early months, if you rolled a ball across the room, they couldn't track it, but now they'll follow moving objects easily. As their hand-eye coordination improves, they'll be able to grab these objects around 6 months of age. Because of these improvements in vision, babies can be easily distracted with breastfeeding, so nursing in a quiet, darker space may be necessary during this phase.



By 4 months, your baby will begin noticing not only the way you talk but the individual sounds you make.

A mobile over the crib or in front of an infant's bouncy seat is an ideal way to stimulate a young baby's vision. However, your baby may quickly get bored and search for other things. Also, some babies may already be sitting up and reaching and might pull down or tangle themselves in a mobile. Be sure to remove any mobiles when your baby is able to get up on their hands and knees or at 5 months old, whichever comes first. Hold your baby's visual interest by also keeping them moving—around the home, down the block, to the store, or on special excursions. Help them find things they've never seen before and name each one out loud for them.

A mirror is another source of endless fascination for babies this age. The reflected image is constantly changing, and, even more important, it responds directly to your child's movements. This is a clue the person in the mirror is actually themselves. It may take a while to come to this realization, but it will probably register during this period.

Your child's visual awareness should clearly have increased by the age of 4 months. Watch how they respond when introduced to new shapes, colors, and objects. If they are not interested in looking at new things, or if one or both eyes turn in or out, inform your pediatrician.

Vision Developments for Your Baby at 4 Months

Your baby may be more interested in circular patterns (bull's-eyes, spirals)—one of the reasons faces, full of circles and curves, are so appealing to them. By about 4 months, your baby will finally respond to the full range of colors and their many shades, and as their eyesight develops, your infant will naturally seek out more stimulating things to see.

LANGUAGE DEVELOPMENT

Your baby learns language in stages. From birth, they receive information about language by hearing people make sounds and watching them communicate. At first, they are most interested in the pitch and level of your voice. When you talk in a soothing way, they'll stop crying because they hear you want to comfort them. By contrast, if you shout out in anger, they will probably cry and show signs of being frightened because your voice is telling them something is wrong. By 4 months, they'll notice not only the way you talk, but also the individual sounds you make. Your baby will listen to the vowels and consonants and begin to notice how these combine into syllables, words, and sentences.

At about 2 months, your infant began cooing and repeating some vowel sounds (ah-ah-ah, ooh-ooh-ooh). By 4 months, imitate them cooing, while adding simple words and phrases to your "conversations." Your baby will not only be making noises to communicate with; they will turn their head toward you, smile, and act excited by moving their arms and legs to keep you engaged in having a "conversation" with them. Reading to your baby from birth is a wonderful and enjoyable way to help develop their language skills, even if they don't yet seem to understand the words.

By 4 months, your infant will babble routinely, often amusing themselves for long periods by producing strange new sounds (muh-muh, bah-bah). They'll also be more sensitive to your tone of voice and the emphasis you put on words or phrases. As you move through each day together, they'll learn from your voice when you're going to feed them, change their diaper, go for a walk, or place them in their crib. The way you talk teaches your baby about your mood and personality, and the way they respond shows you a lot about them. If you speak in an upbeat or comforting way, they may smile or coo. Yell or talk angrily, and they'll probably startle or cry.

Besides hearing sounds, your baby has also been producing them from the very beginning, first as cries and then as coos. At about 4 months, they'll start to babble, using many rhythms and characteristics of their native language. Although it may sound like gibberish, if you listen closely, you'll hear them raise and drop their voice as if they were making a statement or asking a question. Encourage them by talking to them throughout the day. When you recognize a syllable, repeat it back and then say some simple words that contain that sound. If their sound of the day is "bah," introduce "bottle," "box," "bonnet," "baa, baa, black sheep," and so on.

LANGUAGE/COMMUNICATION MILESTONES FOR YOUR BABY AT 4 MONTHS

- Makes sounds like "oooo," "aahh" (cooing)
- Makes sounds back when you talk to them
- Turns head toward the sound of your voice

Special equipment is used to check a very young baby's hearing. All newborns should be tested for hearing loss soon after birth, usually before they leave the hospital. In addition, your observations are the early warning system for whether further testing is needed. If you suspect a problem, you might ask your pediatrician for a referral to a children's hearing specialist.

COGNITIVE DEVELOPMENT

Previously, you might have wondered if your baby really understood what was happening around them. This reaction is not surprising. After all, although you knew when they were comfortable or not, signs of actually thinking were likely few. But studies show from the minute they are born, your baby is learning about the world around them. Now, as their memory and attention span increase, you'll see evidence they're not only absorbing information but also applying it to their day-to-day activities.

During this period, they'll refine their concept of cause and effect. They'll probably stumble on this notion somewhere between 4 and 5 months. Perhaps while kicking their mattress, they'll notice the crib shaking. Or maybe they'll realize their rattle makes a noise when hit. Once they

understand they can cause these interesting reactions, they'll continue to experiment.

COGNITIVE MILESTONES FOR YOUR BABY AT 4 MONTHS

- If hungry, opens mouth when they see breast or bottle
- Looks at their hands with interest

SOCIAL/EMOTIONAL DEVELOPMENT

At age 4 months, your baby's social and emotional development will continue to blossom and bring you delightful moments of connection and interaction and also moments of understandable frustration. Your baby will begin to show more interest in engaging with others, including family members and caregivers. You'll notice that they laugh in response to your facial expressions and sounds, sometimes even when you're not trying to be funny! They will also demonstrate increased awareness of their own emotions and those of others, which might be expressed through a wider range of facial expressions and vocalizations. As they learn to tell family members apart from strangers, they may also start to display stranger anxiety, becoming more cautious or wary of unfamiliar faces. Encouraging social interactions, responding to their emotional cues, and providing a secure and loving environment will help foster their social and emotional growth during these crucial months.

As your baby develops, your own habits will change as well. You and your baby will both benefit from establishing stable sleep routines, with a consistent bedtime and wake-up time. Now that your infant can express their desires more clearly, you may find yourself having to pause and take a breath when you can't respond immediately. Feeds may need to move to a quieter, less distracting place now that your baby is increasingly aware of and interested in the things going on all around them.

SOCIAL/EMOTIONAL MILESTONES FOR YOUR BABY AT 4 MONTHS

- Smiles on their own to get your attention

- Chuckles (not yet a full laugh) when you try to make them laugh
- Looks at you, moves, or makes sounds to get or keep your attention

By 4 months, your baby will be a master of "smile talk." Sometimes they'll start a "conversation" with a broad smile and gurgling to catch your attention. Other times they'll lie in wait, watching your face until you give the first smile before beaming back their enthusiastic response. Their whole body will participate. Their hands will open wide, one or both arms will lift, and their limbs will move in time with your speech. Their facial movements also may mirror yours, especially if you stick out your tongue!

Basic Care

INTRODUCING SOLID FOODS: ALLERGY PREVENTION

Exclusive breastfeeding is recommended until around 6 months of age. However, some babies show signs of readiness to start solid foods around 4 to 6 months of age, such as the ability to hold their head up steadily. There is emerging guidance on food allergy prevention that indicates some benefit to introducing certain allergenic foods around 4 to 6 months of age.

Talk to your pediatrician at your 4-month checkup about when is the best time to introduce solid foods for your baby. For more information and guidance on introducing solid foods, see *Introducing Solid Foods* in Chapter 8, on page 164.

Babies are born with a tongue thrust reflex, and a young infant will push their tongue against anything inserted into their mouth, including food. Most babies lose this reflex at about 4 to 5 months, so when this reflex disappears, that's a good time to begin "practicing" with solid food. It may be that when they show interest in eating they can try some of the foods you are eating as well. Remember that while your baby is learning to eat solid food, the main source of nutrition remains breast milk or infant formula.

Research has shown that introducing peanut and egg products to infants between 4 and 6 months of age and keeping them in the diet consistently may prevent the development of allergies to those foods. (Never feed whole nuts before 3 years of age due to choking risk.) If your child has severe eczema or an allergy to any foods, talk to your doctor first before starting

solid food. In addition, there is no evidence that waiting to introduce baby-safe (soft) allergy-causing foods, such as eggs, dairy, soy, peanuts, or fish, beyond 4 to 6 months of age prevents food allergy. This is why most allergists and pediatricians now recommend early introduction of allergy-causing foods to a baby's diet. So, feel free to introduce a variety of healthy foods in a form that your baby can tolerate around 4 to 6 months of age, when they show signs of readiness to begin eating solid food.

As your baby develops, their hunger and fullness (satiety) cues will become stronger. If your baby is looking around like they're hungry, offer to nurse. If they're trying to grab your fork, try offering a taste of soft food. If they turn away or keep their mouth closed, take a break on feeding. Now is a great time to teach your baby to pay attention to their own hunger and satiety, which can build healthy habits for life.

DIETARY SUPPLEMENTS: VITAMIN D

The American Academy of Pediatrics currently recommends that infants should be fed breast milk exclusively for the first 4 to 6 months after birth. Exclusive breastfeeding means that the infant does not receive any additional foods (except vitamin D) or fluids unless medically recommended.

Most of the population in the United States has lower-than-recommended levels of vitamin D, probably due, in part, to spending more time inside. Vitamin D deficiency can produce diseases such as rickets (a severe form of vitamin D deficiency characterized by bone softening). Our bodies produce vitamin D after exposure to sunlight, but excessive sunlight exposure increases the risk of skin cancer later in life. Parents can take several steps to decrease the risk of sunburn and skin cancer. Infants and children can be dressed in protective hats and clothing when outdoors. If possible, family activities can be timed before and after the hours of peak sun exposure (10 A.M. to 4 P.M.). Seeking shade is important. Sunscreen can be applied, even to young infants, to areas not covered by clothing and hats. The American Academy of Pediatrics recommends that all infants receive a vitamin D supplement (unless they are consuming more than 28 ounces (840 ml) per day of commercial formula that has vitamin D added). Vitamin D supplements of 400 IU (10 mcg) per day are recommended for babies up

until age 1 year, with 600 IU (15 mcg) per day for children over 1 year of age. For families that are breastfeeding, a maternal dose of 6,400 IU (160 mcg) per day will cross into the breast milk and meet the baby's vitamin D needs.

SLEEPING

Between 4 and 6 months of age, your baby's brain is developing, and their stomach can hold more food. You'll notice that sleep periods are growing longer and more regular, sometimes even lasting all night. However, it is essential to recognize that every baby is unique, and there is a wide range of normal sleep behaviors during this period. Some babies may still require nighttime feedings, while others may start sleeping through the night. It's crucial to approach sleep with flexibility and adaptability, paying close attention to your baby's individual cues and needs.

A nurturing sleep environment will help promote healthy sleep habits. Start with a regular routine that may involve a bath, a book and/or song, and a safe sleep surface in a dark, quiet place. Some people find that quiet white noise is helpful. Some infants this age will still cry when you place them down for sleep, which is often a normal part of transitioning from a wakeful to a sleeping state. If your baby does this, there are a variety of ways to help them learn to make this transition, including taking a little longer to respond every few nights or spending a little less time at the crib. If the crying seems excessive, talk to your pediatrician about what might be going on. It may be tempting to bring your baby into bed with you, but babies this age are highly vulnerable to sudden unexpected infant death (SUID), and maintaining a safe sleep environment remains critical.

SIBLINGS

At about 3 or 4 months, your baby will become intrigued by other children. If they have brothers or sisters, you'll see your baby beaming as their siblings talk. This fascination with children will increase as they get older.



Health Watch

Don't be surprised if your baby catches their first cold or ear infection soon after their 4-month birthday. Now that they can actively reach for objects, they'll come into physical contact with many more things and people.

The first line of defense is to keep your child away from anyone known to be sick. Be especially careful of highly contagious diseases such as influenza (the flu), RSV, COVID-19, chickenpox, or measles (see *Chickenpox [Varicella],* page 680; *Measles, Mumps, and Rubella (MMR)* page 683). If someone in your play group has one of these diseases, keep your child away from the group until you're sure no one else is infected. However, children and adults are contagious a day or so before they have symptoms, so it is impossible to prevent some exposures.

STIMULATING BRAIN GROWTH: AGE 4 MONTHS OLD

- Respond positively to your baby. Act excited, smile, and talk to them when they make sounds. This teaches them to take turns "talking" back and forth in conversation.
- Provide safe opportunities for your baby to reach for toys, kick at toys, and explore what is around them. For example, put them on a blanket with safe toys.

- Allow your baby to put safe things in their mouth to explore them. This is how babies learn. For example, let them see, hear, and touch things that are not sharp, hot, or small enough to choke on.
- Talk, read, and sing to your baby. This will help them learn to speak and understand words later.
- Limit screen time (TV, phones, tablets, etc.) to video calling with loved ones. Screen time is not recommended for children younger than 2 years of age. Babies learn by talking, playing, and interacting with others.
- Give your baby safe toys to play with that are easy to hold, like rattles or cloth books with colorful pictures.
- Let your baby have time to move and interact with people and objects throughout the day. Try not to keep your baby in swings, strollers, or bouncy seats for too long.
- Set steady routines for sleeping and feeding.
- Lay your baby on their back and show them a bright-colored toy. Move the toy slowly from left to right and up and down to see if they watch how the toy moves.
- Sing and talk to your baby as you help them "exercise" (move their body) for a few minutes. Gently bend and move their arms and legs up and down.
- Play with your baby by holding them securely under their arms with their feet on your lap. Let them bounce up and down.
- Play games, such as peekaboo. You can cover your eyes with your hands and then uncover and say "peekaboo." Watch for your baby's smile or other signs they are enjoying the game.
- Pay close attention to how your baby reacts to different things. This will help you learn what they like and don't like and what makes them feel good.
- Copy your baby's sounds and see how long your baby "talks" back and forth with you.
- Call your baby by their name to help them learn it. They will start to recognize it around 9 months. For example, "Are you ticklish, Jordan?"
- Playing on the floor or play mat with your baby every day helps them to move, learn, and explore.
- Hold and talk to your baby; smile and be cheerful while you do.
- Have quiet play times when you read or sing to your baby.

■ YOUR BABY AT 4 MONTHS OLD CHECKLIST ■

Immunization Update

At 4 months, your baby should receive:

- Second DTaP vaccine
- Second polio vaccine
- Second Hib vaccine
- Second pneumococcal vaccine

- Second hepatitis B vaccine (may be given between 1 and 4 months)
- Second rotavirus vaccine (may be given as early as four weeks after the first dose)

Safety Check

CAR SAFETY SEATS

- Buckle your baby into an approved, properly installed rear-facing car safety seat before you start the car. It should be equipped with a five-point harness. If your car was manufactured after 2002, you can use either the seatbelt or the LATCH system to secure all car safety seats. The backseat is the safest place for all children to ride. Never place a rear-facing car safety seat in the front seat of a car with a passenger-side airbag.

DROWNING

- Never leave a baby alone even for a moment in a bath or near a pool of water, no matter how shallow. Infants can drown in just a few inches of water. Baby bath seats or supporting rings are not a substitute for adult supervision. Practice touch supervision by staying within arm's reach anytime your baby is in or near water.

FALLS

- Never leave the baby unattended on any place above floor level, such as on tabletops, on changing tables, or near stairs. If they do fall and seem to be acting abnormally in any way, call the pediatrician immediately.

BURNS

- Never smoke or eat, drink, or carry anything hot while holding a baby.
- Keep all hot liquids, like coffee and tea, out of baby's reach.
- Prevent scalding by making sure the water coming out of the faucet is no more than 120 degrees Fahrenheit (48.9 degrees Celsius).

CHOKING

- Never give a baby any food or small object that could cause choking. All foods should be mashed, ground, or soft enough to swallow without

chewing.

- Make sure they cannot get tangled up in cords such as electrical cords or those on window shades. Ideally, use cordless window coverings.

CHAPTER 8

Your Baby at 6 Months



These are glorious months for you and your baby. As their personality emerges, their laughter, giggles, and joy at being with you and all they see are a wonder every day. Each day for them has new surprises and new accomplishments, and for you there is a growing sense of just how special the experience is.

You may find that your 5- or 6-month-old occasionally cries when you leave the room or when they're confronted by a stranger. They're developing a strong attachment to those who regularly care for them. They now associate you with their own well-being and can distinguish you from other people. Even if they don't cry out for you, they show this new awareness by curiously and carefully studying a stranger's face. By 8 or 9 months, they

may openly object to strangers who come too close. This is a normal developmental stage known as stranger anxiety.

You and your baby are each unique, and your relationship is unique as well. What works for one baby may not work for another. You must discover what succeeds for you through trial and error. While your neighbor's child may fall asleep easily and sleep through the night, your baby may need some extra holding and cuddling. This can be frustrating and cause stress during the first year. While your first child might have needed a lot of hugging and comforting, your second might prefer more time alone. These individual differences don't indicate that your parenting is "right" or "wrong," only that each baby is unique.

Over time, you will get to know your child's individual traits, and you'll develop patterns of interaction designed especially for them. If you remain flexible and open to their special traits, they'll help steer your actions as a parent in the right direction. (Also see the discussion of temperament on page 163 in this chapter.)

Growth and Development

PHYSICAL APPEARANCE AND GROWTH

Your child's specific weight and height are not as important as their growth rate. By now you should have established their position on the growth curve in the Appendix. Continue to plot their measurements at regular intervals to make sure they maintain their growth rate. If you find they start following a different curve or are gaining weight or height unusually slowly, discuss it with your pediatrician.



MOVEMENT

During their next four months, they'll begin to use their fingers and thumbs in a mitten-or claw-like grip or raking motion, and they'll manage to pick up many things. They won't develop the pincer grasp with index finger and thumb until they're about 9 months old, but by 6 to 8 months, they'll learn to transfer objects from hand to hand, and turn and twist them.

MOVEMENT/PHYSICAL DEVELOPMENT MILESTONES

- Rolls from tummy to back
- Pushes up with straight arms when on tummy
- Leans on hands to support themselves when sitting

As their physical coordination improves, your baby will discover new parts of their body. Lying on their back, they can now grab their feet and toes and bring them to their mouth. While being diapered, they may reach down to touch their genitals. When sitting up, they may slap their knee or thigh. Through these explorations they'll discover many new and interesting sensations. They'll start to understand the function of body parts. When you place their feet on the floor, they may curl their toes and stroke the surface, use their feet and legs to practice "walking," or bounce up and down. Watch

out! These are all preparations for the next major milestones: crawling and standing.

TOYS APPROPRIATE FOR YOUR 6-MONTH-OLD

- Toys that have fingerholds
- Musical toys, such as bells, maracas, tambourines (make sure none of the parts can become loose)
- See-through rattles that show the pieces making the noise
- Books with bright pictures for you to show them
- Baby books with board, cloth, or vinyl pages

VISION

Just a couple of months ago, your baby's distance vision was about 20/100, which means they could see objects clearly at a distance of about 20 feet that adults with normal vision can see clearly at 100 feet. Now, however, their visual acuity has improved to about 20/40, which is close to what an adult with very mild nearsightedness can see. You may notice they start to respond to people and objects all the way across a room, even farther!

Your infant also now has better color vision. Six-month-old infants are better able to discriminate between colors in the blue-green part of the spectrum compared to 4-month-olds, who have difficulty distinguishing between shades of blue and green.

Finally, at 6 months old, babies have developed better depth perception and the ability to perceive motion. This means they can track moving objects more accurately and reach for objects with greater precision. You'll notice your baby reaching out with increasing accuracy with both hands to grasp anything that catches their attention.

By this age, your baby's eyes should always be pointed in the same direction. The visual pathways in the brain that carry signals from one eye to the other have matured to the point that even if one is closed, it still knows what the other is seeing. If you notice your baby going "cross-eyed" or one or both eyes drifting to the side at this age, be sure to tell their pediatrician.

VISION DEVELOPMENTS FOR YOUR BABY AT 6 MONTHS

- Develops full color vision
- Distance vision matures
- Ability to track moving objects improves

LANGUAGE DEVELOPMENT

Participation in your child's language development becomes even more important after 6 or 7 months, when they begin actively imitating the sounds of speech. Up till then, they might repeat one sound for a whole day or several days at a stretch before trying another. Now they'll become much more responsive to the sounds they hear you make, and they'll try to follow. Introduce them to simple syllables and words: "baby," "cat," "dog," "go," "hot," "cold," and "walk," as well as "mama" and "dada." Although it may be up to a year or more before you can interpret their babbling, your baby can understand many words well before their first birthday.

If they don't babble or imitate sounds by their seventh month, it could mean a hearing or speech development problem. A baby with partial hearing loss can still be startled by loud noises or will turn their head in that direction, and they may even respond to your voice. However, they will have difficulty imitating speech. If your child does not babble or produce a variety of sounds by about 6 months, alert your pediatrician. If they had frequent ear infections, they might have fluid trapped in the middle ear space, which could interfere with hearing. A particularly important group of infants who need audiology follow-up at this age are those who were in the neonatal intensive care unit for any period of time. Usually they have a screening hearing test at birth and are recommended to have a behavioral hearing test by 6 months of age. You can discuss this with your primary care pediatrician, since often there is an audiologist that your doctor works with closely.

LANGUAGE/COMMUNICATION MILESTONES FOR YOUR BABY AT 6 MONTHS

- Takes turns making sounds with you
- Blows "raspberries" (sticks tongue out and blows)
- Makes squealing noises

COGNITIVE DEVELOPMENT

Your baby will quickly discover that some things, such as bells and keys, make interesting sounds when moved or shaken. Before long, they'll begin dropping things intentionally to see you pick them up, and start a chain of responses from their audience, including funny faces, groans, and laughter. This is a way for them to learn about cause and effect and their ability to influence their environment.

It's important to give your child what they need for these experiments and encourage them to test their "theories." Make sure everything you give them is unbreakable, lightweight, and large enough that they can't swallow it. If they lose interest in the usual toys, plastic or wooden spoons, unbreakable cups, jar or bowl lids, and boxes are endlessly entertaining and inexpensive.

Another major discovery your baby makes toward the end of this period is that objects continue to exist when out of their sight—a principle called object permanence. During their first few months, they probably thought the world consisted only of things they could see. When you hid a toy under a cloth, they thought it was gone for good, and so they wouldn't bother looking for it. But sometime after 4 months they began to realize the world is more permanent. You're the same person who greets them every morning. The block you hid under the can did not vanish after all. Playing hiding games like peekaboo and observing the people and things around them, your baby will continue to learn about object permanence for many months to come.

COGNITIVE MILESTONES FOR YOUR BABY AT 6 MONTHS

- Puts things in their mouth to explore them
- Reaches to grab a toy they want
- Closes lips to show they don't want more food

SOCIAL/EMOTIONAL DEVELOPMENT

The subtle aspects of your baby's personality are determined largely by their temperament. Are they rambunctious or gentle? Easygoing or easily upset?

Headstrong or compliant? To a large extent, these are inborn character traits. Just like their sizes and shapes, infants' temperaments differ as well and include their activity levels, persistence, and adaptability to the world around them. These traits will become increasingly apparent during these months. You won't necessarily find all of their personal characteristics enjoyable all the time—especially not when your determined 6-month-old screams in frustration as they lunge for the family cat. But in the long run, adapting to their natural personality is best. It is real and directly affects you and the rest of the family, so it's important to understand them as completely as possible.

Your child's behavioral style will affect how you parent and sometimes even your feelings toward yourself. An agreeable, even-tempered child, for example, is more likely to make you feel competent as a parent than one who is constantly irritable. As you've probably discovered already, some infants of this age are "easy," calm, and predictable, while others are more difficult. Strong-willed and high-strung babies require an extra dose of patience and gentle guidance. They often don't adapt to changing surroundings easily and will become increasingly upset if pushed to perform before they're ready. You'll fare better and reduce stress by recognizing and accommodating their temperament rather than resisting and trying to change it.

Talking and cuddling sometimes will do wonders to calm the nerves of an irritable child. Distracting them can refocus their energy. If they scream because you won't retrieve the toy they dropped for the tenth time, move your baby to the floor so that they can reach it themselves.

The shy or sensitive child also requires special attention, particularly if you have more boisterous children who overshadow them. When a baby is quiet and undemanding, it's easy to assume they're content. If they don't laugh or smile a lot, you may not play with them as much. But this baby often needs personal contact even more than others. They may be overwhelmed easily and need you to show them how to be assertive and become involved. Give them plenty of time to warm up to any situation, and make sure other people approach them slowly. Let them sit on the sidelines before you attempt to involve them directly. Once they feel secure, gradually they'll become more responsive to the people around them.

Also let your pediatrician know if you have concerns about your baby's emotional development. Your pediatrician can help, but such concerns can often be difficult to detect in a routine office visit. That's why it's important to call the doctor's attention to your concerns and describe your day-to-day observations. Write them down so that you don't forget. And take comfort in the fact that with time and patience, some of the personality traits you wish you could change will evolve. In the meantime, enjoy them as they are.

SOCIAL/EMOTIONAL MILESTONES FOR YOUR BABY AT 6 MONTHS

- Knows familiar people
- Likes to look at themselves in a mirror
- Laughs

Basic Care

INTRODUCING SOLID FOODS

At 4 to 6 months, depending on when your infant is ready, you can begin adding solid foods. Mothers who breastfeed do not need to avoid certain foods, unless instructed by your pediatrician due to an infant's allergy or intolerance. Breast milk offers many benefits, including possible protection against allergies. Talk with your pediatrician at the 4-month checkup about the timing of the introduction of solid foods, particularly if there is a strong history of food allergies in immediate family members or if your baby has severe eczema.

Once you begin, start solid foods at whichever time of day feedings work best for you and your baby. However, as they get older, they will want to eat with other family members, as family mealtimes provide significant benefits to the entire family, including improved nutrition habits, stronger family relationships—and, particularly helpful for a developing infant, exposure to lots of language, which stimulates brain development. To minimize the chances of choking, your baby should sit upright when you introduce solids. If they cry or turn away when you try, don't force the issue. It's more important you both enjoy mealtimes than for them to start foods by a

specific date. Go back to exclusively nursing or bottle-feeding for a week or two, then try introducing solid food again. Just as you did with nursing or formula-feeding, follow your baby's cues to know when they are hungry and full rather than focusing on the specific amount they eat at each meal.

Options for experimenting with solid foods include using a spoon or a parent's fingers, or allowing your baby to explore the soft, pureed food with their hands. Putting solid foods in a bottle or infant feeder with a nipple is not recommended, as this can drastically increase food intake at each feeding, may be a risk for choking, and could lead to excessive weight gain. Besides, it's important for your baby to get used to the process of eating—sitting up, tasting new foods, resting between bites, and stopping when full. This early experience will lay the foundation for good eating habits throughout their life. There is no need to rub a new food on the skin before letting your baby eat it, as this is not an accurate test for allergy and can cause non-allergic skin irritation, which may raise undue concern.

Standard spoons may be too wide, but small spoons often work well; a rubber-coated baby spoon is also a good choice and can help avoid injury. Start with small amounts or tiny tastes, and talk your baby through the process ("Mmm, see how good this is?"). They probably won't know what to do the first time or two. They may look confused, wrinkle their nose, roll the food around their mouth, or reject it entirely. This is an understandable reaction, considering how different their feedings have been.

One way to ease the transition is to give your infant small tastes of food, then finish off with their usual breast milk or formula. This will prevent them from being overly frustrated when they're very hungry, and it will link the satisfaction of nursing with this new experience of spoon-feeding. No matter what you do, the first few solid-food feedings are sure to wind up on their face and bib, so increase the size of their feedings very gradually, starting with just a teaspoonful or two, until they get the idea of swallowing solids.

What foods? Traditionally, single-grain cereals were introduced first. However, there is no medical evidence that introducing solid foods in any particular order has an advantage for your infant. Though many pediatricians recommend starting vegetables before fruits, there is no research indicating your infant will develop a dislike for or allergy to

vegetables if they follow fruit. When you are breastfeeding, be sure to eat a variety of foods, including vegetables, as babies who are exposed to these tastes while nursing are less likely to reject them when they start eating solid foods.

While formula is fortified with iron, breastfed babies may not get enough iron from breast milk alone, so try to incorporate foods high in iron into your baby's diet, like beef, fish, dried beans (lentils, soybeans, black beans), dark green vegetables (spinach, chard), eggs, and tofu.

Many babies enjoy cereals. You may use premixed baby cereals or dry varieties mixed with breast milk or formula. Pediatricians now advise parents to choose iron-fortified whole-grain cereals rather than highly processed ones. There is no evidence that one whole-grain cereal is better than another, though some rice cereals particularly have been found to have higher levels of arsenic compared to other grains, so it is important to use a variety of grains rather than sticking with only rice cereal. Whichever you choose, make sure it is very soft or completely pureed until your baby is ready and able to safely manage and tolerate more texture.

Pediatricians recommend introducing new foods to your baby's diet, in any form your baby can handle, and watching for any signs of possible allergic reaction. Within two or three months of starting solid food, your baby's daily diet should include breast milk, iron-fortified whole-grain cereals, vegetables, meats (including fish), eggs, fruits, and nut butters (but never whole nuts) distributed among three meals. Remember that babies do not need the added sugars and salts that adults may have grown used to. Also know that if your baby rejects a given food the first ten times, they may come to love it on the eleventh try. Don't force it, but repeated exposure can be especially important when introducing some vegetables like broccoli and asparagus.

Once your baby sits independently, you can begin giving them finger foods to help them learn to feed themselves. Some parents are often skipping pureed foods altogether in favor of very soft foods that babies can self-feed, a trend called baby-led weaning. Most infants can begin learning to self-feed without assistance around 6 to 8 months. Make sure anything you give is soft, is easy to swallow, and breaks down into small pieces they can't choke on. Well-cooked cut-up sweet potatoes, green beans, peas, shredded or

diced chicken or other meat, small pieces of bread, or whole-grain crackers are good examples. Don't give any food that truly requires chewing, even if they already have teeth. After you are finished with the meal, it is a good idea to gently wipe your infant's teeth/gums with a wet cloth for proper oral care.

When feeding your baby solid foods, portion them into a small dish instead of directly feeding out of the container, jar, or pouch the food came in. This will prevent the food from becoming contaminated with bacteria from the baby's mouth. Discard the portion left in the dish rather than trying to save it.

While there is a huge variety of prepared baby foods available at the store, you don't have to rely on jars or packets to feed your baby, as making homemade baby food can be easy, inexpensive, and healthy. Everything you make should be soft and well-cooked. Cooked fresh vegetables and stewed fruits are easy to prepare. Although you can feed your baby mashed raw bananas, most other fruits should be cooked until soft. Immediately refrigerate any food not used, and then inspect carefully for signs of spoilage before giving it again. Never offer foods your baby might choke on, such as whole nuts, uncut grapes or cherry tomatoes, or raw carrots or celery.

Hold off on liquids other than breast milk (or formula if you are not breastfeeding) or small amounts of water in a sippy cup. The American Academy of Pediatrics recommends fruit juice not be given to infants, since it offers no nutritional benefit to babies in this age group, and giving fruit juice to infants and young children may get them used to sweet beverages, which can lead to excessive weight gain and tooth decay. In addition, cow's milk is not recommended until after 1 year of age because it doesn't have appropriate nutrition for young infants and can also cause intestinal bleeding and anemia.

If your infant seems thirsty between feedings, breastfeed them or give them formula, or, after 6 months, offer small sips of water. Getting a child used to plain water is a healthy habit for life. During hot months when your child loses fluid through sweat, offer water two or more times a day. If your water is fluoridated, this also will help prevent tooth decay. You can test your water with home kits to see if your water source is fluoridated. Most city water is fluoridated, and some well water naturally contains fluoride. Your

pediatrician or dentist can guide you if additional fluoride is necessary. If you use well water, it is important to have the well water tested on a regular basis for contaminants such as bacteria and toxins. The CDC recommends testing wells used for drinking a minimum of every spring, or more often if there are certain contaminants; another option is the addition of a well filtration system.

By the time your baby is 6 or 7 months old, they'll probably sit well enough to use a high chair during mealtime. To ensure their comfort and safety, safety straps should be used, and the chair seat should be cleaned regularly. Also, look for a high chair with a detachable tray with a raised rim. (See page 392 for safety recommendations.) The rim helps keep dishes and food in place during more rambunctious feeding sessions. The detachable tray can be cleaned easily, a feature you're bound to appreciate in the months to come. (There still may be days when the only solution is to put the entire chair in the shower for a complete wipe-down!) As your child's diet expands and they're feeding themselves more regularly, discuss their personal nutritional needs with your pediatrician. Poor eating habits established in infancy can lead to health problems later on.

Your pediatrician will help determine whether your baby is overfed, not eating enough, or eating too much of the wrong kinds of foods. By familiarizing yourself with the caloric and nutritional contents of what they eat, you can ensure they're eating a proper diet. Be aware of other food habits in your family. As your baby eats more and more table foods, they'll imitate the way you eat—the whole family should try to model a healthy, nutrient-rich diet to set a good example, and mealtimes should be a time for interaction and enjoyment, not struggles.

What if you're concerned your baby *already* has overweight? Even when infants are young, some parents are already worried their babies are gaining too much weight. There is a rise in childhood obesity and its potential complications (such as diabetes), thus it's wise to be sensitive to the problem, no matter your child's age. Some evidence indicates that bottle-fed infants gain weight more rapidly than breastfed babies, perhaps because some parents encourage their infant to finish a bottle. Always remember to let your baby's hunger cues drive how much they eat, rather than urging them to finish a set amount of food. Aways check with your pediatrician regarding

your child's growth curve, and never put your baby on a diet. Insufficient weight gain can be detrimental to your baby's brain development.

It is important to get your pediatrician's advice before making any dietary adjustments. During these months of rapid growth, your infant needs the proper balance of fat, carbohydrates, and protein for proper growth and development.

As soon as solid foods are started, your baby's stools will become more solid and variable in color. The stools will also have a much stronger odor. Peas and other green vegetables may turn the stool deep green; beets may turn it red. (Beets sometimes make urine red as well.) Their stools may contain undigested particles, especially hulls of peas or corn and the skins of tomatoes or other vegetables. This is normal. If the stools are extremely loose, watery, or full of mucus, however, it may indicate an irritated digestive tract. In this case, consult your pediatrician to determine if there is a digestive problem.

SLEEPING

Most babies this age still need at least two naps a day, midmorning and midday. Some babies may nap a third time later in the afternoon. In general, it's best to let your baby sleep as long as they want, unless they have trouble falling asleep at their normal nightly bedtime. If this becomes a problem, wake them earlier from their afternoon nap.

Because your child is more alert and active now, they may have trouble winding down at the end of the day. A consistent bedtime routine will help. Experiment to see what works best, taking into consideration household activities and your baby's temperament. A warm bath, a massage, rocking, a story or lullaby, and a breast-or bottle-feeding will all help relax them and put them in a bedtime mood. *Remember to begin these activities before your baby becomes overtired.* Eventually they'll associate these activities with going to sleep, and that will help relax and soothe them.

Now that your baby is a little older, all the same rules of safe sleep apply (see Chapter 4), except that they are probably rolling over from back to front now on their own. Settle your baby in their crib while they're drowsy but still awake so that they learn to fall asleep on their own. Gently place them on their back, whisper your goodnight, and leave the room. If they cry,

check on them and offer a few comforting words, then leave the room again. As the days pass, gradually give them less attention at night. If parents are consistent, most babies will cry less each night and will be more likely to learn self-soothing. (See Chapter 38 for more information on sleep.)

TEETHING AND DENTAL CARE

Teething usually starts during these months. The two front teeth (central incisors), either upper or lower, usually appear first, followed by the opposite front teeth. The first molars are next, followed by the canines, or eyeteeth.

There is great variability in the timing and pattern of teething. If your child doesn't show any teeth until later than this age period, or if they come in out of order, don't worry. The timing may be determined by heredity and doesn't mean anything is wrong.

Teething *occasionally* may cause mild irritability, crying, excessive drooling, and a desire to chew on something hard. More often, the gums around the new teeth will swell and be tender. To ease your baby's discomfort, try gently rubbing or massaging the gums with one of your fingers. Teething rings are helpful and should be made of firm rubber. (The teethers you freeze tend to get too hard and too cold and can cause more harm than good.) Never use teething gels to numb the gums; in rare cases they can poison babies' blood cells and keep them from carrying oxygen. Homeopathic teething tablets also provide no benefit, and in some cases they have been made with potentially harmful toxins. Amber teething necklaces have not been shown to relieve pain, and they have caused cases of choking and strangulation; remember never to leave anything around your baby's neck. If your child seems particularly miserable or has a fever higher than 100.3 degrees Fahrenheit (38 degrees Celsius), it's probably not from teething, and you should consult your pediatrician, as your baby may be sick.

Your baby should see a dentist within 6 months after their first tooth erupts, but no later than 12 months of age, whichever comes first. Pediatric dentists are specially trained to see infants, and you can find a pediatric dentist for your baby at the American Academy of Pediatric Dentistry's website, aapd.org. But going to your family dentist for routine pediatric care is entirely adequate and may be covered by existing health insurance.

Brushing your baby's teeth at home is very important as well. For cleaning when you first start seeing teeth, simply brush with a soft child's toothbrush and a smear of fluoridated toothpaste the size of a grain of rice. To prevent cavities, it's best not to let your baby fall asleep with a bottle or on the breast, either at nap time or at night. Doing this will keep milk from pooling around the teeth and creating a breeding ground for decay.

SWINGS AND PLAY YARDS

Many parents find that mechanical swings, especially with cradle attachments, can calm a crying baby when nothing else seems to work. If you use a device like this, check the weight limit and age recommendations on the device. Use only swings that stand firmly on the floor, not those that hang from door frames. Also, don't use a swing for more than half an hour twice a day; it may quiet your baby, but it is no substitute for attention. Secure your baby properly with the safety harness at all times. A swing is never a safe place for a baby to sleep, so if your baby looks sleepy, remove them right away and place them on their back in a crib or bassinet.

STIMULATING INFANT BRAIN GROWTH: AGE 6 MONTHS

Many connections are being made in your baby's brain during this time in their young life. Those connections are reflected in their behaviors, such as the strong attachments they have to you and others who take care of them, or their crying when you leave the room, when they are approached by a stranger, or when they want a particular toy. They are becoming more interested in the world and are better able to communicate their emotions and desires—all the while developing new skills such as grasping, rolling over, and sitting.

Without overstimulating your baby, try these activities to help strengthen the connections in their developing brain:

- Provide a stimulating, safe environment where your baby can begin to explore and roam freely.
- Give consistent, warm, physical contact—hugging, skin-to-skin, body-to-body contact—to establish your infant's sense of security and well-being.
- Be attentive to your baby's rhythms and moods. Respond to them when they are upset as well as when they are happy.
- Talk and sing during dressing, bathing, feeding, playing, walking, and driving. They may not yet understand the language, but as they hear it, their language skills will develop. Check with your pediatrician if your baby doesn't seem to hear sounds or imitate your words.
- Engage your child in face-to-face talk. Mimic their sounds to show interest.

- Read books to your baby every day. They'll love the sound of your voice, and before long they'll enjoy looking at the pictures and "reading" on their own.
- If you speak more than one language, use them all at home.
- Engage in rhythmic movement with your child, such as dancing together to music.
- Avoid subjecting your baby to stressful or traumatic experiences, physical or psychological.
- Introduce your child to other children and parents; this is a very special period for infants. Be sensitive to cues indicating that they are ready to meet new people.
- Encourage your child to reach for toys. Give them baby blocks and soft toys that can stimulate their hand-eye coordination and their fine motor skills.
- Make sure other people who provide care and supervision for your baby understand the importance of forming a loving and comforting relationship with your child.
- Encourage your child to begin to sleep for extended periods at night; if you need advice about this important step in your infant's development, ask your pediatrician.
- Spend time on the floor playing with your child every day.
- If your child will be cared for by others, choose quality childcare that is affectionate, responsive, educational, and safe. Visit your childcare provider frequently and share your ideas about positive caregiving.

Once your baby starts to move about, you may need to use a play yard. Even before they crawl or walk, a play yard offers a protected place where they can lie or sit outdoors as well as in rooms where you have no crib or bassinet. (See *Play Yards,* page 393, for specific recommendations.) Be sure the play yard has not been recalled. Check the Consumer Product Safety Commission website (cpsc.gov) or saferproducts.gov for recalled products.

SIBLINGS

If your baby has a big brother or sister, you may start to see signs of rivalry at this time, particularly if there is less than 2 years between the children. Earlier, the baby was more dependent, slept a lot, and didn't require your constant attention. But now that they are becoming more demanding, you'll need to ration your time and energy so that you have enough for the children individually and together.

Your older child may still be jealous at having to share your attention. Set aside special "big brother" or "big sister" chores that don't involve the baby. Doing this allows for some extra attention and gets housework done. Be sure to show the child how much you appreciate this help.

You also can help sibling relations by including the older child in activities with the baby. If the two of you sing a song or read a story, the baby

will enjoy listening. The older child can also help care for the baby to some extent, assisting at bath or changing time. But unless the child is responsible and dependable enough, usually over age 12, don't leave your older child alone with the baby, even if they are trying to be helpful. Younger children can easily drop or injure an infant without realizing what they've done.

(For more information, see *Siblings* on pages 140–141. Many issues and guidelines described there also apply to children ages 4 through 7 months.)

Health Watch

No matter how you try to protect your baby, there will be times they get sick. This is an inevitable part of growing up and will happen more frequently when they have more direct contact with other children. It's not always easy to tell when a baby is ill, but there are some signs. Do they look pale or have dark circles under their eyes? Are they acting less energetic or more irritable than usual? If they have an infectious disease, they'll probably have a fever (see Chapter 30, *Fever*), and they may lose weight due to loss of appetite, diarrhea, or vomiting. Some difficult-to-detect kidney or lung infections also can prevent weight gain in babies. At this age, weight loss could mean that the baby has a digestive problem, such as an allergy to wheat or milk protein (see *Celiac Disease,* page 428), or lacks the digestive enzymes needed to digest certain solid foods. If you suspect your child may be ill but you can't identify the exact problem, or if you have any concerns about what is happening, call your pediatrician and describe the symptoms.

YOUR CHILD AND ANTIBIOTICS

Antibiotics are among the most powerful and important medicines known. When used properly, they can save lives. When used improperly, antibiotics can harm your child. Understanding the rationale behind limiting antibiotic use is important.

Two main types of germs—viruses and bacteria—cause most infections. Viruses cause all colds and most coughs. There are no medicines effective against the common cold, and colds almost always clear up on their own with time. Antibiotics never cure common viral infections. Your child recovers from these common viral infections when the illness has run its course. *Antibiotics should not be used to treat viral infections.*

Antibiotics are used to treat bacterial infections, but some have become resistant to certain antibiotics. If your child is infected with resistant bacteria, they might need a different antibiotic or even hospitalization, where more powerful medicines can be given intravenously. A few new strains of

bacteria are already untreatable. To protect your child from antibiotic-resistant bacteria, use antibiotics only when your pediatrician has determined they might be effective, since repeated or improper use of antibiotics contributes to resistant bacteria and viruses.

WHEN ARE ANTIBIOTICS NEEDED? WHEN ARE THEY NOT NEEDED?

These complicated questions are best answered by your pediatrician, and it depends on the specific diagnosis. If you think your child might need treatment, contact your pediatrician.

- *Documented ear infection.* Sometimes requires antibiotics.
- *Sinus infections.* These are very uncommon at this age, in large part because the sinuses are so small. Just because your child's mucus is yellow or green does not necessarily mean they have a bacterial infection. It is normal for mucus to get thick and change color during a viral cold.
- *Bronchitis.* Children rarely need antibiotics for bronchitis, since these infections are almost always caused by viruses.
- *Colds.* Colds are caused by viruses and sometimes can last for two weeks or more. Antibiotics have no effect on colds. Your pediatrician may have suggestions for comfort measures while the cold runs its course.
- *Influenza.* Once your child reaches 6 months, they will be old enough for a seasonal flu shot. Until then, other family members—parents and older siblings—should receive theirs to protect the baby. There are antiviral medications for this infection, but not all are appropriate for newborns and very young children, and they may not be as effective as prevention via immunization.

Viral infections sometimes may lead to bacterial infections. Keep your pediatrician informed if the illness gets worse or lasts a long time, so proper treatment can be given as needed.

If an antibiotic is prescribed, your child should take the antibiotic exactly as directed. Never save antibiotics for later use or let other family members use a prescription not intended for them.

The following illnesses are the most common ones to occur at this age. (All are described in Part 2 of this book.)

BRONCHIOLITIS (see page 491)
COLDS (URIs) (see page 540)
CONJUNCTIVITIS (pinkeye; see page 604)
CROUP (see page 497)
DIARRHEA (see page 435)
MIDDLE EAR INFECTIONS (see page 542)
FEVER (see page 635)
PNEUMONIA (see page 500)
SORE THROAT (STREP THROAT, TONSILLITIS) (see page 552)
VOMITING (see page 451)

■ YOUR BABY AT 6 MONTHS OLD CHECKLIST ■

Immunization Update

- First dose of influenza vaccine as soon as it's available in the fall; second dose given one month later
- Third DTaP vaccine
- Third polio vaccine (which can be given between 6 and 18 months)
- Third pneumococcal vaccine
- Third Hib vaccine (depending on vaccine type given for doses one and two)
- Third hepatitis B vaccine (can be given between 6 and 18 months)
- Third rotavirus vaccine (depending on vaccine type; one requires two doses and the other three)

Safety Check

See *Safety Check* in Chapters 5 (page 127), 6 (page 143), and 7 (page 157).

CHAPTER 9

Your Baby at 9 Months



By 9 months, your baby is increasingly mobile, a development that will both thrill and challenge you. Being able to move gives your child a new sense of power and control—their first real taste of physical independence. And while this is exhilarating for them, the separation from you it causes is also frightening. So as they eagerly move out on their own to explore the farthest reaches of their domain, they may also wail if they wander out of your sight. Mobility does bring dangers that must be constantly monitored, which means there cannot be any unsupervised time.

For you, your baby's mobility may be a source of considerable concern as well as pride. Crawling and walking are signals they're developing on target, but these achievements also mean you'll have your hands full keeping them safe. If you haven't already fully childproofed your home, do it now. (See

Chapter 18, on safety.) At their age, your baby has no concept of danger and a limited memory for warnings. The only way to protect them from the hundreds of hazards in your home is to secure cabinets and drawers, place dangerous and precious objects out of reach, and make perilous rooms such as bathrooms inaccessible unless they're supervised.

By childproofing your home, you'll also give your baby a greater sense of freedom. After all, fewer areas will be off-limits, and thus you can let them make discoveries on their own. These personal accomplishments will promote their self-esteem;

you might even think of ways of facilitating them. For example:

1. Fill a low kitchen cabinet or drawer with safe objects and let your baby discover it themselves.
2. Pad edges of a coffee table or sofa—or consider removing hard tables briefly and replacing them with soft-edged ottomans—and allow them to learn to pull up and cruise.
3. Equip your home with cushions of assorted shapes and sizes and let them experiment with the different ways they can move over and around them.

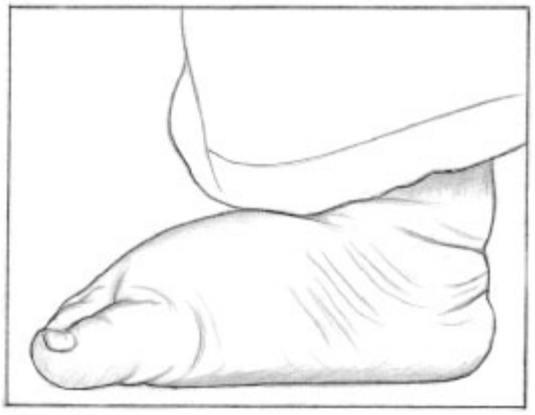
Knowing when to guide a child and when to let them act alone is part of the art of parenting. At this age, your child is extremely expressive and will give you cues on when to intervene. When they're acting frustrated rather than challenged, don't let them struggle. If they're crying because their ball is wedged under the sofa, or if they're pulled up to a standing position and can't get down, they need your help. At other times, however, it's important for them to solve problems. Don't let your impatience make you intervene more than necessary. You may be tempted to feed your 9-month-old because it's faster and less messy. However, that deprives them of a chance to learn how to feed themselves. The more opportunities you can give them to discover, test, and strengthen their new capabilities, the more confident and adventurous they'll be.

Growth and Development

PHYSICAL APPEARANCE AND GROWTH

Your baby will continue to grow rapidly during these months. The typical 8-month-old boy weighs between 17.5 and 22 pounds (8–10 kg), with girls about a half pound less. By the first birthday, the average child has usually tripled their birth weight and is 28 to 32 inches (71–81 cm) tall. Do not be alarmed if your child does not follow the typical growth curve in the middle, but follows their own curve. If they were born small, they may stay under the bottom line of the growth curve for the first few years. As long as they are following an upward curve, this is acceptable. Head growth between 8 and 12 months slows down from the first 6 months, a typical head circumference at 8 months being 17½ inches (44.5 cm) and at 1 year 18 inches (46 cm). Each baby grows at their own rate, however, so you should check your child's growth curves on the charts in the Appendix to make sure they're following the pattern already established.

When your child first stands, you may be surprised by their posture. Their belly will protrude, their rear will stick out, and their back will sway forward. It may look unusual, but this stance is perfectly normal until they develop a confident sense of balance sometime in the second year.



At this age, your child's feet will seem flat, the arch hidden by a pad of fat. In two to three years, this fat will disappear and their arches will emerge.

When your child takes their first teetering steps, you may notice their feet turning outward. The ligaments of their hips are still loose and their legs naturally rotate outward. During the first half of their second year, the ligaments will tighten and their feet should point straight.

MOVEMENT

At 8 months, your baby probably will be sitting without support. Although they may topple from time to time, they'll usually catch themselves with their arms. As the muscles in their trunk strengthen, they'll also start leaning over to reach objects. Eventually they'll figure out how to roll onto their stomach and get back up to a sitting position. If they are not sitting by themselves by 9 months, this is concerning and you should let your pediatrician know.

When lying on a flat surface, your baby is now in constant motion. When on their stomach, they'll arch their neck to look around, and when on their back, they'll grab their feet (or anything else nearby) and pull them to their mouth. They won't be content to stay on their back. They can turn over at will now and flip without a moment's notice. This can be dangerous during diaper changes, so you may want to retire their changing table, using instead the floor or bed, from which they're less likely to fall. Never leave them alone on a raised surface for even an instant at any time.



All this activity strengthens muscles for crawling, a skill usually mastered between 7 and 10 months. For a while they may rock on their hands and knees. Since their arms are stronger than their legs, they may even push themselves backward. But with time and practice they'll discover

they can propel themselves forward across the room toward the target of their choice.

Some children never crawl. Instead, they use alternative methods, such as scooting on their bottoms or slithering on their stomachs. As long as your baby is coordinating each side of their body and using each arm and leg equally, there's no cause for concern. The important thing is that they're able to explore their surroundings and strengthen their body in preparation for walking. If you feel your child is not moving normally, discuss your concern with the pediatrician.

How can you encourage your child to crawl? Try presenting them with intriguing objects just beyond their reach. As they become more agile, create miniature obstacle courses using pillows, boxes, and sofa cushions. Join in the game by hiding behind one of the obstacles and surprising them with a "peekaboo!" Don't ever leave your baby unsupervised, though. If they fall between pillows or under a box, they might not be able to get out. This is bound to frighten them, and they could even smother. Remember not to leave small objects on the floor, under the couch, or in any location where they can find them and put them into their mouth. Things like balloon fragments, small button batteries, and coins are especially dangerous.

Stairs are another ready-made—but potentially dangerous—obstacle course. Although your baby needs to learn how to go up and down stairs, you should not allow your baby to play on them alone during this time. If you have a staircase, they'll probably head straight for it every chance they get. Place sturdy gates at the top and bottom of your staircase. (To see a safe, horizontal-type gate, see page 389.) When you're with them on stairs, encourage them to work their way down them backward, a skill they're likely to pick up quickly. Even when they do, however, keep the stairs gated at all times.



Although crawling changes dramatically how your baby sees and interacts with the world, don't expect them to be content for long. They'll see everyone else walking, and that's what they'll want to do. In preparation, they'll pull themselves to a standing position every chance they get—although when they first start, they may not know how to get down.

If they cry for help, physically show them how to bend their knees to lower themselves without falling. This may help and may save you many trips to their room when they're standing in their crib and crying because they don't know how to sit down. Once your baby feels secure standing, they'll try tentative steps while holding on for support. When your hands aren't available, they'll cruise alongside furniture. Just make sure whatever they use for support has no sharp edges and is properly weighted or attached to the floor.

As their balance improves, they may let go occasionally before seeking support again when they feel themselves totter. Their first steps will be shaky. They may take only one before dropping, either in surprise or in relief. Soon, however, they'll manage to keep themselves up and moving until you catch them several steps later. As miraculous as it may seem, most children advance from these first steps to confident walking within days.

Although both of you will feel excited over this dramatic development, you'll also be unnerved at times, especially when they stumble and fall. Even if you took pains to provide a safe environment, it's almost impossible to avoid bumps and bruises. Just be matter-of-fact about these mishaps. Offer a quick hug or a reassuring word and send them on their way again. They won't be unduly upset by these falls if you're not. Also, don't be alarmed if they choose to crawl at times after they have started walking; babies use whatever is easiest and fastest!

At this stage, or even earlier, some parents use a baby walker. Contrary to what the name suggests, these devices do not help children learn to walk. They actually eliminate the desire to walk. To make matters worse, they present a serious tipping hazard when the child bumps into an obstacle, like a small toy or a throw rug. Children in walkers are also more likely to fall down stairs and get into dangerous places otherwise beyond their reach. For these reasons, **the American Academy of Pediatrics strongly urges parents not to use baby walkers.**

A stationary exercise saucer or activity center, with a rotating and bouncy seat but no wheels, is a better choice. You may also consider a sturdy wagon or kiddie push cart. Be sure it has a bar to push and is weighted so that it won't tip when they pull themselves up on it.



Soon your baby will manage to keep themselves up and moving until you catch them several steps later.

As your child begins to walk outside, they'll need shoes. They should be closed-toe, comfortable, and flexible, with non-skid soles, and they should provide room to grow; sneakers are a great choice. Your child does not need wedges, inserts, high backs, reinforced heels, special arches, or other features designed to shape and support feet. These have no proven benefit for the average child and may actually make it harder to walk. Their feet will grow rapidly during these months, and their shoes will have to keep pace. Their first pair of shoes will probably last two to three months, but you should check the fit monthly during this formative period.

MOVEMENT/PHYSICAL DEVELOPMENT MILESTONES FOR YOUR BABY AT 9 MONTHS

- Gets to a sitting position by themselves
- Moves things from one hand to their other hand
- Uses fingers to "rake" food toward themselves
- Sits without support

Many babies' first steps are taken around their first birthday, although it's normal for children to start walking earlier or later. At first, your child will walk with feet wide apart to improve their shaky balance. During those initial days and weeks, they may get going too fast and fall when they try to stop. As they become more confident, they'll learn how to stop and change directions. Before long, they'll be able to squat, pick something up, and stand again. When they reach this level, they'll get enormous pleasure from push-pull toys—the noisier the better.

HAND AND FINGER SKILLS

Your baby's mastery of crawling, standing, and walking is bound to be their most dramatic accomplishment during these months, but don't overlook all the wonderful things they're learning to do with their hands. Their clumsy way of raking things toward them will lead to accurate grasping with their thumb and first or second finger. You'll find them practicing this pincer movement on any small object, from dust balls to cereal, and they may even try to snap their fingers if you show them how.



As your baby learns to open their fingers at will, they'll delight in dropping and throwing things. They'll fling small toys left on their high chair tray or in their play yard and then call loudly for someone to retrieve them so that they can do it again. If they throw hard objects like blocks, they might do some damage and increase the noise level in your household. Your life will be calmer if you redirect them toward softer objects, such as balls of various sizes, colors, and textures (include some with beads inside that make noise as they roll). One fun activity that allows you to observe your child's developing skills is rolling a large ball toward them. At first they'll slap it randomly, but eventually they'll learn to swat it so that it rolls back to you.

With improved coordination, your baby can now thoroughly investigate the objects they encounter. They'll pick them up, shake them, bang them, and pass them from hand to hand. They'll be particularly intrigued by toys with moving parts—those with wheels, levers, and hinges. Holes are fascinating to poke their fingers in and, when they're a little more skilled, drop things through.

Blocks are another favorite toy at this age. In fact, nothing motivates crawling better than a tower waiting to be toppled. Toward the end of this period, your child may even start building towers of their own.

LANGUAGE DEVELOPMENT

Toward the end of the first year, your baby will begin communicating what they want by pointing, crawling, or gesturing toward their target. They'll also imitate many gestures they see adults make as they talk. Non-verbal communication is a temporary measure while they learn how to phrase their messages in words. Remember that hearing problems can manifest as delayed language, so it is important to listen to others' concerns, especially if this is your first baby.

Have you noticed how the coos, gurgles, and screeches of earlier months have given way to recognizable syllables, "ba," "da," "ga," and "ma"? Your child may stumble into words such as "mama" and "bye-bye" accidentally, and when you get excited they'll realize they've said something meaningful. Before long they'll use "mama" to attract your attention. At this age, they may also say "mama" just to practice. Ultimately, however, they'll use words when they want to communicate their meanings.

Even though you've been talking to your baby from birth, they now understand more language. Your conversations will take on new significance. Many babies can comprehend more words than you suspect, even before they can say them. Watch how they respond when you mention a favorite toy across the room. If they look toward it, they understand. To increase their understanding, keep talking to them as much as possible. Tell them what's happening around them, particularly as you bathe, change, and feed them. Make your language simple and specific: "I'm drying you with the big blue towel. It's so soft!" Label familiar toys and objects for them, and try to be consistent—that is, if you call the family pet a cat today, don't call it a kitty tomorrow.

Picture books can reinforce their budding understanding that everything has a name. Choose books with large board, cloth, or vinyl pages they can turn themselves. Also look for simple but colorful illustrations of things your child will recognize. Look at the pictures, point to things, and say the words for the objects in the book. The more words a child hears, the more they will learn. When you repeat the words as you look at the objects over and over, they will begin to understand that they are connected. At first, you can ask and answer questions like "What do you see? Do you see the ball?" Pause, and then say, "There is a ball. It is a blue ball."

BILINGUAL BABIES

If you speak a second language in your home, don't be concerned your child is going to become confused hearing two languages. More and more American families speak English and another language daily. Research and parental experience show that when children are exposed to two (or even more) languages at a very young age, particularly when they hear both consistently, they are able to learn both simultaneously. Yes, during the child's normal language development, they may be more proficient in one or the other, and at times they may mix words from both languages together. But with time, the two languages will become distinct and separate, and they should be able to communicate in both. (Some studies suggest that while they may be able to understand both languages, they will speak one of them better than the other for a time.)

Certainly, you should encourage your child to become bilingual. It's an asset, a skill that will benefit them the rest of their life. In general, the earlier both languages are introduced, the more proficient they'll be; by contrast, they may have a little more difficulty learning the second language if it is introduced during the preschool years after they've learned and spoken the first language exclusively.

Whether you're reading or talking to them, give them plenty of opportunities to join in. Ask questions and wait for a response. Let them take the lead. If they say "Gaagaagaa," repeat it back and see what they do. These exchanges may seem meaningless, but they tell your baby communication is two-way and they're a welcome participant. Paying attention to what they say also will help identify the words they understand and make it more likely you'll recognize their first spoken words.

These first words, incidentally, often aren't proper English. For your child, a "word" is any sound that consistently refers to the same person, object, or event. If they say "mog" every time they want milk, you should treat "mog" as a legitimate word by giving them milk when they say "mog." However, when you speak back to them, use "milk." Eventually they'll make the correction themselves.

Ages vary tremendously for when children begin to say recognizable words. Some can say two to three words by their first birthday. More likely, your baby's speech at 12 months will consist of gibberish with the tones and variations of speech. As long as they're experimenting with sounds that vary in intensity, pitch, and quality, they're getting ready to talk. The more you respond to them as if they were speaking, the more you'll stimulate their urge to communicate. Continuing to read to them daily will help tremendously. They will also enjoy simple songs. Make sure you turn off the

television; having the television on in the background keeps parents from talking to their children and harms babies' language development. Limit your own screen time, as your baby needs your attention to learn.

LANGUAGE/COMMUNICATION MILESTONES FOR YOUR BABY AT 9 MONTHS

- Makes different sounds like "mamamama" and "babababa"
- Lifts arms to be picked up

COGNITIVE DEVELOPMENT

An 8-month-old is curious about everything, but also has a short attention span and will move rapidly from one activity to the next. Two to three minutes is the most they'll spend with a single toy, and then they'll turn to something new. By 12 months, they may sit as long as fifteen minutes with a plaything, but they'll mostly be a body in motion. You shouldn't expect anything different.

Although toy stores are brimming with expensive playthings, the toys that fascinate children most at this age are ordinary household objects such as wooden spoons, egg cartons, and plastic containers of all shapes and sizes. Your baby will be especially interested in things that differ slightly from what they already know. If they're bored with the oatmeal box they've been playing with, renew their interest by putting a toy inside of it, or stacking two boxes on top of each other. These small changes will help them learn to detect small differences between the familiar and the unfamiliar. Also, when choosing playthings, remember that objects too much like what they've seen before will be quickly dismissed, while things too foreign may be confusing or frightening. Instead look for objects and toys that gradually expand their horizons. Pots and pans can be noisy but an inexpensive way of entertaining your child.

Often your baby won't need help discovering objects. As soon as they can crawl, they'll be off in search of new things to conquer. They'll rummage through drawers, empty wastebaskets, ransack cabinets, and conduct elaborate experiments on everything they find. (Make sure that any drawers

or cabinets with potential hazards are secured with child safety locks.) They'll never tire of dropping, rolling, throwing, submerging, or waving objects to see how they behave. This may look like random play, but it's your child's way of learning how the world works. Like any good scientist, they're observing an object's properties, and from their observations they'll develop ideas about shapes (some things roll, others don't), textures (things can be scratchy, soft, or smooth), and sizes (some things fit inside others). They'll even begin to understand some things are edible and others aren't, although they'll still put everything into their mouth just to be sure. (Again, make sure there's nothing dangerous around that they can put in their mouth.)

Their observations during these months also help them understand that objects exist even when out of sight, a concept called object permanence. At 8 months, when you hide a toy under a scarf, they'll pick up the scarf in search of the toy—a response that wouldn't have occurred three months earlier. Additionally, if you hide the toy under the scarf and then remove it when they're not looking, they'll be puzzled. By 10 months, they'll be so certain the toy still exists they'll continue looking for it. To help your baby learn object permanence, play peekaboo with them. By switching between variations of this game, you'll maintain their interest almost indefinitely.

VARIATIONS OF PEEKABOO

The possible variations of peekaboo are almost endless. As your child becomes more mobile and alert, create games that let them take the lead. Here are some suggestions.

1. Drape a soft cloth over their head and ask, "Where's the baby?" Once they understand the game, they'll pull the cloth away and pop up grinning.
2. With baby on their back facing toward you, lift both their legs together—"Up, up, up"—until they conceal your face from them. Then open them wide: "Peekaboo!" As they get the idea, they'll move their legs themselves. (This is a great game at diaper-changing time.)
3. Hide behind a door or a piece of furniture, leaving a foot or arm in their view as a clue. They'll be delighted to come find you.
4. Take turns with your baby "hiding" your head under a large towel and letting them pull the towel off, then putting it over their head and pulling it off.

As they approach their first birthday, your child becomes increasingly conscious that things have names and particular functions. You'll see their

new awareness weave into their play as a very early form of fantasy. Instead of treating a toy telephone as an object to be chewed, poked, and banged, they'll put it to their ear just as they've seen you do. You can encourage important developmental activities like this by offering suggestive props—a hairbrush, toothbrush, cup, or spoon—and by being enthusiastic about your child's performances.

COGNITIVE MILESTONES FOR YOUR BABY AT 9 MONTHS

- Explores objects in many different ways (shaking, banging, throwing, dropping)
- Looks for objects when dropped out of sight (like a toy or spoon)
- Begins to imitate and use simple gestures (like lifting arms to be picked up, or shaking head no)
- Begins to use objects correctly (drinking from cup, brushing hair, dialing phone and putting it to their ear)



BRAIN DEVELOPMENT

As you've read in this book, your child's early months are crucial to brain development. The environment they're exposed to and their experiences will have a powerful influence on their brain growth.

You have opportunities every day to nurture your child's brain. Just talking with and encouraging them to say words they're learning will provide intellectual stimulation. You can give them a comfortable and safe environment to explore their world. You can provide them with simple toys to challenge their brain to develop. You can play games with them, sing

songs, and continue reading to them every day to encourage their memory to stretch.

Following are day-to-day suggestions for interacting with your baby. They really can make a difference in your child's life, not only immediately but also as a foundation for brain growth for years to come.

STIMULATING INFANT BRAIN GROWTH: AGE 9 MONTHS

- Talk to your baby during dressing, bathing, feeding, playing, walking, and driving, using adult talk rather than baby talk. Check with your pediatrician if your baby does not seem to respond to sound or if syllables and words are not developing.
- Be attentive to your baby's rhythms and moods. Respond to them when they are upset as well as when they are happy.
- Your baby will be very tuned in to you and to others they encounter. Their ability to respond to your emotions is an important part of this developmental period. By 8 to 9 months of age, they can read your face for emotions, which underscores the need for you to temper strong negative expressions.
- Encourage your baby to play with blocks and soft toys. This helps them develop hand-eye coordination, fine motor skills, and a sense of competence.
- Provide a stimulating, safe environment where your baby can begin to explore and roam.
- Give consistent warm, physical contact—hugging, skin-to-skin, body-to-body contact—to establish your child's sense of security and well-being.
- Read to your baby every day.
- If you speak more than one language, use them all at home with your child.
- Try to be sure your baby is not exposed to events that could upset them or overwhelm them, or anything with content intended for older children or adults. This often means keeping the news or other TV shows off when your baby is in the room. You may forget these shows are on in the background, but the baby will notice scary sounds and pictures.
- Play games like peekaboo and pattycake to stimulate your baby's memory skills.
- Introduce your child to other children and adults.
- Provide toys that are age-and developmentally appropriate, safe, and inexpensive. Toys need not be costly—ordinary household objects are fine. It's much more important to give your child attention by talking, reading, and playing with them than to provide more toys.
- Sing songs that incorporate hand and body movements, repetitive words, etc.
- Teach your baby to wave bye-bye and to nod or shake their head for yes and no.
- Make sure other people who provide care and supervision for your baby understand the importance of forming a loving and comforting relationship with your baby.
- Understand that it's normal for your baby to be uncomfortable at times around people who are not their primary caregivers.
- Spend time on the floor playing with your child every day.

- Choose quality childcare that is affectionate, responsive, educational, and safe. Visit your childcare provider frequently and share your ideas about positive caregiving.

SOCIAL/EMOTIONAL DEVELOPMENT

At times during these months, your child may seem like two separate babies. There's the one who's open, affectionate, and outgoing with you. Then there's another who's anxious, clingy, and easily frightened around unfamiliar people or objects. Some people may tell you your child is fearful or shy because you're "spoiling" them, but don't believe it. Your baby's diverse behavior patterns aren't caused by you or your parenting; they occur because your baby, for the first time, is able to tell the difference between familiar and unfamiliar situations. If anything, the predictable anxieties of this period are evidence of their healthy relationship with you.

Stranger anxiety is usually one of the first emotional milestones your baby will reach. You may think something is wrong when the same child who at 3 months interacted calmly with strangers is now beginning to tense up when they come too close. This is normal, and you need not worry. Even relatives and frequent babysitters once comfortable to them may prompt hiding or crying now, especially if they approach hastily.



The predictable anxieties of this period are evidence of your child's healthy relationship with you.

SOCIAL/EMOTIONAL MILESTONES FOR YOUR BABY AT 9 MONTHS

- Is shy, clingy, or fearful around strangers
- Shows several facial expressions, like happy, sad, angry, and surprised
- Looks when you call their name
- Reacts when you leave (looks, reaches for you, or cries)
- Smiles or laughs when you play peekaboo

At about the same time, they'll become much more clingy about leaving you. This is the start of separation anxiety. Just as they're learning of each object's uniqueness and permanence, they'll also discover there's only one of you. When you're out of sight, they'll know you're somewhere not with them, and this may cause great distress. They'll have little sense of time and they won't know when—or if—you'll come back. Once they're older, their memories of you will comfort them when you're gone, and they can anticipate a reunion. For now, they're only aware of the present, so every time you leave their sight—even when you just go into the next room—they'll fuss and cry. When you leave them with someone else, they may scream as though their heart will break, although this crying will often resolve quickly once you're gone. At bedtime, they may refuse to leave you, and then wake up searching for you in the middle of the night.

Separation anxiety usually peaks between 10 and 18 months and then fades during the last half of the second year. In some ways this phase will be especially tender for both of you; in other ways it can be stressful. After all, their desire to be with you is a sign of their attachment to you—their first and greatest love. The intensity of their feeling as they hurtle into your arms is irresistible, especially when you realize that no one—including this same child, in the future—will ever again think you as perfect as they do at this age. On the other hand, you may feel suffocated by the constant clinging, but also guilty whenever you leave them crying. Fortunately, this emotional roller coaster will eventually subside, along with their separation anxiety. In the meantime, try to downplay your leave-taking as much as possible. Here are some suggestions.

- Your baby is more susceptible to separation anxiety when they're tired, hungry, or sick. If you know you're going to go out, schedule your departure to occur after they've napped or eaten. And try to stay with them as much as possible when they're sick.
- Don't make a fuss over your leaving. Instead, have the person caring for them create a distraction (a new toy, a visit to the mirror, a bath). Then say goodbye and leave quickly.
- Their tears will subside within minutes of your departure. Their outbursts are for your benefit, to persuade you to stay. With you out of sight, they'll soon turn their attention to the person they are with.
- Help them learn to cope with separation through short sessions at home. Separation will be easier when they initiate it. When they crawl to another room (one that's babyproofed), don't follow them right away; wait a couple of minutes in a place where you can see what they're doing. If they fuss, call to them instead of running to them. Gradually they'll learn that nothing terrible happens when you're gone and, just as important, that you always come back when you say you will.
- If you take your child to a sitter's home or a childcare center, don't just drop them off and leave. Spend a few extra minutes playing with them. When you do leave, reassure them you'll be back later.

ACQUAINTING YOUR BABY WITH A SITTER

Is your baby about to have a new babysitter for a few hours? Whenever possible, let your child interact with this new person while you're there. Ideally, have the sitter spend time with them on successive days before being left alone. If this isn't possible, allow an extra hour or two for this get-acquainted period before you leave. The same rules apply to daycare and anytime there will be a new caregiver.

During their first meeting, the sitter and your baby should get to know each other very gradually, using the following steps.

1. Hold the baby on your lap while you and the sitter talk. Watch for clues that your child is at ease before you have the sitter make eye contact with them. Wait until the baby is looking at them or playing contentedly by themselves.
2. Have the sitter talk to the baby while they stay on your lap. The sitter should not reach toward the child or try to touch them yet.
3. Once the baby seems comfortable with the conversation, put them on the floor with a favorite toy, across from the sitter. Invite the sitter to slowly come closer and play with the toy. As the baby warms up to them, you can move back gradually.

4. See what happens when you leave the room. If your baby doesn't notice you're missing, the introduction has gone well. Don't be discouraged, however, if they cry. That is normal and will improve with time.

You can use leisurely introduction with anyone who hasn't seen the child recently, including relatives and friends. Adults often overwhelm babies this age by coming close and making funny noises or, worse yet, trying to take them from their mothers. Intervene when this occurs. Explain to these well-meaning people that your baby needs to warm up to strangers and that they're more likely to respond well if they go slowly.

If your child has a strong, healthy attachment to you, their separation anxiety will probably occur earlier than in other babies, and they'll pass through it more quickly. Instead of resenting their possessiveness during these months, maintain as much warmth and good humor as you can. Through your actions, you're showing how to express and return love. This is the emotional base they'll rely on in years to come.

From the beginning, you've considered your baby a unique person with specific traits and preferences. They, however, have had only a dim notion of themselves as a person separate from you. Now their sense of identity is coming into bloom. As they develop a growing sense of individuality, they'll also become increasingly conscious of you as a separate person.

One of the clearest signs of self-awareness is the way your baby watches themselves in the mirror. Up to about 8 months, they treated mirrors as fascinating objects. Perhaps they thought the reflection was another baby, or maybe a magical surface of lights and shadows. Now their responses will change, indicating they understand one of the images is theirs. Looking at a mirror, they may touch their nose or pull on a stray lock of hair. You can reinforce their sense of identity with mirror games. When you're looking in the mirror together, touch different body parts: "There is Olivia's nose. There is Mommy's nose." Move in and out of the mirror, playing peekaboo with the reflections. Make faces and verbally label the emotions conveyed.

As your child's self-concept becomes more secure, they'll have less trouble meeting strangers and separating from you. They'll also become more assertive. Before, you could count on them to be relatively compliant if they were comfortable. But now, more often than not, they'll want things a particular way. Don't be surprised if they reject certain foods or objects placed in front of them. And now that they're more mobile, you'll find

yourself frequently saying no about things they shouldn't touch. However, even after they understand the word, they may still touch anyway. Just wait—this is only a forerunner of challenges to come.

TOYS APPROPRIATE FOR YOUR 9-MONTH-OLD

(*Note:* Look for toys labeled as appropriate/safe for < 1 year of age.)

- Stacking toys in different sizes, shapes, colors
- Cups, pails, and other unbreakable containers
- Unbreakable mirrors of various sizes
- Bath toys that float, squirt, or hold water
- Large building blocks
- "Busy boxes" that push, open, squeak, and move
- Squeeze toys
- Large dolls and puppets
- Cars, trucks, and other vehicle toys made of flexible plastic, with no sharp edges or removable parts
- Large balls
- Board books
- Music boxes, musical toys, and child-safe digital music players
- Push-pull toys
- Toy telephones

Remember that pets are not toys and supervision should be the rule at all times.

Your baby may also become afraid of objects or situations they used to take in stride. Fears of the dark, thunder, and loud household appliances are common. Later you can subdue these fears by talking about them, but for now, the only solution is to eliminate the source as much as possible: Use a nightlight, vacuum when they're not around, and so on. When you can't shield them from something frightening, try to anticipate their reaction and be close so that they can turn to you. Stay calm as you comfort them, so they understand you are not afraid. If you reassure them when they hear thunder or the roar of a jet overhead, their fear will gradually subside until all they have to do is look at you to feel safe.

TRANSITIONAL OBJECTS

You may still remember your favorite childhood blanket, doll, or teddy bear. Security objects such as these are part of the emotional support system every child needs in the early years.

Your child may not choose a blanket, of course, perhaps preferring a soft toy instead. Chances are your child will make their choice between months 8 and 12, and they'll keep it for years to come. When your child is tired, it will help them sleep. When they're separated from you, it will reassure them. When they're upset, it will comfort them. When they're in a strange place, it will help them feel at home.

These special comforts are called transitional objects. They help children make the emotional transition from dependence to independence. They work, in part, because they feel good: They're soft, cuddly, and nice to touch. They're also effective because of familiarity. This "lovey" has your child's scent on it, and it reminds them of the comfort and security of their room. It makes them feel everything is going to be okay.

Despite myths to the contrary, transitional objects are not a sign of weakness or insecurity, and there's no reason to keep your child from using one. In fact, a transitional object can be so helpful you may want to help them choose one and build it into their nighttime ritual.

You can also make things easier by having two identical security objects. Doing this allows you to wash one while the other is being used, thus sparing your baby (and yourself) a potential emotional crisis and a bedraggled lovey. If your baby chooses a large blanket for a security object, you can easily cut it into two. A baby has little sense of size and won't notice. If your child has chosen a toy instead, try to find a duplicate as soon as possible. If you don't start rotating them early, your child may refuse the second one because it feels too new and foreign.

Parents often worry that transitional objects promote thumb sucking, and in fact they sometimes do (but not always). But it's important to remember that thumb (or finger) sucking is a normal, natural way for a young child to comfort themselves. They'll gradually give up both the transitional object and the sucking as they mature and find other ways to cope with stress. Talk to your pediatrician if your child does not stop thumb sucking or finger sucking by 2 to 4 years of age. Thumb sucking longer than age 4 can impact how their adult teeth line up.

Basic Care

FEEDING

At this age, your baby needs between 750 and 900 calories each day, of which about 400 to 500 should come from breast milk (or formula if breast milk is not available)—approximately 24 ounces (720 ml) a day. Babies receiving any amount of breast milk should also be supplemented with 400 IU (10 mcg) of vitamin D daily. Also, don't be surprised if their appetite is less robust now. Their rate of growth is slowing, and they have many new and interesting activities to distract them.

Starting around 6 to 9 months (once your baby can sit unsupported), your baby can be introduced to soft finger/table foods. Your baby can eat whatever your family is eating as long as it is soft. Great foods to offer include yogurt, oatmeal, banana, mashed potatoes, and roasted or steamed vegetables. Ground beef, shredded chicken, and eggs are excellent sources of protein, as are cottage cheese, yogurt, and avocado. Allow your baby to explore their foods with all five senses and use their fingers to feed themselves. It'll get messy, but that's okay.



As your baby's hand use improves, give them a spoon and let them play with it at mealtimes. Once they've figured out how to hold it, dip it in their food and let them try to feed themselves. Don't expect much in the beginning. More food is bound to find the floor and high chair than their mouth. A plastic cloth under their chair will help minimize cleanup.

Be patient and resist the temptation to take the spoon away. They need the practice as well as the knowledge that you have confidence in their abilities. For a while you may want to alternate bites from their spoon and one that you hold. Once they can consistently find their mouth with a spoon (which might not be until after their first birthday), you may want to fill their spoon yourself to decrease the mess and waste but leave the actual feeding to them.

In the early weeks of self-feeding, things may go more smoothly when they're really hungry and more interested in eating than playing. Having your baby join the family at the table for mealtimes is a great way for them to observe how everyone else eats and encourages establishing an early habit

of family mealtimes. You can also consider having your baby eat most of their meal first and then letting them occupy themselves with healthy finger foods at the table while the others eat.



SAMPLE ONE-DAY MENU FOR YOUR 9-MONTH-OLD

(Please note that portion sizes may vary based on when your infant begins eating solids and how much breast milk or formula they are drinking.)

1 cup = 8 ounces = 240 ml

¾ cup = 6 ounces = 180 ml

½ cup = 4 ounces = 120 ml

¼ cup = 2 ounces = 60 ml

Breakfast

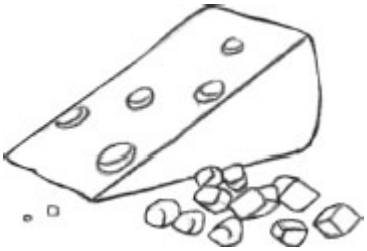
1–2 ounces cereal

½–1 ounce mashed or diced fruit Breast milk or 2–4 ounces formula



Snack

1–2 ounces cooked pureed or diced vegetables

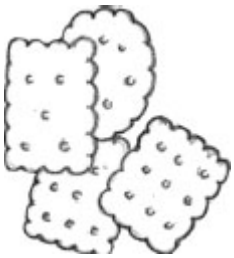


Lunch

1–2 ounces yogurt or cottage cheese, or pureed or diced beans or meat
½–1 ounce cooked pureed or diced yellow or orange vegetables
Breast milk or 2–4 ounces formula

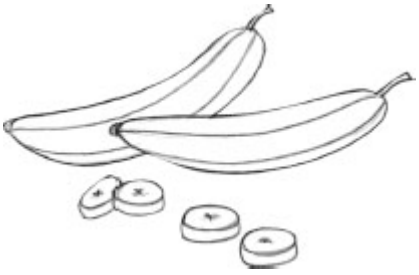
Snack

1 whole-grain cracker or teething biscuit
½–1 ounce fork-mashed or diced soft fruit



Dinner

1–2 ounces diced poultry, meat, or tofu
½–1 ounce cooked green vegetables
1–2 ounces cooked soft whole-grain pasta, rice, or potato
½–1 ounce diced or mashed fruit
Breast milk or 2–4 ounces formula



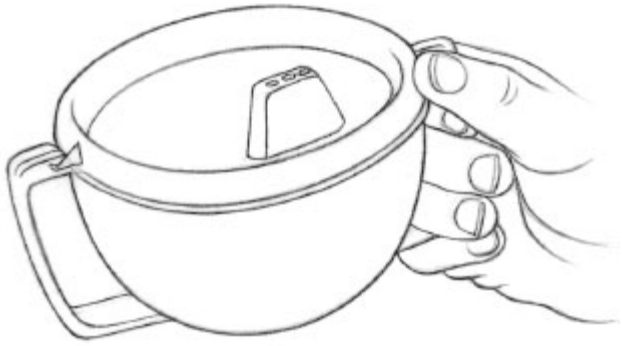
Before Bedtime

Breast milk or 6 to 8 ounces formula, or water (if breast milk or formula, follow with water and brush teeth afterward)

Finger foods can include small pieces of steamed veggies, soft fruit such as bananas, well-cooked whole-grain pasta, small pieces of whole-wheat bread, chicken, scrambled eggs, or whole-grain cereals. Try offering a selection of flavors, shapes, colors, and textures, but always watch your baby for choking. (See *Choking,* page 567.) Also, because they're likely to swallow without chewing, never offer a young child chunks of peanut butter, large pieces of raw vegetables, whole nuts, whole grapes, popcorn, uncooked peas, celery, gum, hard candies, or other hard or round foods that could pose a risk for choking. Always observe your child eating. Choking can happen with hot dogs, grapes, chunks of cheese, or meat sticks (baby-food "hot dogs"), so these always should be cut lengthwise and then into smaller pieces before being fed to a child of this age. It is a good idea to have all family members take a basic life support course, which can be lifesaving during a choking episode.

INTRODUCING A CUP

A straw or sippy cup can be introduced anytime after 6 months. Breastfed babies may transition to a cup more easily than to a bottle. To get started, use a trainer cup with two handles and a snap-on lid with a soft spout, an open cup, or a straw cup. Sippy and straw cups will minimize spillage as your child experiments with different ways to hold (and most likely throw) the cup.



To start, fill the cup with a little water and offer it at one meal a day. Show your baby how to maneuver and tip it to their mouth so that they can drink. Don't become dismayed, however, if they treat it as a plaything for

several weeks; most babies do. Just be patient until they're able to get most of the liquid down their throat or out of the straw without it dribbling down their chin or the cup flying around the room. Once they get the hang of the cup, put breast milk or formula in the cup to get them used to drinking milk from something other than a bottle.

There are advantages to drinking from a cup: namely, improved hand-to-mouth coordination, and preparation for the bottle weaning process. Even under the best circumstances, the transition to using a cup may not take place overnight. Six months may pass before your baby takes all their liquid from a cup. Even so, you can start the process and proceed gradually, letting their interest and willingness guide you. You'll probably find it easiest to start with the midday feeding first. Once they're adjusted to this, try doing the same in the morning. The bedtime feeding probably will be the last, and for good reason: Your baby has become accustomed to this nighttime comfort, and it will take them time to give it up. If they're sleeping through the night and not waking up hungry, they don't physically need the extra nourishment from bedtime breast-or bottle-feeding. In this case, you might break the habit in stages, first by substituting water instead of milk for the bedtime bottle/feeding and then switching to a drink of water from a cup. Alternatively, just move the bedtime bottle/feeding earlier so that it's not associated with bedtime but instead is an evening snack.



During this process, you may be tempted to put milk in their bottle to help them fall asleep, but it's not a good idea for several reasons. If they fall asleep while feeding, the milk will pool around their incoming teeth, and cause them to decay—a condition known as early childhood caries (formerly called baby bottle tooth decay). To make matters worse, drinking while lying flat on their back can contribute to their risk for middle ear infections.

Another disadvantage to prolonged bottle-feeding is that the bottle can become a security object, particularly if your baby keeps it beyond about age 1. To avoid this, don't let them carry or drink from a bottle while playing. Restrict the use to feedings when they're sitting down or being held. At all other times, give them a cup. If you never allow the bottle to go with them, they won't realize bringing it is even an option. Don't give in once this decision is made; be consistent or they may get confused and demand a bottle long after they have "officially" been weaned.

SLEEPING

At 9 months, your baby probably still takes two naps, midmorning and midafternoon. They're also likely to sleep as much as ten to twelve hours at night without needing night feeding. However, as their separation anxiety intensifies in the next few months, they may start to resist going to bed, and they may wake up more often looking for you.

During this difficult period, you may need to experiment to find strategies that help your baby sleep. Some children go to sleep more easily with the door open (so they can hear you); others develop consoling habits, such as sucking their thumb or rocking. White noise can also be especially helpful, as long as the volume is quiet so as not to damage your baby's sensitive hearing.

To help this stage pass more quickly, don't do anything that will reward your baby for calling you in the middle of the night. Go to make sure they're all right and tell them you're nearby if they really need you, but don't turn on the light, rock them, or walk with them. You might offer them a drink of water, but don't feed them, and certainly don't take them to your bed. If they're suffering from separation anxiety, doing that will only make it harder for them to return to their crib.

When you do check on them, make them as comfortable as possible and confirm they aren't sick. Some problems, such as ear infections or croup, can come on suddenly at night. Once you're sure there's no sign of illness, check their diaper, changing it only if they've had a bowel movement or if their diaper is uncomfortably wet. Do the change as quickly as possible in dim light and then settle them back in their crib and on their back. Before leaving, whisper a few comforting words about how it's nighttime and time to sleep. If they still cry, wait a few minutes, then go back in and comfort them for a short time. This period can be extremely difficult for parents. After all, it's emotionally and physically exhausting to hear your child cry, and you'll probably respond with a combination of emotions. But remember, their behavior is not deliberate. Instead, they're reacting to natural anxieties and stresses. If you stay calm and follow a consistent pattern each night, they'll soon be putting themselves to sleep. Many parents will purchase a wireless baby monitor to watch and hear their baby from their own room. There are many different products available, so research them all before purchasing one. Doing so may make life much easier for both of you. (See Chapter 38 for more information on sleep.)

TEETH

By this age your baby probably has at least one or two teeth, if not more. Don't worry if they don't; it's normal for babies as old as 12 months to still have no teeth. As soon as they do, however, it's time to start brushing with a soft toothbrush and a tiny bit of fluoride toothpaste, roughly the size of a grain of rice. They may or may not enjoy this experience. If they resist brushing, have them lie face-up on your or another person's lap while you make a game of gently cleaning each tooth. Brush their teeth at least once a day, front and back, ideally close to bedtime, since once you're done they should not eat or drink anything other than water. Sugar at night will undo all your hard work! You can also make their first dental appointment. Your child's first dentist visit should occur six months after the first tooth emerges or at 1 year of age, whichever comes first. The dentist may apply fluoride varnish to protect their new teeth. Your child's pediatrician may check the teeth and apply fluoride at well-child exams, but this does not substitute for a dental appointment.

Behavior

DISCIPLINE

Your baby's desire to explore is almost impossible to satisfy. As a result, they'll want to touch, taste, and manipulate everything they can get into. They're bound to find their way into places and situations that are off-limits or dangerous. Although their curiosity is vital to their overall development and shouldn't be discouraged unnecessarily, they can't be allowed to jeopardize their own safety or damage valuable objects. Whether they're investigating the burners on your stove or pulling up your flowers, you need to help them stop these activities.

Keep in mind that the way you handle these early incidents will lay the foundation for future discipline. Learning not to do something they very much want to do is a major first step toward self-control. The better they learn this lesson now, the less you'll have to intervene in years to come.

As we suggested earlier, distraction can usually deal effectively with undesirable behavior. Your baby's memory is still short, and you can shift their focus with minimal resistance. If they're headed for something they shouldn't do, you don't necessarily have to say no. Overusing "no" will blunt its effect. Instead, pick them up and direct them toward something they can play with. Look for a compromise that will keep them interested and active without squelching their curiosity. Never scream or yell at, shake, or hit your baby.

You should reserve your serious discipline for situations where your child's activities can expose them to real danger, like playing with electric cords. This is the time to say no firmly and remove them from the situation. Don't expect them to learn from one or two incidents. Because of their short memory, you'll have to repeat the scene over and over before they recognize and respond to your directions. Never depend on them to keep themselves away from danger, no matter how often you've corrected them. Find a spot where they can play safely—a zone where everything is safe and you don't have to say no.

To improve your discipline's effectiveness, consistency is critical. Make sure everyone taking care of your baby understands what the child is and isn't allowed to do. Keep rules to a minimum, preferably limited to

potentially dangerous situations. Then make sure your baby hears "no" every time they stray into forbidden territory.

Immediacy is also important for good discipline. React as soon as you see your baby heading into trouble, not five minutes later. If you delay, they won't understand the reason you're reprimanding and the lesson will be lost. Likewise, don't be too quick to comfort after scolding. Yes, they may cry, sometimes as much in surprise as distress; but wait a minute or two before reassuring them. Otherwise, they won't know whether they really did something wrong.

In Chapter 10, we'll describe in detail the importance of not spanking or striking your child in any way when disciplining. No matter the age or behavior, physical punishment is always an inappropriate response. Spanking only teaches a child to act aggressively when upset. Yes, it may relieve your own frustration temporarily, and for the moment you actually might believe it did some good. It may stop a particular behavior in the short term, but it is *not* an effective way of disciplining your child in the long term, and it certainly doesn't teach alternative ways to act. It may lead to physical injury, it undermines effective communication between you and your baby, and it weakens their own sense of security.

What's the alternative? The American Academy of Pediatrics recommends using time-outs and time-ins when your child is older, instead of spankings—putting a misbehaving child in a quiet place for a few minutes, away from other people, TV, electronics, or books. Parents of children with special healthcare needs may find it helpful to consult with a specialist to better understand their child's unique physical, emotional, and cognitive abilities. In some cases, consultation with a developmental-behavioral pediatrician may be helpful. (For more information about time-outs and discipline, see page 280.)

As you refine your own disciplinary skills, don't overlook the importance of responding positively to your baby's *good* behavior. This reaction is more important for their learning self-control. If they hesitate before reaching for the stove, notice their restraint and tell them how pleased you are. Give them a hug when they do something nice for others. As they grow, their good behavior will depend, in large part, on their desire to please you. If you

make them aware now how much you appreciate the good things they do, they'll be less likely to misbehave to get your attention.

Some parents worry about spoiling a child this age by giving them too much attention, but you needn't be concerned. At 9 months, your baby still has a limited ability to be manipulative. You should assume that when they cry, it's not for effect but because they have real needs not being met.

These needs gradually become more complex, and as they do, you'll notice more variation in their cries—and in how you react to them. You'll come running to the shattering wail of something seriously wrong. By contrast, you may finish what you're doing before you answer the shrill "Come here, I want you" cry. You'll probably also recognize a whiny, muffled cry meaning roughly "I could fall asleep now if everyone would leave me alone." By responding appropriately to the hidden message behind your baby's cries, you'll let them know their needs are important but that response comes only to deserving calls.

Incidentally, there probably will be times when you won't be able to figure out why your baby is crying. In these cases, they may not know themselves. The best response is comfort from you, combined with making sure they are safe and allowing whatever consoling techniques they choose. Try holding them while they cuddle their favorite stuffed animal or special blanket, or play a game or read a story with them. Both of you will feel better when they're cheered up. Remember, their need for attention and affection is just as real as their need for food and clean diapers.

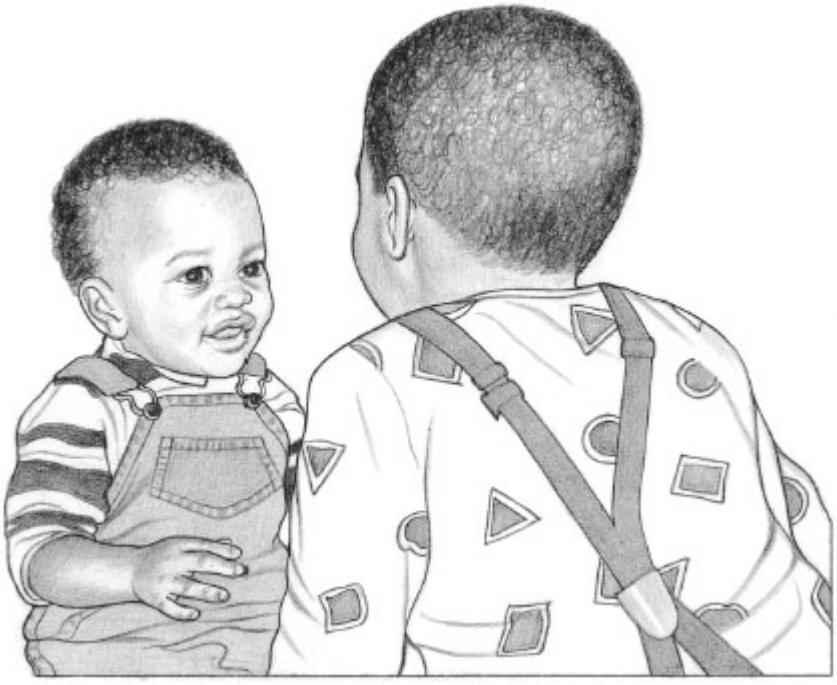
SIBLINGS

As your baby becomes more mobile, they'll be better able to play with siblings, and those brothers and sisters will usually be glad to cooperate. Older children, particularly 6- to 10-year-olds, often love to build towers for their baby sibling to destroy. Or they'll lend a finger to a baby learning to walk.

However, while mobility can turn your baby into a more active playmate for their brothers and sisters, it also will make them more likely to invade their siblings' private territory. This may violate an older child's budding sense of ownership and privacy, and it can present serious safety hazards for the baby, since older children's toys often contain small, easily swallowed

pieces. You can ensure everyone is protected by giving older siblings a place where they can keep and play with their belongings without fear of a "baby invasion."

Also, now that the baby can reach and grab almost everything in sight, sharing is another issue. Children under 3 aren't capable of sharing without adult prodding and, in most cases, direct intervention. An adult should always be watching when children are playing together. As much as possible, try to sidestep the issue and encourage tandem play, each child with their own toys. When they do play together, suggest looking at books or listening to music, rolling a ball back and forth, playing hide-and-seek games, or other activities requiring limited cooperation. Remember that older siblings can become jealous, and they need attention, too.



A baby this age can be a wonderful playmate to their siblings.

■ YOUR BABY AT 9 MONTHS OLD CHECKLIST ■

Immunization Update

The third hepatitis B vaccine will be given between 6 and 18 months of age. In addition, a flu vaccine will be given if it is flu season. A COVID-19 vaccine may be recommended as needed; check with your pediatrician and the Centers for Disease Control and Prevention.

Safety Check

CAR SAFETY SEATS

- Children should remain in rear-facing car seats as long as possible, usually more than 2 years, so long as they are the right size for the seat (this information should be printed on the side of the car safety seat). Car safety seat advice is available from certified child passenger safety technicians in your area; you can find one at cert.safekids.org (click on "Find a Tech").
- Never leave your baby alone in the car when you're not in it, not even for a short time. Some cars have alarms that remind parents of this. You can also leave an item like a teddy bear in the front seat to remind you of the baby in the back, or you can put something you need (like your wallet, purse, or work ID) in the backseat to prompt you to check that it is empty.
- Buckle the baby into an approved, properly installed car safety seat before you start the car. It's important that properly installed seats are in *all* cars your baby will ride in, including those belonging to childcare providers, sitters, and grandparents. (There are other elements of car safety seats you need to be aware of, so for further information, see page 397 in Chapter 18.)

FALLS

- Use gates at the top and bottom of stairways, and in doorways to rooms not babyproofed.
- Do not allow an infant to climb on a kitchen chair, as the chair may tip over, resulting in head injury and possible leg or arm fractures.
- Do not use a baby walker. A stationary activity center is a much safer choice.

FURNITURE

- Ensure that any furniture or electronics your baby can reach are secured to the wall to prevent tipping. The manufacturer should provide a strap and anchor to make this possible, or you can pick up a kit at the hardware store or order one online.

BURNS

- Never smoke or carry hot liquids or foods near your baby or while holding your baby. When you must handle hot liquids or foods, put your baby in a safe place such as a crib, play yard, or high chair.
- Never leave containers of hot liquids or foods near the edges of tables or counters or on low surfaces, such as coffee tables.
- Do not allow your baby to crawl around hot stoves, floor heaters, or furnace vents.

DROWNING

- Never leave your baby alone in a bath or around containers of water, including buckets, wading pools, swimming pools, sinks, or open toilets. Even a small amount of water can be a danger to a small child. Remove all water from containers immediately after use. If you have a swimming pool, install a four-sided fence at least 4 feet high (1.2 m) that completely separates the house from the pool.

POISONING AND CHOKING

- Never leave small objects on or near the floor where your crawling baby could find them. You should look at the floor from their level and crawl around to visualize what they see. Sometimes medications or other small items are dropped unknowingly.
- Have the Poison Help number nearby in case of an emergency (1-800-222-1222).
- Assess your windows and doors for peeling paint so that your child doesn't eat the paint chips and possibly get lead poisoning.
- Do not give your baby hard pieces of food, or any soft foods that could become lodged in their airway, such as chunks of hot dogs or uncut

grapes.

- Store all medicines and household cleaning products high and out of their reach. A lockbox can be used to securely store any substances that could be dangerous for your baby.
- Use safety latches on drawers and cabinets that contain potentially dangerous objects. It is best to store these items in high, out-of-reach, locked cabinets if possible.
- Make sure that your baby can't become entangled in electrical cords or window shade cords.
- Make sure that all places your child visits, such as their grandparents' house, follow these same guidelines.

CHAPTER 10

Your Child at 12 Months



Your child has turned 1 and has become a toddler, crawling vigorously, starting or trying to walk, even talking a little; that is a milestone in itself. As they become more and more independent, the days of their unquestioning adoration and dependency on you are numbered. You should have a good idea of their personality by now and know their likes and dislikes as you enter this exciting time of their rapidly increasing abilities. Mobility changes their world and yours in an instant.

This might make you feel both sad and excited—not to mention a little nervous. At this age you may also see more assertion of independence. If you take something away from your child, they may scream in protest. If

you pull them away from a swinging door, they may ignore your warnings and quickly return. And if you make one of their favorite meals, they may reject it unexpectedly. These are early experiments with control—testing your limits and discovering their own.

Exploring the boundaries of established rules and their own physical and developmental limits will occupy much of the next few years. Fortunately, this testing begins slowly, giving both of you time to adjust to their emerging independence. As a toddler just learning to walk, they'll be most interested in finding what the world looks like from an upright position. This curiosity, however, is bound to lead into off-limits situations. They're not consciously trying to be mischievous. They still count on you to show them what's okay, and they'll look to you frequently for reassurance and security.

Their confidence on their feet will lead to more assertiveness. By 18 months, "no" will probably be their favorite word, and as they near age 2, they may throw a tantrum when asked to do something against their will.

Your toddler may also show more signs of possessiveness with belongings and people close to them. Seeing you pick up another baby might elicit tears. If another child grabs a toy, a strenuous tug-of-war might ensue. In a few months, as their vocabulary grows, "mine" will become another favorite word.

For now, their vocabulary is limited, although expanding rapidly. They understand much of what you say, provided you speak clearly and simply. Hard as it is to believe, in a year you'll have running conversations. This is also a time to detect speech problems, which can signal hearing loss or other issues.

Growth and Development

PHYSICAL APPEARANCE AND GROWTH

By the end of their first year, a child's growth rate slows. From now until their next growth spurt (later in adolescence), their height and weight should increase steadily, but not as rapidly as before. As an infant, they may have gained 4 pounds (1.8 kg) in four months or less, but during the entire second year, they'll probably add 3 to 5 pounds (1.4–2.3 kg). Continue to plot their measurements every few months on the growth charts (see

Appendix) to ensure they're following the normal growth curve. As you'll see, there's now a broader range of normal than at earlier ages.

Your child's head growth also will slow dramatically. They'll probably gain only about 1 inch (2.5 cm) in head circumference this entire year, but by age 2 they'll have about 90 percent of their adult head size.

Your toddler's looks, however, will probably change more than their size. At 12 months, they still look like a baby. Their head and abdomen are still their largest body parts. Their belly sticks out when they are upright, and their buttocks, by comparison, seem small—at least with a diaper off. Their arms and legs are relatively short and soft, rather than muscular, and their face has softly rounded contours.

All this will change as they become more active, as muscles develop, and as baby fat is trimmed away. Their arms and legs will lengthen, and their feet will start to point forward as they walk, instead of to the sides. Their face will become more angular and their jawline better defined. By their second birthday, it will be hard to remember how they looked as an infant.

MOVEMENT

If your child hasn't started walking yet, they should within the next six months. In fact, perfecting this skill will be the major physical accomplishment of this year. If they're already walking, it may take another month or two before they can stand and move smoothly without support. And don't expect them to get up how you would. They'll likely spread their hands on the floor, straighten their arms, lift their bottom up as they pull their legs under them, and then straighten their legs and waist and be off.

In the beginning, they really are toddling. Instead of striding, they'll plant their legs wide apart, toes pointing outward (but in some cases inward), and lurch from side to side as they move forward. As slow and painstaking as it may seem at the beginning, they'll quickly pick up speed. Don't be surprised if you're soon running to keep up with them.

An inevitable part of toddling, of course, is falling. Uneven surfaces will be a challenge for some time. They'll trip on even small irregularities—a wrinkle in the carpet or an incline to another room. It will be months before they can handle stairs or turn corners without falling.

They won't use their hands much while walking. While arms are used for balance (held at shoulder level in the "high guard" position), using hands to carry, play, or pick up a toy will be out of the question for a time. After walking for two to three months, however, they'll have the entire process under control. Not only will they be stooping to pick up and carry a toy across the room, they'll also be able to push or pull things, step sideways or backward, and even throw while walking.

About six months after their first steps, your child's walking style will become more mature. Their feet will be close together as they move, making their gait smoother. With your help they may even walk up and down stairs, though if alone, they'll crawl up and back down. They'll soon take their first short, stiff runs straight ahead, saving running until probably the following year. By their second birthday, your child will be moving with great efficiency. To think—just a year ago they could barely walk!

MOVEMENT/PHYSICAL DEVELOPMENT MILESTONES FOR YOUR BABY AT 12 MONTHS

- Pulls up to stand
- Walks, holding on to furniture or hands
- Drinks from a cup without a lid, as you hold it
- Picks things up between thumb and pointer finger, like small bits of food

Hand and Finger Skills

Given all the large motor skills your 1-year-old is mastering, it's easy to overlook the subtle changes with their hand skills, using them singly or together, and their hand-eye coordination. These developments allow them more control and precision as they examine objects and try new movements. They also will greatly expand their exploration of the world around them.

At 12 months, it's a challenge to pick up very small objects between their thumb and forefinger, but by 18 months, this task is simple. Watch how they manipulate small objects at will, exploring all their attributes. Some of their favorite games might include:

- Building towers of several blocks, then knocking them down
- Covering and uncovering boxes or other containers
- Picking up balls or other objects in motion
- Turning knobs and pages
- Putting round pegs into holes
- Scribbling and painting





These activities not only develop hand skills, but also teach your child spatial concepts, such as “in,” “on,” “under,” and “around.” As they near 2

years of age and their physical coordination improves, they'll try more complex games, such as:

- Folding paper (if you show them how, while supervised)
- Putting large square pegs into matching holes (which is more difficult than it is with round pegs, because it involves matching angles)
- Taking toys apart and putting them back together
- Making shapes from clay

LANGUAGE/COMMUNICATION DEVELOPMENT

Early during this period, your toddler will suddenly seem to understand everything you say. You'll announce lunchtime and they'll be waiting by their high chair. You'll tell them you've lost your shoe and they'll find it. At first, their rapid response may seem unusual. Did they really understand, or was it just a coincidence? Rest assured, it's not your imagination. They're developing their language and comprehension skills on schedule.

This giant developmental leap will probably alter the way you talk to them and converse with others when they're around. You may edit conversations within their earshot ("Should we stop for i-c-e c-r-e-a-m?"). At the same time, you'll probably feel more enthusiastic about talking to them, because they are so responsive.

The best thing you can do to support your child's language development is to talk and read with them. The more words your child hears, the more they will come to understand. Talk with your child throughout the day. Describe what is happening and what you are doing together. Answer your child's questions and ask your own so that they can "answer" you. Have conversations and follow your child's interests. Remember to turn off background television and put away phones or tablets, which tend to get in the way of these important conversations.

You no longer need high-pitched singsong monologues to get their attention. Instead, try speaking slowly and clearly, using simple words and short sentences. Teach them the correct names for objects and body parts and stop using cute substitutes such as "piggies" when you really mean "toes." By providing a good language model, you'll help them learn to talk with a minimum of confusion. Reading books together is a wonderful way

to talk, take turns, and expose your child to new words. Children's books have words that we don't use in everyday conversation, and they provide a great way to expose your child to more language. Encourage your child to hold the book, turn the pages, and lead you in what they want to look at and talk about. By talking about the pictures and asking your child questions, you will have rich dialogue that helps your child learn.

LANGUAGE/COMMUNICATION MILESTONES FOR YOUR CHILD AT 12 MONTHS

- Waves "bye-bye"
- Calls a parent "mama" or "dada" or another special name
- Understands "no" (pauses briefly or stops when you say it)



With time and the help of their gestures, you'll learn to understand them. Don't make fun of their language mistakes or rush them. Give them the time they need to finish what they want to say, and then answer with correct pronunciation ("That's right, it's a ball!"). If you're patient and responsive, their pronunciation will improve.

At first, they'll make versions of whole sentences by combining single words with gestures or grunts. They might point and say "ball"—their way of telling you they want the ball rolled to them. Or they might shape a question, saying "Out?" or "Up?" and raising their voice at the end. By the time they reach 24 months, they'll begin to use two-word sentences. They'll combine verbs or prepositions with nouns to make statements, like "Ball up" or "Drink milk," and questions, like "What's that?" You can help by extending the words and phrases they say to demonstrate what they mean. For example, after they say "Ball?" and gesture for it, you can say, "You want the ball? Okay, I'm rolling the ball to you. Here is the ball."

COGNITIVE DEVELOPMENT

Language, however, is just one sign of your toddler's growing capabilities. They're also building a more complete mental model of the world, including two critical ideas: object permanence and cause and effect. Starting around 6 months of age, your baby learned that things still exist when they're out of sight. You've already been playing games like peekaboo or covering-uncovering an object that build on this skill. Now, however, your toddler can hold this knowledge for longer periods of time, leading to fun activities like games of hide-and-seek as well as to more frustrating developments like prolonged crying at nap time or daycare drop-offs. Whether joyful or tearful, it's inspiring to appreciate how profoundly this development affects your child's worldview.

Exploring cause and effect provides another whole realm of delight and frustration at this age. When your toddler drops toy after toy (or food after food) off their high chair, they're watching to see if it falls to the floor every time and what happens next. Does it bounce? Roll? Splatter? Do you pick it up? Do you laugh? Does it make you angry? Do you give it back? Recognizing your toddler as a very small scientist conducting experiments can help you decide how you want to respond. You'll also want to set some boundaries around what experiments are okay and which are not. Your toddler will delight in the power to turn lights on and off, but does that amuse you or give you a headache? Bouncing a ball off the wall may be harmless fun, but pulling the family pet's tail, not so much. Your response to

these behaviors is also an experiment. Do you encourage them, or do you redirect your child toward another behavior you'd rather see instead?

COGNITIVE MILESTONES FOR YOUR BABY AT 12 MONTHS

- Puts something in a container, like a block in a cup
- Looks for things they see you hide, like a toy under a blanket





TOYS APPROPRIATE AT 12 MONTHS OF AGE

- Board books with large pictures, simple stories
- Blocks
- Nesting toys
- Simple shape sorters and pegboards
- Toys that encourage make-believe play (toy lawnmower, kitchen sets, brooms)
- Digging toys (bucket, shovel, rake)
- Dolls of all sizes
- Cars, trucks, trains
- Bath toys (boats, containers, floating squeak toys)
- Balls of all shapes and sizes (except balls that could possibly fit in the mouth)
- Push and pull toys
- Outdoor toys (slides, swings, sandbox)

- Connecting toys (links, large stringing beads, S-shapes)
- Stuffed animals
- Children's musical instruments
- Large crayons
- Toy telephone
- Unbreakable mirrors of all sizes
- Wooden spoons, baskets, cardboard boxes, and other similar safe, unbreakable items your child finds around the house (e.g., pots and pans)

STIMULATING CHILD BRAIN GROWTH: 12 MONTHS

- Your child learns through social interactions and play. Learning happens in the course of safe, stable, and nourishing relationships. If a child is fearful all the time, very little new learning will occur.
- Be consistent and predictable; establish routines for mealtimes, naps, and bedtime.
- Help your child learn more words by naming everyday objects and activities. "We're having breakfast now. This is a bowl. I'm going to pour cereal in the bowl for you to eat."
- Choose toys that encourage creativity. By selecting simple toys, you'll encourage your child to develop their own imagination.
- Encourage playing with blocks and soft toys, which helps your child develop hand-eye coordination, fine motor skills, and a sense of competence.
- Give consistent, warm, physical contact—hugging, skin-to-skin, body-to-body contact—to establish a sense of security and well-being. Avoid using food as a reward; instead verbally praise and hug your child for good behavior.
- Be attentive to your child's rhythms and moods. Respond to them when they are upset as well as happy. Be encouraging and supportive, with firm discipline as appropriate, but without yelling or hitting; provide consistent guidelines.
- Talk (using adult talk) or sing to your child during dressing, bathing, feeding, playing, walking, and driving. Speak slowly and give time for your child to respond. Listen to what your child says and expand on your child's phrases to make more complete sentences. For example, when your child points and says, "Milk?," you might say, "That's right, that is milk. Do you want some milk? We can put it in a blue cup."
- Read to your child every day. Choose books that encourage touching and pointing to objects, and read rhymes, jingles, and nursery stories. Follow your child's lead, letting them turn the pages. Ask questions about the pictures and talk together about what you see.
- If you speak more than one language, use all of them at home. Speak with your child in whatever language(s) you feel comfortable in.
- Play fun, calm, and melodic music for your child.
- Listen to and answer your child's questions. Ask questions to stimulate language development, thinking, and decision-making processes.
- Begin to explain safety in simple terms; for example, feeling the heat from the stove without touching it teaches the meaning and danger of hot objects.

- Make sure other people who provide care and supervision for your child understand the importance of forming a loving and comforting relationship with them and following your discipline expectations (if you are a "no hit" household, other caregivers need to be willing to comply and commit to that).
- Draw together.
- Help your child use words to describe emotions and to express feelings such as happiness, joy, anger, and fear. Describe your own emotions with words, and help your child describe their feelings ("glad," "mad," "sad").
- Spend time on the floor playing with your child every day.
- Choose quality childcare that is affectionate, responsive, educational, and safe. Visit your childcare provider frequently and share your ideas about positive caregiving.
- Spend time in nature where possible. Nature time has been shown to improve memory and attention span.
- Avoid screen time except to communicate with friends and relatives.

SOCIAL/EMOTIONAL DEVELOPMENT

Your toddler is now becoming their own person with their individual likes and dislikes. They are learning and understanding new things daily as they explore the world around them. While they know others exist, they do not yet understand that others think and feel. Your child still assumes everyone is around to please and serve them and everything belongs to them. This view of the world is very self-centered or egocentric, and that is okay at this age. They will learn from the reactions and responses caregivers, other children, and even pets provide. It's important to help keep them safe, while letting them play and explore and problem-solve. Your child is always watching you and everyone else in their surroundings and will model behavior and response (both good and bad) while learning from each experience. Although you should begin showing them how to take turns and share, it will be a while before they master this concept. The same is true for many unwanted behaviors like throwing or hitting. Show them that we throw balls, not trucks, and that we pet the dog nicely and don't hit. As long as you are consistent and model appropriate behavior, they will learn.



At this age your toddler will also swing between independence and clinginess, and you may not know which to expect. Take it slowly in new situations as you let them warm up and build confidence. Brief separations, even while they are playing alone in a safe space in your home, may also help your toddler become more independent. When you need to, leave with a kiss and hug and explain that you will always return. When you do return, greet them enthusiastically, with excitement and your full attention. As they learn and understand that you will always return, they will feel more secure. This will help prepare them for toddler or preschool programs in their future.

SOCIAL/EMOTIONAL MILESTONES FOR YOUR BABY AT 12 MONTHS

- Plays games with you, like pattycake
- Demonstrates increasing independence
- Begins to show defiant behavior—particularly with adults with whom your child feels comfortable
- Has increasing episodes of separation anxiety toward midyear, which then fade

Your 1-year-old can now walk and do things themselves. They have the power to move away from you and test their new skills. At the same time, they're not entirely comfortable with the idea they're an individual, separate from you and everyone else. Especially when they're tired, sick, or scared, they'll want you to comfort them and fend off loneliness.

It's impossible to predict when they'll turn their back and when they'll come toward you. They may seem to change from one moment to the next, or they may seem mature and independent for several days before suddenly regressing. You may feel mixed reactions to this as well. While there are moments it feels wonderful to have your baby back, there are bound to be others when their fussing and whining is the last thing you need. The best way to help them regain composure is to give them attention and reassurance when they need it.

Basic Care

FEEDING AND NUTRITION

You'll probably notice a sharp drop in your toddler's appetite after their first birthday. They are suddenly a picky eater, turn their head after a few bites, or resist coming to the table. It may seem they should be eating more, being so active, but their growth rate has slowed, and they don't require as much food.

Your toddler needs about 1,000 calories a day to meet their needs for growth, energy, and good nutrition. A 1,000-calorie diet is not a lot of food for an adult, but your child will do just fine, dividing it among three meals and two snacks a day. Don't count on them keeping this eating schedule, however. The eating habits of toddlers are erratic and unpredictable. They may eat everything in sight at breakfast but almost nothing else for the rest of the day. Or they may eat only their favorite food for three days in a row, and then reject it entirely. They may eat 1,000 calories one day, then noticeably more or less on subsequent days. Your child's needs will vary depending on their activity level, growth rate, and metabolism.

Mealtimes should not turn into sparring matches with your child. They're not rejecting you when they turn down food, so don't take it personally. Besides, the harder you push, the less likely they are to eat.

Instead, offer them a selection of nutritious foods at each sitting, and let them choose. Vary the tastes and consistencies as much as you can.

If they reject everything, you might try saving the plate for when they're hungry. However, don't allow them to fill up on cookies or sweets after refusing their meal, thereby fueling their interest in empty-calorie foods (foods high in calories, low in nutrients). One strategy is to offer a non-preferred food first, and then after a few bites of that food more-preferred foods can be offered. Hard as it is to believe, your child's diet will balance out over several days if you make a range of wholesome foods available and don't pressure them to eat a particular one at any given time. When parents try to control how much a toddler eats by forcing them to clean their plate, the child may not learn to self-regulate their hunger. This can lead to continued eating while ignoring signs of being full and can lead to obesity. It can also lead to toddlers refusing to eat, and sometimes that results in poor weight gain.

Even when your child refuses a food, continue to offer it regularly. They will eat the same thing for a while and then switch to something else. Yet, if you stop offering a specific food (like broccoli) or food group (like veggies), they may forget all about it and stop eating it, and that is how "picky" eaters are born. As long as they keep having access to it, they will eventually go back to it.

Your toddler needs foods from the same four basic nutrition groups that you do:

1. Proteins: meat, fish, poultry, eggs, beans, nut butters, tofu
2. A source of calcium: dairy products, beans, dark green vegetables, seeds
3. Fruits and vegetables
4. Whole-grain cereal, bread, and pasta; potatoes; rice

When planning your child's menu for this age, note that cholesterol and other fats should not be restricted. They are very important for normal growth and development; in particular, healthy fats are essential for brain development at this age. Babies and young toddlers should get about half of their calories from fat. You can gradually decrease fat consumption once

your child has reached age 2 (and to about one-third of daily calories by ages 4 to 5). While you should not forget that childhood obesity is a growing problem, children during this period need dietary fat. However, all fats are not created equal. Some are healthy fats, others unhealthy. Healthy fats like those found in avocado, olive oil, fish, nut butters, and dairy are good for your child (and you). Unhealthy fats such as those found in fried foods, fast foods, and many packaged foods are not healthy at any age. If you keep your child's daily caloric intake at about 1,000 calories, you needn't worry about overfeeding and risk of weight gain.



Adult eating preferences are developed now.

By their first birthday, your child should be able to handle most foods served to the rest of the family—but with a few precautions. First, be sure the food is cool enough to not burn their mouth. Test the temperature yourself, since they'll dig in without consideration. Also, don't give heavily spiced, salted, buttered, or sweetened foods. These additions mask the natural taste of foods and may be harmful to your child's long-term health. Young children seem to be more sensitive than adults to these flavorings and may reject heavily spiced or seasoned foods.

Your little one can still choke on chunks of food that are large enough to plug their airway. Children don't learn to chew with a grinding motion until they're about 4 years old. Make sure anything you give is mashed or cut into small, easily chewable pieces. Never offer whole nuts, whole grapes (cut in half or quarters is okay), cherry tomatoes (unless cut in quarters), raw carrots, popcorn, seeds (e.g., shelled pumpkin or sunflower seeds), whole or large sections of hot dogs or meat sticks, hard or gummy candies (e.g., jelly beans or gummy bears), or chunks of peanut butter (thinly spread peanut butter on a cracker or bread is okay). Hot dogs and carrots in particular should be quartered lengthwise and sliced into small pieces. Also make sure your toddler eats only while seated and supervised by an adult. Although they may want to do everything at once, eating "on the run" or while talking increases the risk of choking. Teach them as early as possible to finish a mouthful before speaking.

Around their first birthday, your toddler should drink liquids from a cup. They'll need less milk now, since they'll get most of their calories from solid foods. Many companies offer "toddler formulas," but by this age children no longer need formula, just a healthy, varied diet.

BREASTFEEDING PAST 1 YEAR

The AAP recommends babies be breastfed in combination with the introduction of complementary foods until age 1 and supports continuation of breastfeeding until age 2 or for as long as mutually desired by mother and child. Many babies continue to breastfeed well into toddlerhood. There is no need to wean your child from breastfeeding at 1 year. Your toddler may continue to want to nurse several times during the day, and this is normal. As children become more engaged in their surroundings, they will naturally nurse less and less. Feedings around sleep times are usually the last to go (remember to brush the teeth after these feedings). Babies will still be reaping the benefits of breastfeeding past their first birthday. Breast milk continues to be a good source of nutrition and does not lose its disease-fighting properties.

DIETARY SUPPLEMENTS. The American Academy of Pediatrics recommends that toddlers consume at least 600 IU (15 mcg) of vitamin D a day. Since most children's diets don't supply this much vitamin D, many pediatricians recommend a daily vitamin supplement. Otherwise, if you provide selections from each of the four basic food groups and let your child

experiment with a wide variety of tastes, colors, and textures, they should get a balanced diet with plenty of vitamins. High doses of some vitamins, like the fat-soluble vitamins (A and D), may even pose risks; they're stored in the tissues when consumed in excess, and at very high levels could make your child sick. Large doses of minerals, such as zinc and iron, taken over time can have negative effects as well. Always discuss vitamins and supplements with your pediatrician to ensure your toddler is getting what they need.

For some children, however, supplementation may be important. Your child may need some vitamin and/or mineral supplementation if your family's dietary practices limit the food groups available. For example, if your household is strictly vegetarian, or one with no eggs or dairy products, your child may need supplements of vitamins B_{12} and D as well as riboflavin and calcium. Inadequate vitamin D intake can be associated with rickets, a disease in which the bones soften. Consult your pediatrician about which supplements are needed and their amounts. (See information on vitamin D supplements on page 154.)

Iron deficiency occurs among some young children and can lead to anemia (a limitation of the blood to carry oxygen). In some cases, the problem is dietary. Toddlers need at least 15 mg of iron in their food daily, but many fall short. (See table of sources of iron, page 218.) Drinking large quantities of milk and not eating enough iron-rich foods may lead to iron-deficiency anemia (one of the consequences of which is that the child feels full and is less interested in other foods, some being potential sources of iron). Combining iron-rich foods with fruits high in vitamin C can help children absorb more iron. Cooking in a cast-iron skillet can also add iron to the diet. Other causes of anemia include lead poisoning, which can occur with iron deficiency. It is important to have your child's lead level checked at the 1-and 2-year checkups.

If your child is drinking 16 ounces (480 ml) of milk or less each day and eating a healthy diet full of iron-rich foods, there's little cause for concern. If they drink much more than that and you can't get them to eat more iron-rich foods, consult your pediatrician about adding an iron supplement. In the meantime, continue to give them vitamin D drops (600 IU [15 mcg] per

day after age 1), and keep offering them a wide variety of iron-rich foods so that, eventually, supplementation won't be necessary.

DISCONTINUING THE BOTTLE

Infants who sleep with a bottle containing anything other than water are at high risk of tooth decay. It is recommended the bottle be given up entirely at around age 1 and almost certainly by 18 months. The sooner you start removing the bottle, the easier the task is. If you are breastfeeding, bottles may be avoided altogether. Cup feeding (sippy or straw cup) can be introduced as early as 6 months and by 1 year should be mastered. As long as your child is drinking from a cup, they don't need to take liquids from a bottle. If you must give a bottle, limit the contents to plain water. Unfortunately, weaning from the bottle may not be as easy as it sounds. Eliminate the midday bottle first, then the evening and morning ones; save the bedtime bottle for last, but remember to limit the contents to plain water. If your child will not initially take a bottle with plain water, gradually dilute the formula or other contents with water over a short time. After a week or two the bottle should contain *only* water.

It's easy to get into the habit of using a bottle to comfort a child or help them sleep. But at this age, they no longer need anything to eat or drink at night. Even if they demand a bottle and drink thirstily, nighttime feedings are a comfort rather than a nutritional necessity. The bottle soon turns into a crutch and prevents their learning to fall back to sleep on their own. If they cry for only a short time, try letting them cry themselves back to sleep. After a few nights they'll probably forget all about the bottle. If this doesn't happen, consult your pediatrician and read the other sections on sleep in this book.

Incidentally, giving your toddler a drink or other healthy snack *before bedtime* is acceptable—provided their teeth are brushed afterward. A short breastfeeding, a drink of cow's milk or other liquid, or even some fruit or another nutritious food will do. If the snack is in a bottle, gradually phase in the use of a cup.

Whatever the snack, have your child finish it, then clean their teeth, using a small amount (the size of a grain of rice) of fluoridated toothpaste on a soft cloth, piece of gauze, or toothbrush. Not removing the food or liquid from your child's teeth after they eat allows it to remain on the teeth all night and can result in tooth decay. If they need comfort to fall asleep, let them use a cuddly toy, a blanket, or their thumb—but never a bottle or cup containing anything but plain water.

CUTTING DOWN ON SWEETS

Almost everyone enjoys sweets, and your toddler is no different. Like other human beings, they may have been born with a taste for sugar, and they are already sensitive to different concentrations of sweetness. Offer a sweet potato and a baked potato, and they may take the sweet potato every time. Give them a choice between the sweet potato and a cookie, and the cookie may win more often. So it's not your fault if they make a beeline for candy and ice cream when you'd rather they take a bite of broccoli. But it is your responsibility to limit their access to sweets and provide a diet composed primarily of nutritious foods that promote growth, not tooth decay.

Fortunately, when sweets are out of sight, they won't be on your toddler's mind, so either don't bring them into the house or keep them hidden. Also avoid adding sugar to their food, and don't

make dessert an everyday event. As for snacks, instead of sweets or fatty foods, let them have small portions of healthy foods such as fruit, whole-grain bread and crackers, and cheese. In other words, encourage good eating habits that can last a lifetime.

SELF-FEEDING. At 12 months, your child is getting used to drinking from a cup and feeding with their fingers. By 15 months, they'll have much more control, getting food into their mouth with relative ease and flinging it about the room when that seems like more fun. They'll begin to fill their spoon and get it to their mouth consistently, although occasionally it will tip the wrong way at the last second. Unbreakable dishes, cups, and glasses are essential, since they, too, may go flying when your child is bored with their contents. Such behavior should be discouraged by a firm reprimand and replacement of the utensils in the proper location. If these behaviors persist, consider stopping the meal and waiting until the next.



Make sure your toddler eats only while seated and supervised by an adult.

SAMPLE ONE-DAY MENU FOR YOUR CHILD AT 12 MONTHS*

This menu is for a 1-year-old child who weighs approximately 21 pounds (9.5 kg).

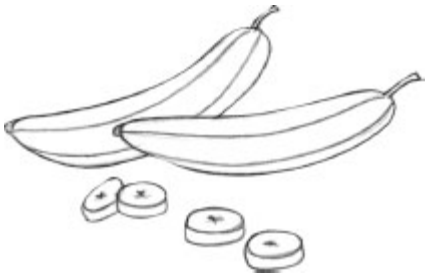
* Please note that portion sizes may vary based on when your infant begins eating solids and how much breast milk or formula they are drinking.

1 cup = 8 ounces = 240 ml
1 ounce = 2 tablespoons = 30 ml
½ ounce = 1 tablespoon = 15 ml = 3 teaspoons
1 teaspoon = ⅓ tablespoon = 5 ml



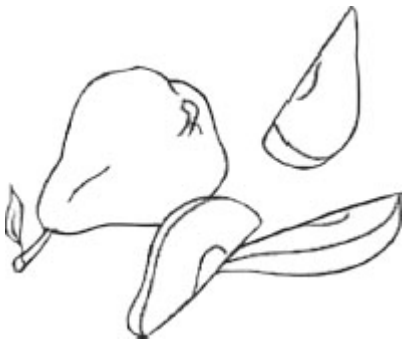
Breakfast
½ cup iron-fortified breakfast cereal or 1 cooked egg
½ banana, sliced, or 2–3 large strawberries, sliced

Snack
1 slice whole-wheat toast/bread/muffin with
1–2 tablespoons cream cheese or peanut butter, or ½ cup yogurt with cut-up fruit
Water or ½ cup whole milk



Lunch
½ sandwich: sliced turkey or chicken, tuna, egg salad, or peanut butter
½ cup cooked green vegetables

Snack
1–2 ounces cubed or string cheese, or 2–3 tablespoons fruit or berries
Water or ½ cup whole milk



Dinner
2–3 ounces cooked meat, ground or diced
½ cup cooked yellow or orange vegetables
½ cup whole-grain pasta, rice, or potato

SOURCES OF IRON

Excellent
Red meats
Iron-fortified whole-grain cereal
Blackstrap molasses

Good
Hamburger
Lean beef
Chicken
Tuna
Ham
Shrimp
Frankfurter
Eggs, egg yolks
Spinach, mustard greens
Asparagus
Potato, baked in skin
Navy beans
Kidney beans
Soybeans
Split peas
Dried apricots
Prunes, prune juice
Strawberries
Tomato juice

WHERE WE STAND

Childhood overweight and obesity remain a concern for parents, pediatricians, and policymakers. Obesity can lead to a shorter life span, lower quality of life, and numerous chronic medical problems, many of which begin in childhood. A lot can be done to address and prevent obesity, and the earlier we start the better. Small adjustments (regarding approach to food, feeding, physical activity, etc.) in a young child could prevent many future health challenges. It was previously common to think kids might outgrow overweight or grow into their weight, but that's not the typical outcome.

Some children are prone to extra weight gain because of family history (which includes genetics, metabolism, and family customs), but in almost all cases, making healthy food changes and increasing physical activity can help improve your child's health. Encourage an active lifestyle at home, in childcare settings, and at school to start your children on the path to lifelong health. Talk to your pediatrician about developing healthy eating habits that begin in infancy, such as minimizing or eliminating juice and offering a variety of healthy foods, especially vegetables and fruits, and continuing these habits throughout childhood. Early on, allow your child to decide when they are full. Taste preferences can change over time, and it can take your child ten or more times of trying a new food before they enjoy it. Choose nutritious snacks, including vegetables, fruits, low-fat dairy foods, and whole grains. Turn off the TV and have them sit at the table during meals. Enjoy meals together as a family whenever possible, without distractions from phones or the television. Studies show that children who watch too much TV are more likely to have overweight. Meals can be great times for family conversations. It's also important to ensure your child is active every day, as this is an important habit that will also play a role in their future health. (See Chapter 35, *Media*.)

SLEEPING

Sometimes it's tempting to give up and let your child fall asleep in their tracks when they're overcome by exhaustion. But doing so will only make it more challenging to implement a routine sleep schedule, important for both daytime and nighttime sleeping. Instead, make note of the time when they show signs of sleepiness, and make that their regular bedtime. Establish a bedtime ritual and discuss it with your toddler. Whether you include a bath, story, or song, the routine should end with them quiet but awake in their crib, ready for your good-night kiss before you leave the room. If they cry continuously, consult the methods described in Chapters 9 and 38 for teaching them to fall asleep on their own. Using a transitional object (lovey) may be helpful at this age.

Unfortunately, bedtime resistance isn't the only sleep struggle you may have. Remember the first time they slept through the night, when you thought sleep problems were over? As the parent of a toddler, you now know the truth: They may go a few days, weeks, or even months sleeping through the night, then begin waking up almost as frequently as a newborn.

Change in routine is a common cause of nighttime awakening. Switching rooms or beds, losing a favorite cuddly toy or blanket, taking a trip, or having an illness may all disrupt their sleep. Though valid reasons for waking, these are not excuses for you to pick them up or take them to your room. They need to put themselves back to sleep, even if it means crying a bit first. The strategies outlined in Chapter 38 still apply.

If your toddler is used to getting lots of nighttime attention, you'll need to retrain them gradually. If you've been giving milk when they wake up, it's time to change to water and soon afterward stop the practice entirely. If you've been picking them up, restrict yourself to verbally calming them from a distance. Above all, don't get angry if they continue to protest. Show them kindness, even as you remain firm. It's not easy, but in the long run it will improve your sleep as well as theirs. (See Chapter 38 for more information on sleep.)

Behavior

DISCIPLINE

Having a toddler is a humbling experience and presents new challenges, adventures, and opportunities for fulfillment. Before your child was born, or even when they were a baby, it was easy to watch someone else's toddler throw a temper tantrum and say, "My child will never do that." Now you realize any child may act up unexpectedly. You can guide your child and teach them what is right, and that will work most of the time. But you can't force them to act exactly as you want. So face the facts: There are bound to be times when the unruly child everyone stares at is yours!

Often, toddlers placed with kinship/foster care may have more difficulty with emotional regulation and require specialized parental responses at times to help this process. Your pediatrician may be able to link you with

appropriate trauma-informed parenting skills or services to help manage these types of difficulties.

At this age, your toddler has a limited idea of "good" and "bad," and they do not fully understand the concept of rules or warnings. You may say, "If you pull the cat's tail, he'll bite you," but it may make no sense to them at all. Even "Be nice to the cat" may not be clear. Whether they're running into the street or turning their face away from Grandma's kiss, they're not deliberately behaving badly, nor do their actions mean you've failed as a parent. They're simply acting on impulses. It will take years of firm but gentle guidance before they fully understand what you expect from them and have the self-control to meet those expectations.

Many people think of discipline as punishment. In fact, discipline means to teach or instruct, and while punishment may be part of it, a much more important aspect is love. Affection and caring form the core of your relationship with your child and play a powerful role in shaping their behavior. Your love and respect will teach them to care about others as well as themselves. Your daily example of honesty, dedication, and trust will teach them the same. The control you show helping them to learn right from wrong will serve as a model for the self-discipline they will develop. In short, if you want them to behave well, you need to act that way toward them.

If a running tally was kept, your displays of affection should greatly outnumber punishments and criticisms. Even a quick hug or a bit of good-natured roughhousing will reassure your child you love them. And on a day when your toddler is getting into everything and you find yourself being especially snappy with them, make sure you go out of your way when they do behave well to give them a hug and tell them they're doing a good job. Catch them being good as often as you can. Especially during this year, pleasing you is very important to your toddler, so praise and attention are powerful motivational rewards to obey the reasonable rules you set.

Children need healthy forms of discipline, such as positive reinforcement of appropriate behaviors, limit setting, redirecting, and setting future expectations. It's important to have realistic expectations for behavior. Your child's behavior should reflect their temperament and personality, not your fantasies. They may be more active and inquisitive than you would like, but insisting they spend long stretches in the play yard or

confined in their high chair will only make them more resistant and frustrated.

Even if your toddler is a "model" child, they still must learn what you expect. Telling them once won't get the message across. They'll have to learn by trial and error (often several times) before they understand the rule.

If you're a single parent, you may encounter unique challenges trying to manage a child's behavior issues on your own. Remember that while you might feel alone, there are many resources available to help, including family members, friends, faith communities, and parent support groups. Your pediatrician's office can help connect you if you're not sure where to start. (Also see *Single-Parent Families* on page 627.) An important reminder: If you load too many rules on your child at this early age, they'll be hurt and bewildered, and you'll be frustrated. Make things easier for everyone by establishing priorities and build your list of rules gradually. Pick your battles and prioritize safety. The most important rules should keep your child safe. As your child learns to walk, discipline around safety should be paramount, giving them the freedom to explore in safe ways, while ensuring childproof locks are in place where they're needed. Also, be certain they understand that hitting, biting, and kicking are not okay. Once they master these rules, you can address nuisance behavior, such as screaming in public, throwing food, writing on the wall, and unexpectedly removing their clothes. Save the finer points of social behavior for the next few years. It's too much to ask an 18-month-old to return Grandma's kisses when they'd rather be playing.

Despite all your prevention efforts, your toddler will violate some or all of your rules. When that happens, alert them to your displeasure with your facial expression and tone of voice. Then move them to a different place. Sometimes this will be enough, but just as often, other measures may be required. It's best to prepare these responses now, while you are calm and your toddler is young. Otherwise, in the heat of the moment, you may be prone to lose your temper and do something you'll regret. Take a moment to calm down and ensure you are in control before proceeding with discipline. In the next few years, they'll naturally become more mischievous.

Make this important pact with yourself: Never resort to punishments that physically or emotionally hurt your child. While you need to let them know they've done something wrong, this doesn't require inflicting pain.

Spanking, slapping, beating, shaking, and screaming at children of any age does far more harm than good. Here are some of the main reasons this is true:

- Even if it stops the child from misbehaving at the moment, it also teaches them it's okay to hit and yell when they're upset or angry. Think of the mother busily whacking her child as she yells at them: "I told you not to hit!" But it's also tragically common and has an equally tragic result: Children who are hit often become hitters themselves, having learned that violence is an acceptable way to express anger and to resolve conflicts. Toddlers will imitate everything that you do.
- Physical punishment can harm your child. If a little spank doesn't work, many parents will slap even harder as they become angrier and more frustrated.
- Physical punishment makes the child angry at and resentful of the parent. So instead of developing self-discipline, the youngster is much more likely to try to get back at the parent by continuing to misbehave, but without getting caught.
- Physical punishment gives a child a very extreme form of attention. Although it's unpleasant, even painful, it tells the child that they've gotten through to their parent. If the parent is usually too busy or preoccupied to pay much attention to them, the child may decide the bad behavior is worth the punishment that follows to get parental attention.
- Yelling and other harsh verbal discipline cause aggression, conduct problems, and depressive symptoms in later years.

Physical punishment is harmful emotionally to both parent and child. It is the least effective way to discipline. So, what approach should you take? As difficult as it may be, the best way to deal with your misbehaving toddler is to isolate them briefly. No attention. No toys. No fun. This strategy, known as time-out, works like this:

1. You've told your toddler not to open the oven door, but they persist.

2. Without raising your voice, again say firmly, "No. Don't open the oven door," and pick them up with their back toward you.
3. Begin this "time-out training" in your lap with your child facing away from you. Hold them until they are quiet and still.

The key to this form of discipline—and any other, for that matter—is consistency and calmness. Though it is difficult, try to respond immediately every time your child breaks an important rule, but don't let your irritation get the better of you. If you're like most parents, you won't succeed 100 percent of the time, but an occasional slip-up won't make much difference. Just try to be as consistent as possible.

When you do feel yourself losing your temper, take a few deep breaths, count to ten, and, if possible, leave the room, getting someone else to step in if available. Remind yourself you are older and should be wiser than your toddler. You know at their age they're not deliberately trying to annoy or embarrass you, so keep your own ego in check. In the end, the more self-discipline you exercise, the more effective you'll be at disciplining your child. Remember, they're watching and imitating you!

Coping with Temper Tantrums

While you're busily planning the rules for your toddler, they're attempting to master their own destiny. It's inevitable you'll clash from time to time. Your first taste will come when your 1-year-old shakes their head and emphatically says "No!" after you've asked them to do something. By year's end, their protests may have escalated to screaming fits or full-blown tantrums, throwing themselves to the floor, clenching their teeth, kicking and screaming, pounding their fists on the floor, and even holding their breath. As difficult as these performances are to tolerate, they are a normal (even healthy) way for your toddler to deal with conflict.

Look at the situation from their point of view. Like all young toddlers, they believe the world revolves around them. They try hard to be independent, and most of the time you're encouraging them to be strong and assertive. Yet every now and then, when they're trying to do something they very much want to do, you pull them away or ask them to do something else. They can't understand why you're getting in their way, nor

can they verbally tell you how upset they are. The only way they can express their frustration is by acting it out.

PREVENTING TEMPER TANTRUMS

(See also *Temper Tantrums,* page 486.)

When it comes to discipline, you have several distinct advantages over your child. First, because you know there will be inevitable conflicts (you can probably even predict which issues are likely to spark them), you can plan your prevention strategy in advance.

Use the following guidelines to help you minimize your child's temper tantrums, both in number and in intensity. Make sure everyone who takes care of them understands and follows these policies consistently.

- When you ask your toddler to do something, use a friendly tone and phrase your request like an invitation instead of a command. It also helps to say "please" and "thank you."
- Don't overreact when they say no. For some time, they may automatically say no to any request or instruction. They'll even say no to ice cream and cake at this stage! What they really mean is something like "I'd like to be in control here, so I'll say no until I think it through or until I see if you're serious." Instead of jumping on them, answer their hidden challenge by repeating your request calmly and clearly. Don't punish them for saying no.
- Choose your battles carefully. They won't throw a temper tantrum unless you push them first, so don't push unless there's something worth pushing. Keeping them safely buckled into their car safety seat is a priority item. Making sure they eat peas before applesauce is not. So, while they say no to everything, you should say no only when it's absolutely necessary.
- Do offer limited choices whenever possible. Let them decide which pajamas to wear, which story to read, which toys to play with. If you encourage their independence in these areas, they'll be much more likely to comply when it counts.
- Don't offer choices where none exists, and don't make deals. Issues like bathing, bedtime, and staying out of the street are non-negotiable. Your child doesn't deserve an extra cookie or trip to the park for cooperating with these rules. Bribery will only teach them to break the rule whenever you forget to give them the agreed-on reward.
- Anticipate situations that are likely to trigger a tantrum and avoid them whenever possible. If your child always makes a scene in the grocery store, arrange for them to stay with your spouse or partner, or get a sitter, the next few times you go shopping. If one of their playmates always seems to get them keyed up and irritable, separate the children for a few days or weeks and see if the dynamics improve later.
- Reward their good behavior with plenty of praise and attention. Even if you just sit with them while they look at their books, your companionship shows them you approve of this quiet activity.
- Keep your sense of humor. While it's not a good idea to laugh at your toddler as they kick and scream (that just plays to their performance), it can be therapeutic to laugh and talk about it with friends or family members when your child is out of earshot.

- Remember that just like us, toddlers do better when they have slept and eaten. If possible, adjust your daily routines so that the most challenging situations fall at times when your toddler is best able to adjust to them.

Outbursts, then, are all but inevitable, and your child's general temperament will set the tone for most. If they're adaptable, easygoing, generally positive, and easily distracted, they may never kick and scream. Instead, they might pout and say no, or head in the opposite direction when you try to guide them. The opposition is there, but it's low-key. On the other hand, if your child is active, intense, and persistent, they'll probably channel the same intensity into their tantrums. You'll need to remind yourself over and over that this is neither good nor bad, and that it has nothing to do with your parenting skills. Your child is not consciously trying to thwart you, but rather is simply going through a normal stage of development that soon will pass (though perhaps not soon enough to suit you).

Here are some important points to keep in mind about living with temper tantrums:

- You may have an easier time coping with your toddler's outbursts if you think of them as performances. This will remind you of what you have to do to stop them: Eliminate the audience. Since you are the only audience that matters to your child, leave the room. If they follow, call time-out and put them in their crib or play yard. Also, if they kick or bite at any time during the tantrum, call time-out immediately. While it's normal to try out this kind of super-aggressive behavior, you shouldn't let them get away with it.
- When a tantrum takes place away from home, it's much more difficult to remain calm. Especially when out in public, you can't just leave them and go to another room. And because you're trapped and embarrassed, you're much more likely to spank, yell, or snap at them. But that won't work any better here than it does at home, and it has the added disadvantage of making you look worse than your child. Rather than lashing out or letting them have their way—either of which only encourages their tantrums—calmly carry them to a restroom or to the car, so that they can finish their performance away from onlookers. Also,

sometimes in public a big, immobilizing hug and calming voice will soothe and quiet such a child.

- When the tantrum or the time-out is over, don't dwell on it. Instead, if a request from you was what triggered their outburst initially, calmly repeat it. Remain composed and determined, and they'll soon realize that acting out is a waste of their time and yours.
- They may hold their breath during a severe temper tantrum. Sometimes this might last long enough to cause them to faint for a very short period of time. This can be frightening, but they will awaken in thirty to sixty seconds. Just keep them safe and protected during this brief episode and try not to overreact, since this tends to reinforce tantrum breath-holding behavior. If not reinforced, this type of activity will usually disappear shortly.

WHERE WE STAND

The American Academy of Pediatrics strongly opposes striking a child for any reason. Spanking is never recommended; infants and children may be physically harmed by a parent who strikes them. If a spanking is spontaneous, parents should later explain calmly why they did it, the specific behavior that provoked it, and how angry they felt. They also might apologize to their child for their loss of control. This usually helps the child to understand and accept the spanking, and it models for the child how to remediate a wrong.

Whenever a parent strikes a child, it may undermine the trust the child needs to thrive. However, infants often frustrate their parents. Here are a few alternatives. First, put your child in the crib or another safe place while you get control of yourself. Call a friend, relative, or partner to get some support or advice. If these don't help, reach out to your child's pediatrician for advice.

FAMILY RELATIONSHIPS

Because your toddler is self-centered, their older brothers and sisters might find them taxing. Not only do they still consume the bulk of your time and attention, but with increasing frequency they will deliberately invade their siblings' territory and possessions. When the siblings throw them out, your child may respond with a tantrum. Even if the older siblings were tolerant

and affectionate toward them as an infant, they are bound to occasionally display antagonistic feelings toward them now.

It will help keep the peace if you enforce rules that guard older children's privacy, and set aside time to spend just with them. No matter how old, all your children want your affection and attention. Whether they're preparing for the preschool picnic, planning a second-grade science project, trying out for the middle school soccer team, or fretting over the junior prom, they need you as much as your toddler does.

If your toddler is the older sibling, the rivalry may be more intense. (See *Sibling Rivalry,* page 625.) The normal feelings of jealousy are heightened by their self-centeredness, and they don't have the reasoning abilities to cope. Often their feelings of jealousy don't manifest as outright anger toward an infant, but as anger and belligerence toward you for not providing as much attention as they believe they deserve. And if they aren't getting enough attention for doing the "right" things (playing quietly by themselves), they'll have no qualms about pushing your buttons by acting out. To a toddler, there is no such thing as negative attention—all attention is good. At times they'd rather have you angry than feel ignored (which, by the way, is the reason time-out can be so effective).

■ YOUR CHILD AT 12 MONTHS OLD CHECKLIST ■

Immunization Update

At 1 year of age (or the months immediately after), they should receive the measles, mumps, rubella (MMR) vaccine. This vaccine protects your baby from three serious diseases that can cause fever, rash, and other symptoms and potentially lead to serious complications (pneumonia or encephalitis [swelling of the brain] in children with measles, and hearing impairment and sterility in children with mumps). The current recommendation is to have your child receive the first MMR vaccine between 12 and 15 months of age, but children traveling outside the country can receive an extra dose between 6 and 12 months of age for added protection.

The first dose of varicella (chickenpox) vaccine should be given between 12 and 15 months. It can be given in combination with MMR (MMRV) or separately. While the MMRV vaccine seems to cause more fevers (and therefore slightly more febrile seizures) than the separate MMR and varicella vaccines, both are safe and effective.

The first hepatitis A vaccine will be given at or after 1 year of age. The fourth pneumococcal vaccine, which protects your child against pneumonia, meningitis, blood infection, and some ear infections, is also given at 12 to 18 months of age. If you're concerned about giving all the recommended vaccines to your child, consider this: Every day your child's immune system fights off more antigens (the foreign substances that challenge the immune system) than are contained in the entire vaccine series. Their immune system can easily handle this. Vaccinating them completely and on time is the safest and best way to protect your child from disease.

At 12 to 18 months, your toddler also will require:

- The fourth dose of the DTaP vaccine (which can be administered as early as 12 months, but is recommended at 15 to 18 months of age)
- The third dose of the polio vaccine (if not already given)
- The fourth dose of pneumococcal vaccine
- The fourth dose of Hib vaccine
- The second dose of hepatitis A vaccine, given at least six months after the first dose

Blood Tests

Around the 12-month well-child exam, your child should have a hemoglobin and lead level drawn to assess for anemia and lead poisoning, respectively. (Some practices may do this a few months earlier or later.) Iron-deficiency anemia can be common in infants and toddlers, and iron supplementation may be needed. Also, because of a child's high hand-to-mouth activity, a toddler may chew on objects that possibly contain lead. These include paint chips, toys painted with lead paint, jewelry, and other objects. Homes that are being renovated may have lead dust that may be ingested. Soil, especially near roadways, may have lead from car exhaust

from the days when gasoline contained lead. Both anemia and lead can affect the brain, causing problems with development.

Safety Check

SLEEP SAFETY

- Keep the crib mattress at the lowest setting.
- Keep the crib free of any objects that your toddler could stack and climb on to get out.
- If your toddler can climb out of their crib, move them to a low bed.
- Keep the crib away from all windows, drapery, and electrical and other cords.
- Be sure all crib gyms, mobiles, and other hanging toys have been removed.

TOY SAFETY

- Do not give your toddler any toy that requires an electrical outlet. If the toy is battery operated, make sure the battery case is secured.

WATER SAFETY

- Never leave your toddler, even for a few seconds, in or near any body of water without supervision. This includes a bathtub, toilet, wading pool, swimming pool, fishpond, whirlpool, hot tub, lake, or ocean.

AUTO SAFETY

- All children this age should ride rear-facing in their car safety seat, appropriately installed in the backseat, with a five-point harness. Your child's 12-month exam is a perfect time to make sure their seat is appropriate for their current length and weight.
- Never let your toddler climb out of their car safety seat while the car is moving.
- Never leave them alone in the car, even if it is locked and in your driveway.
- See the section on car safety seats, pages 397–405, in Chapter 18.

- Consider engaging the rear door child safety lock.

HOME SAFETY

- Avoid choking hazard foods (see pages 213–14 of this chapter), and do not let children walk around while eating or with objects in their mouths.
- Protect any open windows with window guards or barriers your toddler cannot possibly push out or open. Screens do not prevent falls from windows.
- If possible, block electrical outlets with furniture or use outlet covers that are not a choking hazard. Also make sure all cabinets containing cleaning fluids or other dangerous items have safety locks.
- Install ground-fault circuit interrupters (GFCIs) where appropriate—usually in the kitchen and bathrooms—to prevent electrocution.
- Keep electrical cords out of reach.
- If you do have a gun, it is essential to store it unloaded in a locked case, with the ammunition locked in a separate location. In many states, parents are held liable for firearm injuries involving children.
- Keep all medications (including those you might carry in your purse) out of reach. Do not depend on child safety caps to protect your child from getting into medicine bottles.
- Always supervise toddlers around animals, especially dogs. Even the friendliest dog has the potential to bite.
- Ensure that your home has working smoke detectors and carbon monoxide alarms.

OUTDOOR SAFETY

- Install door locks, barriers, and alarms to prevent your child from accessing pools, driveways, and streets without your knowledge. Drowning is the number one cause of death in children ages 1 to 4 years. It is especially critical that pools be made entirely inaccessible by a four-sided fence completely separating the pool from the house and the rest of the yard.

- Hold on to your toddler whenever you're near streets, parking lots, and driveways, even in quiet neighborhoods.
- Set up fences or other barriers to make sure they stay within their outside play area and away from the street, pools, and other hazards.
- Make sure there is sand, wood chips, or another soft surface under outdoor play equipment.
- Pay special attention anytime you or someone else is backing out of the garage or down the driveway. Make sure you know where your child is and that they cannot run into the path of the vehicle.
- Keep your vehicle locked when not in use so that your child cannot get in. Even without starting the engine, they could set the car in neutral, allowing it to roll, or they could suffer heatstroke.

CHAPTER 11

Your Child at 15 Months



At 15 months, your toddler is an explorer, lurching from one expedition to the next. This period will bring endless excitement but also new moments of frustration and a need for added vigilance. Your 15-month-old toddler can get where they want to go, perhaps slowly and with a fall or two, but they'll get there. They can show you a toy or other object that interests them, offer you hugs, clap with excitement, express joy fully and completely. Their understanding of the world around them is growing so fast, but so is their ability to get out of your sight and to experiment with things—colored

markers, food, pets' tails—in ways that you'd rather they not. You'll need to keep your head "on a swivel," but you'll be rewarded by witnessing and sharing in your child's journey of constant discovery and enjoyment.

Growth and Development

PHYSICAL APPEARANCE AND GROWTH

At 15 months, the average female weighs about 23 pounds (10.5 kg) and is almost 30.5 inches (77 cm) tall; the average male weighs about 24.5 pounds (11 kg) and is 31 inches (78 cm). Over the next three months, they'll each gain approximately 1½ pounds (0.7 kg) and grow about an inch (2.5 cm). By 2, she'll weigh 27 pounds (12.2 kg) and be about 34 inches (86 cm) tall; he'll be almost 28 pounds (12.6 kg) and reach 34½ inches (87.5 cm).

MOVEMENT

Fifteen-month-old children really put the "toddle" in "toddler." While some children start walking before their first birthday, many are just beginning to get the hang of it around this age. Your child may only be taking a few steps on their own, or they may be lunging and lurching forward, stopping to change directions and lunge toward some fresh interest. There will be falls, many of them; expect some forehead bruises. Fortunately, it's not that far to fall at this age, so serious injuries are quite rare. Be aware that dangerous items you thought were out of reach may suddenly be more accessible than you expected!

At this age your child is also probably growing adept at finger feeding. This process is guaranteed to be messy, but by now you've probably figured out how to address the mess. The good news is that the more your child explores textures and flavors on their own, the happier they are to try new foods. They're still at high risk of choking, so take the precautions mentioned in the *Feeding* section in this chapter.

MOVEMENT/PHYSICAL DEVELOPMENT MILESTONES FOR YOUR BABY AT 15 MONTHS

- Takes a few steps on their own

- Uses fingers to feed themselves some food

LANGUAGE/COMMUNICATION DEVELOPMENT

As a parent, there's nothing quite like the excitement of hearing your little one say their first word beyond "mama" or "dada." What will it be? Whether it's "ball," "cup," "dog," or "dinosaur," chances are good that only immediate family members will understand their words at first. Your 15-month-old is still working on the fine points of making the sounds they want, but you'll probably be as excited as if they'd just written their first poem.

Likewise, your toddler is listening to you and starting to match objects to the words you're saying. For example, when you say "doggy," you might see your child's eyes light up as they look toward the picture of a dog on the wall. You can make a game of keeping count of all the words they start to understand!

At the same time, you'll notice your child beginning to understand the connection between words and gestures. When you give direction using both words and gestures, you'll be amazed at how well your little one can follow along. For example, if you say "Come here" and hold out your arms, you'll likely see your child take a step toward you, smiling with excitement. This is a great indicator of their developing language skills and shows that they're learning to understand not just the words you say but also the non-verbal cues you provide.

That's not all! As your child's language continues to grow, you may also notice them using pointing to ask for something. For example, if they're looking at a doll they want to play with, they might point at it with a big smile on their face. When you hand them the doll, you've not only given them a toy, but also shown them that the two of you are in conversation together. You can build on that conversation by naming the doll as you hand it over: "This is the doll. You wanted the doll?" These moments will form the building blocks of speech over time.

LANGUAGE/COMMUNICATION MILESTONES FOR YOUR BABY AT 15 MONTHS

- Tries to say one or two words besides "mama" or "dada," like "ba" for ball or "da" for dog
- Looks at a familiar object when you name it
- Follows directions given with both a gesture and words—for example, they give you a toy when you hold out your hand and say "Give me the toy"
- Points to ask for something or to get help

COGNITIVE DEVELOPMENT

Well before their second birthday, your toddler will excel at hiding games, remembering hidden objects long after they leave their sight. If you pocket a ball while they're playing, you may forget all about it, but they won't! As your child masters hide-and-seek, they'll also understand more about separations from you. Just as they know a hidden object is somewhere, they'll now recognize that you always come back, even when away for a whole day. If you show your toddler where you go when you leave them, they'll form a mental image of you there. This may even make separation easier. At this age, your toddler lets you know what role you should play in their activities. Sometimes they'll bring you a toy to make it work; other times they'll pull it away and try it themselves. Often, when they know they've done something special, they'll pause and wait for applause. By responding to these cues, you'll provide support and encouragement and inspire even more learning.

At the same time, your toddler's growing skills are leaping well ahead of their understanding of cause and effect, of what's safe and what's dangerous. Your child cannot yet imagine the chain of effects; the consequences come as a surprise, even if they seem obvious to you. Your child may understand that a toy wagon will roll downhill, but they can't predict the effects it will have on the busy street below. They can see how a door swings open and shut, but they don't imagine until it's too late how it may shut on their hand. Even after it happens once, your toddler is still working out the details, so you'll have to stay vigilant while they learn.

COGNITIVE MILESTONES FOR YOUR BABY AT 15 MONTHS

- Tries to use things the right way, like a phone, cup, or book
- Stacks at least two small objects, like blocks

Toys Appropriate at 15 Months of Age

Next time you're shopping for toys, remember that your 15-month-old is a learning machine, wired to make the most of every experience. They don't need gadgets that light up and sing and dance; they don't need to swipe and poke at a screen. Instead, they need to get their hands on real, simple things and enjoy the thrill of solving a new problem. Stacking rings, shape sorters, blocks, dolls, stuffed animals, and simple puzzles provide tons of stimulation and challenges for little hands and minds. Textures are fun, too, so play dough, clay, and different pieces of fabric can also provide hours of fun. Books are also toys: Sturdy board books provide as much opportunity to learn hand skills as to learn the names of the pictures they contain.

Do look out for any hazards: Toys and all toy parts should be too large to fit in your child's mouth. If it fits inside a toilet paper tube, it's a potential choking hazard. Sharp points or things that might break easily pose an obvious danger. Any toy that has batteries, especially round button batteries, should have a battery compartment firmly secured with a screw or other childproof device lest they end up in a toddler's airway, esophagus, stomach, or intestinal tract, where they can do immense damage within minutes. Strong rare-earth magnets pose risk of a life-threatening issue when swallowed and should never be within reach of toddlers. If you think your child has swallowed a button battery or a magnet, don't wait; seek care immediately. Some toys make noise; sometimes the sound can be loud enough to possibly harm a child's hearing, especially if the toy is held close to the ear. If a toy seems too loud for an adult, it's probably too loud for a toddler. Consider noise when choosing toys for your toddler.

SOCIAL/EMOTIONAL DEVELOPMENT

At a later age you might think of your child copying another as being unoriginal or even mocking. But at 15 months, it's a sign your toddler has gained a new skill. They can now observe another child, understand what they're doing, and apply it to their own world! If an older sibling is playing with blocks, watch as your child works to make a tower of their own. If another toddler at the park is dumping sand from a cup, watch them do it as well. You may want to keep an even closer watch on your own behavior

because you're now living with a small copycat. Most exciting, you can envision this new skill as a turbo boost for your toddler's learning abilities.

Your toddler is also starting to understand that you have opinions and feelings as well. They'll respond in part by sharing their interests and joys with you by bringing you things for you to appreciate. You may notice that your toddler shares some of your tastes, such as when they offer you a flower or a cookie. On the other hand, you may have ample opportunity to show that some things are not so desirable to pick up and show people, such as certain insects, mushrooms, and discarded food wrappers. Whatever it is, they'll be watching your face and listening to your voice to see how you respond, and that fact alone is rewarding.

Speaking of sharing you, another simple development is likely to make you smile and more: clapping. Your toddler has learned that we make noise with our hands when we're proud of something, and you can expect them to start a small ovation when they accomplish something, such as finding a toy you've hidden. Best of all, when you clap for them, they now understand how happy you are, and they're likely to join in the applause.

You'll also notice development on the warmer, softer side of emotions, as stuffed animals, dolls, and even household pets elicit hugs of affection and comfort. Your 15-month-old has figured out that the bond you share when you offer a hug goes both ways, and they're eager not only to return your affection but to pay it forward. This is a moment to—there's no other way to say it—*embrace*.

SOCIAL/EMOTIONAL MILESTONES FOR YOUR BABY AT 15 MONTHS

- Copies other children while playing, like taking toys out of a container when another child does
- Shows you an object they like
- Claps when excited
- Hugs stuffed doll or other toy
- Shows you affection (hugs, cuddles, or kisses you)

Basic Care

Self-feeding is a complete game-changer when it comes to your 15-month-old's meals. No longer are you tethered to the high chair, waiting to introduce the next bite. Instead, you can lay out a spread and let your toddler go to town, fingers flying, hands exploring, cheeks … messy! Prepare a feast and stand back. For some, the mess may be hard to watch, but hopefully you can keep your toddler's joy in mind during the inevitable cleanup.

Of course, there's no guarantee your child will be as excited about the offerings as you might be. Toddlers are discovering their own likes and dislikes, and food is a big piece of that process. Especially when it comes time to introduce something new, anticipate some resistance. The best way to overcome that resistance is familiarity: Once your child has seen the same thing on their tray ten times, it's no longer novel, and therefore not so threatening. But the process is tedious, and it can be frustrating. The one thing you cannot do is *make* a 15-month-old eat any particular food. Some parents find that accepting this fact makes mealtime much less stressful.

That doesn't mean you lack control, however. You decide what's on the menu on any given day. Continue to focus on the same essentials you've already been building: lots of fresh fruits and vegetables, healthy proteins such as beans, fish, meats, and dairy such as yogurt and cheese. Provide healthy fats from sources such as avocados and nut butters (but not big chunks of nut butter, which can pose choking hazards). Carbohydrates are critical for energy, but look for whole-grain breads, crackers, and cereals rather than highly processed foods such as white rice and white bread. If everything in front of them is healthy, your toddler is free to express their will by choosing some things and not others. Remember, too, that a serving size at this age is small: roughly the amount of food that fits in your child's palm.

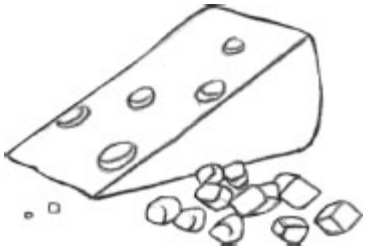
Hydration is important for active toddlers, and at this age water should be the primary source of fluids. If a treat of real fruit juice is desired, up to 4 ounces can be served. Because of the sugar content in juice (even natural sugars), water is the ideal drink. Two cups (16 ounces) of whole milk a day can contribute vitamin D and calcium for strong bones and teeth. Too much milk (more than 3 cups a day) may cause iron deficiency, so keep track!

Children this age remain prone to choking, as they haven't really learned to chew their food well and likely only have approximately eight teeth. Make sure they eat while supervised and seated in one place rather than walking around, and ensure that foods they eat are either soft or cut smaller than the size of their pinky. Especially dangerous are any foods that are firm and round: whole peanuts, whole grapes or cherry tomatoes, hot dog circles, and candies.

SAMPLE MENU FOR A 15-MONTH-OLD

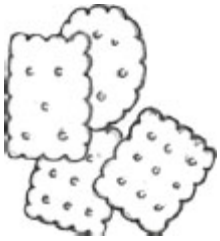
Breakfast

Scrambled egg, whole-grain toast in strips, or oatmeal made with whole milk and cut-up berries



Snack

Whole-milk yogurt or diced apple and string cheese



Lunch

Nut butter on whole-grain bread, or turkey and cheese on whole-grain bread, with fruit such as an orange or clementine in sections, banana, or cut-up berries



Snack
Whole-grain crackers and hummus or cheese, cut-up fruit

Dinner
Chicken in pieces, brown rice, cooked diced zucchini or black beans, avocado, cheese, and tortilla

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GETTING READY FOR TOILET TRAINING

Many children are ready to be toilet trained after their second birthday, but your toddler might be ready earlier. If your toddler appears ready, turn to page 254 for details. Even if they're not ready, you still can familiarize them with the process by keeping their potty chair or toilet seat insert handy and explaining in simple terms how it works. You might also consider choosing the words you'll use at home, such as "pee-pee" and "poop," to familiarize them with what's taking place. Soon they'll be able to tell you after they have gone. While it is not a sign they're completely ready to be toilet trained, it is a first step. You might also consider showing them where stool from their diapers goes and allow them to flush the toilet. The more familiar they are with the process, the less scary and confusing it will seem when you begin training.



SLEEPING

At 15 months, your toddler still needs between eleven and fourteen hours of sleep on average in each twenty-four-hour period, but the pattern may be changing. For one thing, this is a common time to move from two daytime naps to one. Watch your child for signs of sleepiness, but as a rule children (and adults) will grow sleepy in the midafternoon, especially after a meal. You can use this natural pattern to help time your child's nap, ensuring they have a dark, quiet space to themselves. Avoiding screens for an hour before bedtime prevents exposure to blue-enriched light, which is known to interfere with sleep. Your child is probably still in a crib at this point, but the mattress should already be at the lowest setting. If your toddler is especially tall and at risk of falling or climbing from the crib (if you can see their chest above the crib rail), you may need to transition to a toddler bed now instead of waiting.

Behavior

DISCIPLINE

Perhaps the easiest way to think about discipline at 15 months of age is to imagine your toddler as an alien scientist who has just arrived on Earth. They're trying to figure out what causes what: Do light switches always make lights come on? Do pens leave a mark every time you use them? Will hitting their big sibling consistently make them share a toy? Just because something happened once doesn't mean it will happen again, so they'll need many trials to sort out what works and what doesn't. They're also still developing "theory of mind," the idea that other people have their own feelings and thoughts that might be different from theirs. They know that being hit or bitten is painful to them. But the idea that other people feel pain the same way? This is not at all clear.

Fifteen-month-old children love your affection and praise, so you can use this experimental period to demonstrate that certain behaviors make you happy. Did they pick up a toy and put it away? Good job! Did they climb into their car safety seat without complaining? Thank you! Now we can go to the park! Do they offer to share a toy with a friend? Your smile tells them this habit is worth repeating.

What about undesirable behaviors? Feel free to respond with a firm no and a very short explanation: "No. If you hit the cat, they may bite you." At the same time, remove your toddler from the situation and ensure their safety: Immediately move them away from the cat, angry sibling, uncapped marker, or whatever the current temptation is. It will take many repetitions for your toddler to figure out what you expect and even more time for them to learn to control their behavior.

You can also make liberal use of substitutions: "I see you want to throw, but we don't throw our cup. Here's your ball." Once you identify what it is your toddler wants out of a situation, you can often find a different way for them to get it. Sometimes, of course, what they want is unsafe or simply impossible. They'll be upset, and they'll show it, and you can allow them some space with those emotions, knowing they'll be on to the next thing before too long.

Remember, too, that none of us are at our best when we're hungry or sleepy, so set your toddler up for success by ensuring that meals, snacks, naps, and bedtime are regular, consistent, and meeting their needs. When practical, avoid challenging situations such as a trip to the grocery store when your toddler is tired or "hangry."

STIMULATING CHILD BRAIN GROWTH: 15 MONTHS

- Help your child learn to speak. A child's early words are not complete. Repeat and add to what they say. They may say "ba" for ball, and you can say "Ball, yes, that's a ball."
- Tell your child the names of objects when they point to them and wait a few seconds to see if they make any sounds before handing it to them. If they do make a sound, acknowledge them, and repeat the name of the object: "Yes! Cup."
- Find ways to let your child help with everyday activities. Let them get their shoes to go outside, put the snacks in the bag for the park, or put the socks in the basket.
- Have steady routines for sleeping and feeding. Create a calm, quiet bedtime for your child. Put on their pajamas, brush their teeth, and read one or two books to them. Children between 1 and 2 years of age need eleven to fourteen hours of sleep a day (including naps). Consistent sleep times make it easier!
- Show your child different things, such as a hat. Ask them, "What do you do with a hat? You put it on your head." Put it on your head and then give it to them to see if they copy you. Do this with other objects, such as a book or a cup.
- Sing songs with gestures, such as "Wheels on the Bus." See if your child tries to do some of the actions.

- Say what you think your child is feeling (for example, sad, mad, frustrated, happy). Use your words, facial expressions, and voice to show what you think they are feeling. For example, say "You are frustrated because we can't go outside, but you can't hit. Let's go look for an indoor game."
- Expect tantrums. They are normal at this age and are more likely if your child is tired or hungry. Tantrums should become shorter and happen less as they get older. You can try a distraction, but it is okay to let them have the tantrum without doing anything. Give them some time to calm down and move on.
- Teach your child "wanted behaviors." Show them what to do and use positive words or give them hugs and kisses when they do it. For example, if they pull your pet's tail, teach them how to pet gently. Give them a hug when they do it.
- Limit screen time (TV, tablets, phones, etc.) to video calling with loved ones. Screen time is not recommended for children younger than 2 years of age. Children learn by talking, playing, and interacting with others.
- Encourage your child to play with blocks. You can stack the blocks and they can knock them down.
- Let your child use a cup without a lid for drinking and practice eating with a spoon. Learning to eat and drink is messy but fun, at least for your toddler.
- Give your child water, breast milk, or whole milk. You don't need to give your child juice, but if you do, give 4 ounces or less a day of 100 percent fruit juice. Do not give your child other sugary beverages, such as fruit drinks, soda, sports drinks, or flavored milks.
- Give your child safe places to explore. Continue to look around your home for hazards that should be stored away. For example, move sharp or breakable things out of reach. Lock away medicines, chemicals, button batteries, powerful rare-earth magnets, and cleaning products. Save the Poison Help line number, 1-800-222-1222, in all phones.
- Continue to talk, read, sing, and tell your child the names of things throughout the day. They will try to say and learn many new words, which can help them read later.
- Make a "book" with pictures of people and pets in your child's life. Name them as you look through the book together. Include a picture of your child.
- Sing or play children's songs and songs your family enjoys. Dance with your child.
- Read a new book after a favorite one to explore and try new books. Children like to do favorite things again and again. You can use the things they like to do to introduce new things.
- Play simple games, such as hide-and-seek. Let your child watch you hide behind a chair and then wait for them to come "find" you.
- Make up a simple "cleanup song" and sing it while you teach your child to help "clean up." Have them help put toys in a basket or hand you things to put away.
- You can teach simple gestures and sign language (for example, pointing and waving) to help your child "talk" to you and show you what they want.
- "Pretend talk" to your child with a stuffed animal. See if your child tries to copy you or if they use another stuffed animal to "talk" with the one you are holding.
- Blow bubbles and let your child pop them. Say things as they pop them, such as "Pop, pop."

FAMILY RELATIONSHIPS/SIBLINGS

Fifteen months is an age that can prove challenging when siblings are involved. Older siblings may find that their newly mobile family member wants to follow them everywhere and play with all their toys. They may also find you distracted with the task of keeping your toddler safe and stimulated. You'll want to ensure that older siblings have some space and time to themselves, even when that frustrates your toddler. Try to set aside some special time to read, play, or sing with your older children so that they know they still have your attention and affection.

Of course, you may also have added a younger sibling to the family by this time. Your toddler is likely to be confused and agitated at times to have to share your attention, but at other times they'll be fascinated and intrigued by this tiny new human. They will take great pride in helping with the new baby—for example, by bringing you a diaper or a blanket when needed. They can spend time under your supervision helping to hold or hug the new baby, but do not leave them alone with the baby; they still don't understand that they need to be gentle with their sibling.

■ YOUR CHILD AT 15 MONTHS OLD CHECKLIST ■

Immunization Update

All children should have annual influenza and COVID-19 vaccines, ideally prior to influenza season. When it comes to other routine childhood vaccines, many vaccines for this age group can be administered in a window between 15 and 18 months of age, so you'll want to check with your pediatrician to see which ones your child has already had and which ones they still need. Among the vaccines they may need at this age are measles/mumps/rubella (first dose), chickenpox (varicella, first dose), hepatitis B (third dose), diphtheria/tetanus/acellular pertussis (DTaP, fourth dose), inactivated polio (third dose), *Haemophilus influenzae* type b (Hib, third or fourth dose), pneumococcus (fourth dose), and hepatitis A (first dose). If your child is immunosuppressed due to a medical condition, they may need other vaccines at this time as well.

Safety Check

WATER SAFETY

- A child this age may be able to wander outside before you know they're gone. Barriers like fences should provide protection from any swimming pools, decorative ponds, streams, ditches, or other nearby bodies of water.

CAR SAFETY

- Your 15-month-old child should still be in a rear-facing car safety seat in the backseat.
- Use your child's 15-month wellness exam to ensure that your toddler's weight and length are still right for the seat you're using, based on the seat's label.

HOME SAFETY

- As your toddler gets better at walking and climbing, follow them around the house and look for hazards they can now reach. Sharp objects like knives and scissors, breakable glass and ceramic objects, poisons, button batteries, powerful rare-earth magnets, and medications should all be locked away and far out of reach of curious hands.
- Review your plan for escape in case of fire. Make sure the Poison Help number (1-800-222-1222) is programmed in your phone for easy access.

OUTDOOR SAFETY

- As your child becomes more mobile at this age, places like parking lots become more dangerous. Hold your child's hand near traffic, around bodies of water, and anywhere else that they might toddle into harm's way.

CHAPTER 12

Your Child at 18 Months



If your 18-month-old has a motto, it might well be "I can do it." An explosion of new skills has granted your toddler a world of independence, one they're eager to explore. You'll notice this trend in very direct ways, as your child walks farther and farther away from you, looking back frequently to make sure they haven't strayed out of your sight. "No" will have joined "mama" and "dada" in their vocabulary, and they'll enjoy asserting their own opinions using this newfound language.

Reading together and getting dressed become even more enjoyable, as your child starts to turn the pages of board books and offers an arm to a waiting shirt. Your toddler's new motor skills include walking and climbing on and off chairs and sofas, opening new worlds of exploration outdoors and in. A walk down the street or a chase through the house will involve wonder and plenty of giggles! While your child at 18 months will be such a different person than just six months ago, remember that all children develop at different paces. It is not uncommon for your 18-month-old to not do everything that other children the same age are doing. Child development is not a race.

Growth and Development

PHYSICAL APPEARANCE AND GROWTH

Your 18-month-old will look less and less like an infant and more like a young child. They have likely gained weight and grown taller since their first birthday, with a typical growth rate of around 4 to 5 inches (10 to 13 cm) per year, although this can vary dramatically from one child to the next. Their body proportions are also becoming more in line with those of an adult, but with a larger head in proportion to their body. They may still be noticeably bowlegged, but that will change over the next six months as they walk and bear weight. Toddlers at this age have more defined facial features, and their hair may have changed in texture or color. Their coordination and balance have improved, allowing for more confident and steady movements.

MOVEMENT

When it comes to making messes, 18 months is a time of good news and messy news. Good news: Your toddler can drink from a cup without a lid! Messy news: They're still mastering this skill, and spills are inevitable. Good news: Your toddler can feed themselves with their fingers! Messy news: Food is sometimes slippery, and their fingers, not to mention your child's cheeks and your floor, are going to show it. Good news: Your toddler is learning to use a spoon! Messy news: Because they are still learning to use one, not everything will stay on the spoon. Good news: Your toddler can now scribble! Messy news: Your toddler will not distinguish between paper, walls,

and clothing. Good news: By this time, you've become an expert at controlling the mess that goes with an active, curious, quickly developing child, and you can take joy in every new step. Good news: Now that you know the messes are coming, plan ahead to lessen your stress.

Your child's developing motor skills also enable them to explore the world in new ways. Your child will walk quickly and confidently, although looking where they're going is still a work in progress. Expect some bumps and bruises, as their stopping ability may not quite be up to the task. Your toddler will develop their motor skills at an amazing rate, and to keep them safe, you must stay ahead of them in places such as parking lots, grocery stores, and swimming pools. Climbing on chairs and couches grants your child a new perspective on the world, but getting down safely may pose a challenge sometimes. Their developing skills and independence require increased vigilance and supervision.

MOVEMENT/PHYSICAL DEVELOPMENT MILESTONES FOR YOUR CHILD AT 18 MONTHS

- Walks without holding on to anyone or anything
- Scribbles
- Drinks from a cup without a lid and may spill sometimes
- Feeds themselves with their fingers
- Tries to use a spoon
- Climbs on and off a couch or chair without help

LANGUAGE DEVELOPMENT

You were probably thrilled the first time your child said "mama" or "dada," even if it was directed to the cat or dog. But there are so many more things in the world to name, and your 18-month-old is starting to add some of those. Expect your child to continuously learn and use new words and by 2 years of age start putting two words together. It's likely you'll understand your child's words long before strangers do, but they become clearer with practice. Continue the habits you've already built—reading together, narrating what you're doing, and naming new items as your child shows interest—and your child's vocabulary will build rapidly. One thing not to do:

Don't leave the TV or other programming on in the background. When a screen is on, parents tend to talk less to their children, slowing down toddlers' language growth.

Around this time, you'll also notice that your child understands many more words than they can say. When you give your toddler a one-step instruction like "Please pick up the doll" or "Please hand me the toy," they'll start to respond with the appropriate action, at least when they're in the mood to do so. It seems like a simple step, but this development represents a huge leap forward in your child's understanding of language!

LANGUAGE/COMMUNICATION MILESTONES FOR YOUR CHILD AT 18 MONTHS

- Tries to say three or more words besides "mama" or "dada"
- Follows one-step directions without any gestures, like giving you the toy when you say "Give it to me."

COGNITIVE DEVELOPMENT

At 18 months old, you'll notice your child developing their own distinct personality as their cognitive development rapidly advances. They become more aware of their surroundings and can understand simple cause-and-effect relationships, making things such as turning light switches on and off endlessly entertaining. Their memory is also improving, allowing them to recall familiar objects and people. This memory can lead to big hugs when a grandparent shows up at the door, but it can also lead to tears when you say goodbye before heading to work.

Your child is also becoming more curious and enjoys exploring their environment, using their senses to learn about the world around them. Encouraging play and providing a stimulating environment can support their cognitive development and help them reach their full potential. They will start playing with toys, feeding a doll, or pushing a car across the floor. Introducing age-appropriate activities such as stacking blocks, sorting toys, and playing with puzzles can also enhance their problem-solving skills and help build their concentration.

As you watch your toddler play, have you noticed their hard concentration? Each game or task is a learning proposition, and they'll gather all sorts of information about how things work. They'll also be able to draw on facts already learned to make decisions and find solutions to challenges. However, they'll be interested in solving only problems appropriate for their developmental and learning level. Hand them a toy that fascinated them at 11 months and they may walk away bored, or they may object to a game that's too advanced. Your child will be especially attracted to mechanical devices with switches, buttons, and knobs, or to wind-up toys. It may be difficult for you to judge exactly what they can handle, but it's not hard for them. Provide a range of activities, and they'll select the ones challenging but not beyond their abilities.

Imitation is a big part of their learning process at this age. Instead of simply manipulating objects, as they did before, they'll actually use the brush on their hair, babble into the phone, turn the steering wheel of their toy car, and push the wagon back and forth. At first they'll be alone in these activities, but gradually they'll include other players. They might brush their doll's hair, "read" to you, offer a playmate a pretend drink, or hold their toy phone to your ear. Because imitation is an important part of their behavior and learning now, perhaps more than ever, be aware of the behaviors you model. They may say things they hear you say or do what they see you do (either to your great pleasure or to your dismay). This copying behavior also happens between toddlers and their older siblings. It is an ideal time to take advantage of these natural developmental cues.

COGNITIVE MILESTONES FOR YOUR CHILD AT 18 MONTHS

- Copies you doing chores, like sweeping with a broom
- Plays with toys in a simple way, like pushing a toy car

Well before their second birthday, your toddler will excel at hiding games, remembering hidden objects long after they leave their sight. If you pocket their ball while they're playing, you may forget all about it, but they won't! As they master hide-and-seek, they'll also understand more about separations from you. Just as they know a hidden object is somewhere,

they'll now recognize that you always come back, even when away for a whole day. If you actually show where you go when you leave them, they'll form a mental image of you there. This may make separation even easier for them. At this age, your toddler lets you know what role you should play in their activities. Sometimes they'll bring you a toy to make it work; other times they'll pull it away and try it by themselves. Often, when they know they've done something special, they'll pause and wait for applause. By responding to these cues, you'll provide support and encouragement to keep them learning.

You also must supply the judgment they still lack. Until they develop common sense, they'll need your vigilance to keep them safe.

STIMULATING CHILD BRAIN GROWTH: YOUR 18-MONTH-OLD

- Use positive words and give more attention to behaviors you want to see ("wanted behaviors"). For example, "Look how nicely you put the toy away." Give less attention to those you don't want to see.
- Encourage "pretend" play. Give your child a spoon so that they can pretend to feed their stuffed animal. Take turns pretending.
- Help your child learn about others' feelings and about positive ways to react. For example, when they see a child who is sad, say, "They look sad. Let's bring them a teddy."
- Ask simple questions to help your child think about what's around them. For example, ask them, "What is that?"
- Let your child use a cup without a lid for drinking and practice eating with a spoon. Learning to eat and drink is messy but fun!
- Give simple choices. Let your child choose between two things. For example, when dressing, ask them if they want to wear the red shirt or the blue shirt.
- Have steady routines for sleeping and eating. For example, sit at the table with your child when they are eating meals and snacks. This helps set mealtime routines for your family.
- Limit screen time (TV, tablets, phones, etc.) to video calling with loved ones. Screen time is not recommended for children younger than 2 years of age. Children learn by talking, playing, and interacting with others. Limit your own screen time when you are with your child, so you are able to respond to their words and actions.
- Expect tantrums. They are normal at this age and should become shorter and happen less often as your child gets older. You can try distractions, but it's okay to ignore the tantrum. Give them some time to calm down and move on.
- Talk with your child by facing them and getting down to their eye level when possible. This helps your child "see" what you're saying through your eyes and face, not just your words.
- Start to teach your child the names for body parts by pointing them out and saying things like "Here's your nose, here's my nose" while pointing to their nose and your own.

- Try to respond to your child's behavior in a safe and loving way. Stay consistent as much as possible.
- Teach your child more words by adding to the words they say. For example, if they say "Dog," say "Yes, that's a dog. Dogs say 'woof, woof.'"
- Play with your child by rolling balls back and forth, pushing toy cars, and putting blocks or other items in and out of containers.
- Read books and talk about the pictures using simple words.
- Create a spot in your home for your child to go to when they are upset. Stay nearby so that your child knows they are safe and can come to you for help with calming as needed.
- Give toys that your child can push or pull safely.
- Give toys and things to your child that encourage "pretend" play, such as a doll and a blanket.

SOCIAL/EMOTIONAL DEVELOPMENT

Interactions with your 18-month-old are growing richer by the day. Your toddler is fascinated by the world around them, and they'll excitedly point at or bring things to you for you to share in their interest. Their eagerness to explore will move them progressively farther from your side, but you'll also notice they will be cautious enough to look back at you often and make sure you haven't gone too far. You can almost imagine they're on an elastic rope, bouncing away from you and back again like a yo-yo.

One of the best parts of this period is your child's growing capacity for self-care. When it's time to wash their hands, your toddler will extend them toward the water, waiting for soap. Within several months they may be washing their hands without any help at all! Likewise, dressing gets easier as they learn to thrust a hand through a sleeve and a foot through a pants leg. Of course, they're also developing strong opinions, so choosing just which shirt and which pants may require some cajoling or compromise. Reading together becomes a much more interactive process, with your child bringing you a favorite book and then skipping back and forth among the pages; sometimes they are patient with your telling of the story and other times they are eager to get to a favorite image or word.

As your toddler's independence grows, they are becoming more confident and are starting to form stronger bonds with familiar people, such as parents, grandparents, and caregivers. They are also becoming more aware of the feelings of others and may show empathy by offering comfort or sharing toys. During this stage, it is common for toddlers to experience

separation anxiety when separated from a familiar caregiver. Providing comfort, reassurance, and a consistent routine can help ease their concerns.

This view of the world (some experts call it egocentric or self-centered) often makes it difficult to truly play with other children socially. They'll play alongside and compete for toys, but they don't play cooperative games easily. They will enjoy watching and being around other children, especially if the other children are slightly older. They may imitate them or treat them like dolls (trying to brush their hair), but they're usually surprised and resist when another child tries doing the same to them. They may offer toys or things to eat but may get upset if the other child takes what's offered.

The concept of "sharing" is meaningless to a child this age. Every toddler believes they alone deserve the spotlight. Unfortunately, most are also as assertive as they are self-centered, and competition for toys or attention frequently erupts into hitting and tears. How can you minimize the combat when your child's friends are over? Try providing plenty of toys for everyone, and be prepared to referee.

Your child also may start being possessive over toys they know are theirs. If another child even touches the plaything, they may rush over and snatch it away. Try reassuring them the other child is "only looking at it" and "it's okay for them to have a turn with it." But also acknowledge that "yes, it's your toy, and they're not going to take it away from you." It may help to select the particularly prized items and make them off-limits to others. Sometimes this helps toddlers feel they have some control and makes them less possessive about other belongings.

It is important to provide opportunities for your child to express their emotions and to help them label their feelings. Encouraging positive behaviors, such as sharing and taking turns, and modeling appropriate social interactions can help support their social and emotional development. You can provide a safe and nurturing environment where they feel secure and valued.

SOCIAL/EMOTIONAL MILESTONES FOR A CHILD AT 18 MONTHS

- Moves away from you, but looks to make sure you are close by

- Points to show you something interesting
- Puts hands out for you to wash them
- Looks at a few pages in a book with you
- Helps you dress them by pushing arm through sleeve or lifting up foot

GENDER IDENTIFICATION

If you took a group of 1-year-olds, dressed them alike, and let them loose on a playground, could you tell the boys from the girls? Probably not. Except for minor variations in size, there are very few differences between the sexes at this age. Boys and girls develop skills at about the same rate and enjoy the same activities. Some studies have found boys more active than girls, but the differences during these first years are negligible.

Although parents generally treat boys and girls this age similarly, they often encourage different toys and games for each sex. Tradition aside, there's no basis for pushing girls toward dolls and boys toward trucks. Left to their own devices, both sexes are equally attracted to all toys, and should be allowed to play with a variety of toys they might be interested in.

Incidentally, young children learn to identify as boys or girls by associating with other members of their own sex. But this process takes years. Dressing your girl exclusively in frills or taking your boy to baseball games won't make much of a difference at this age. What does matter is the love and respect you give your child as a person, regardless of sex. This will lay the foundation for high self-esteem.

Because children this age have little awareness of others' feelings, they can be very physical in their responses to the children around them. Even when just exploring or showing affection, they may poke each other's eyes or pat too hard. (The same is true of their interactions with animals.) When upset, they can hit or slap without realizing they are hurting the other child. For this reason, be alert whenever your toddler is among playmates, and pull them back as soon as this physical aggressiveness occurs. Tell them, "Don't hit," and redirect the children to friendlier play.

MASTURBATION

As toddlers explore their bodies, they naturally discover their genitals. Since touching them produces pleasant sensations, they do it often when their diapers are off. Although this may be accompanied by penile erections in boys, it's neither a sexual nor emotional experience for toddlers. It just feels good. There's no reason to discourage it, worry, or call attention to it. If you show a strong negative reaction when they touch their genitals, you're suggesting there is something wrong or bad about these parts. They may even interpret this to mean there's something wrong or bad about what they're doing. Wait

until they're older to teach them about privacy and modesty. For now, accept this behavior as normal curiosity.

Fortunately, your toddler shows their self-awareness in less aggressive ways as well. By 18 months, they'll be able to say their name. At about the same time, they'll identify their reflection in a mirror and show a greater interest in caring for themselves. As they approach age 2, they may be able to help brush their teeth and wash their hands if shown how. They'll also help dress and, especially, undress themselves. Throughout the day you may find them busily removing shoes and socks, even in the middle of a store.

Because your toddler is a great imitator, they learn important social skills from the way conflicts between the two of you are handled. Model for them how words and listening can, at least on occasion, be used to resolve conflicts ("I know you want to get down and walk, but you must hold my hand so that I know you're safe"). As an imitator, they also will eagerly participate in anything you're doing. Whether sweeping the floors, mowing the lawn, or making dinner, they'll want to "help." Even though it may take longer, try turning it into a game. If you're doing something they can't help with, look for another chore they can do. Don't discourage these wonderful impulses to be helpful. Helping, like sharing, is a vital social skill, and the sooner they develop it, the more pleasant life will be for everyone.

WHEN YOUR CHILD FEELS SHY

Some children are naturally fearful about new people and situations. They hold back, watching and waiting before joining a group activity. If pushed to try something different, they resist, and when faced with someone new, they cling. For a parent trying to encourage boldness and independence, this behavior can be frustrating. But challenging or ridiculing it will only make a child who feels shy more insecure.



The best solution is to allow your child to move at their own pace. Give them the time needed to adapt and let them hold your hand when they need extra assurance. Praise them when they show bravery. If you take their behavior in stride, outsiders will be less likely to ridicule it, and they'll develop self-confidence quickly. If they continue this kind of behavior, discuss it with your pediatrician.

WHEN YOUR CHILD IS FEELING AGGRESSIVE

Before they are 2 years of age, some children often deal with their frustration through aggressive behavior. They want to take charge and control everything going on. When they don't get what they want, they may turn toward violent behavior, such as kicking, biting, or hitting.

If your toddler does these things, you'll need to watch them closely and set firm, consistent limits. Give them plenty of positive outlets for their energy through physical play and exercise. When they're with other children, supervise them carefully to prevent serious trouble, and praise them when there's a play session without a problem.

In some families, a toddler's aggressive outbursts are considered an omen of future delinquency. Believing they have to come down hard on this behavior as soon as it appears, the parents spank or hit the child as punishment. However, children of this age copy their parents. A child treated like this can begin to believe this is the correct way to handle people whose behavior they don't like—the opposite of what the parent intended. This reaction may just reinforce their aggressiveness. The best way to teach your child how to hold back their aggressive impulses is to remind them how to behave in advance, offer praise for playing well with others, and be firm and consistent when they misbehave.

Also, their siblings and you should offer good examples of how to behave. (See also *Anger, Aggression, and Biting,* page 473.) Sometimes more than words are needed to correct a toddler's misbehavior. Consider using a time-out and/or a time-in (see page 280).

Brief separations from you may help your toddler become more independent. They'll still suffer some separation anxiety and perhaps fuss when you leave—even for just a few minutes—but the protest will be brief. You may be more upset by these separations than they are, but try to not let them know. If they believe their fussing might cause you to stay, they'll do so with similar occasions in the future. Also, as tempting as it might be to sneak away, if you do that they might actually become more clingy, since they'll never know when you'll disappear next. Instead, leave with a kiss and a promise to return. And when you come back, greet them enthusiastically and devote your full attention to them before moving on to other chores or business. When your child understands you always return and continue to love them, they'll feel more secure.

Basic Care

FEEDING AND NUTRITION

By 18 months, your toddler will try to use a spoon, and can use an unbreakable glass or cup, though they may not always want to. There will be times they'd rather finger-paint with their pudding or turn their plate into a Frisbee. Some children get over this chaotic eating behavior by their second birthday, at which time they may become upset when they spill or get a smudge of food on their hands. Others, however, will remain messy eaters well past 2 years of age.

When it comes to drinking, water should be your toddler's primary beverage at this point. Juices, even 100 percent real fruit juice, contain too much sugar and can contribute to tooth decay. Milk, whether from a cow or a plant, can provide some additional nutrition, but 16 ounces (2 cups) a day is plenty at this age.

At 18 months, your toddler is becoming more independent and has strong likes and dislikes. It's important to offer a variety of healthy foods at each meal and let your toddler decide what and how much to eat. As long as everything in front of them is healthy, they can't make a "bad" choice. Avoid pressure to finish a certain amount or certain foods. Instead, offer positive encouragement for trying new foods and recognize their efforts. During this stage, mealtime should be a positive and enjoyable experience for both you and your toddler.

Additionally, it's important to provide structure and routine around meals and snacks. Offer food at consistent times and aim for regular mealtimes and snacks. This helps your toddler develop healthy habits and a positive relationship with food. Let your toddler take the lead on self-feeding and allow for messes as they learn and develop their fine motor skills. Be patient and remember that the goal is to create a happy and healthy relationship with food.

SLEEPING

Two of the most important tasks your toddler has at this phase—learning and emotional self-regulation—go a lot better when they have adequate, restorative sleep. For most children this age, that means around eleven to fourteen hours total, including daytime naps. Some children have moved from a crib to a bed at this age, but they may not always want to stay in it. If and when they do get up, quickly and calmly walk them back and tuck them back in, explaining that you expect them to stay. Making sure they have a clean diaper and access to water before bed will help. While a dim nightlight in a warm color can help ward off fear of the dark, try to avoid bright, white, or blue-tinted lights, which interfere with the brain's sleep hormones. Screen entertainment will do the same thing, so make sure that phones, tablets, and televisions are off for at least one hour before bedtime.

Now is a good time to continue the "brush, book, bed" routine you've already been building. Every family will come up with their own variations and traditions, but working toward bedtime by making sure your child's teeth are brushed, sharing a story together, and tucking them in packs a lot of healthy habits into a short time. The more consistent you are with bedtime routines and the rituals around it, the more easily your 18-month-old will fall asleep and stay asleep, making the process more enjoyable for everyone. During times of family stress or upheaval, sleep disturbances may occur. Returning to established bedtime routines will facilitate better sleep.

TOILET TRAINING

Eighteen months is about the earliest children are ready to start learning to use the toilet. At this age, most parents do not feel their children have developed the necessary skills and interest. It is advisable to delay toilet

training during times of change or stress, such as moving to a new home, the birth of a sibling, or other significant events. To start toilet training, a child must be able to remove their clothing and diaper, have words for bathroom activities, and show at least some interest in gaining these skills. They'll also need a stool and potty seat or toddler-size potty where they can comfortably sit with their feet resting on a stable surface. If your toddler is ready, feel free to start, but expect plenty of accidents, and maintain a relentlessly positive attitude. If your child is not ready, rest assured that the average American child needs about another year or longer to toilet-train.



Visit to the Pediatrician

Halfway between ages 1 and 2 years your child will have an important well-child visit with their pediatrician. In addition to reviewing their medical history, addressing any concerns or questions you have, and performing a head-to-toe physical examination, your pediatrician will assess your child's development and screen them for early signs of autism spectrum disorder. Many offices can provide you with the developmental screening questions

online or on paper prior to the visit so that you have time to respond before you're sitting in the office.

The doctor will also check your child's weight, length, and head circumference and show you how they're growing compared to the past. Many parents and grandparents worry the child isn't eating enough or growing appropriately. There is nothing as reassuring as seeing the progress on a growth chart; in this case, a picture is worth a thousand words. To make sure you get the most out of your visit, check in with everyone who cares for your child and collect any questions or concerns ahead of time.

■ YOUR CHILD AT 18 MONTHS OLD CHECKLIST ■

Immunization Update

If it's fall, winter, or early spring, all children should have annual influenza and COVID-19 vaccines. When it comes to other routine childhood vaccines, many vaccines for this age group can be administered in a window between 15 and 18 months of age, so you'll want to check with your child's pediatrician to see which ones they've already had and which ones they still need. Among the vaccines they may need at this age are hepatitis B (third dose), diphtheria/tetanus/acellular pertussis (DTap, fourth dose), inactivated polio (third dose), and hepatitis A (second dose). If your child is immunosuppressed due to a medical condition, they may need other vaccines at this time as well.

Safety Check

Your 18-month-old is growing larger and more curious with time, which makes this a good time to walk through their surroundings looking for new hazards. If there is a hazard in your home, your child will find it—unless you find it first. This applies to other homes your child will visit, such as grandparents' and other relatives' homes. Are there medications, sharp objects, button batteries, powerful rare-earth magnets, or choking hazards

they can now reach? Are all bodies of water fenced off? Are windows secured to prevent falling? Is the furniture anchored to the wall? Try following your child around for a few minutes, and you're sure to see some things you might have missed.

At 18 months your child should be in a rear-facing convertible car safety seat. Their well-child exam is a great time to check that their weight and length are still within the manufacturer's limits for the car safety seat you're using. Their legs may be scrunched up as they grow, but the most important things you're protecting are their neck and head, and they will be comfortable even if their knees are bent.

See *Safety Check* in Chapter 10, page 228.

FALLS

- Lock doors to any dangerous areas and hide the keys and secure all doors to the outside so that children cannot wander out.
- Install stairway gates and window guards.

BURNS

- Keep your child away from kitchen appliances, irons, and wall or floor heaters (check for safety features on both newer heaters and those in old houses).
- Block outlets with furniture or use outlet covers that are not a choking hazard.
- Keep electrical cords out of reach.
- Install and maintain working smoke and carbon monoxide detectors.
- Do not have lit candles in areas that are easily reachable by a child.
- Do not allow your child to remove hot foods from the microwave. Stay close to the microwave when it is in use.

POISONING

- Keep all medicines in child-resistant containers, locked up high, out of sight and reach. Make sure you engage the child-resistant closure every time.

- Store household cleaning products and medicines in their original containers in a locked cabinet.
- It is safest to use liquid or powder laundry detergent instead of concentrated liquid laundry packets until your child is at least 6 years old. Regardless, all household cleaners and packets should be kept out of reach.
- Post the Poison Help number (1-800-222-1222) next to every telephone and in your cellphone contacts list. This number can be used everywhere in the United States.
- Ensure that dangerous items, especially laundry detergent pods, small lithium button batteries, water beads, and powerful rare-earth magnets, are safely locked away.

CAR SAFETY

- Supervise your child closely whenever playing outside. Do not allow your child to play near the garage or driveway, where cars may be coming or going. Children can be killed when someone, often a family member, unintentionally runs them over with a car. Most vehicles have large blind spots where a child cannot be seen as a car is backing up or moving. Keep cars locked when not in use so that your child cannot get in without permission.

CHAPTER 13

Your Child at 2 Years



Your child is now advancing toward the preschool years. You can expect to see some tremendous intellectual, social, and emotional changes. Their vocabulary will grow. They'll try to increase their independence from other family members, and—upon discovering that society has certain rules they are expected to observe—they'll begin to develop some real self-control.

From a neurological perspective, your 2-year-old's brain is responding to their environment with frequent little "storms" of neurological activity,

which is a lot for your little one to process and handle. With your support they can handle this overload of activity in their brain and find the pathways most useful for functioning. Over the next year, you will slowly see that they are becoming more emotionally regulated, showing new connections in their play, demonstrating their rapidly emerging communication skills, and displaying their ability to handle the full spectrum of human emotions. You are key to their success in navigating this exciting and sometimes emotionally challenging chapter in their development.

These changes may present an emotional challenge for you and your child, but establishing increasing independence is a developmental hallmark of this stage, in which the word "no" is tried out frequently. This period may seem like a constant tug-of-war between their continuing reliance on you and their need to assert their independence. They may flip-flop between these extremes, clinging to you when you try to leave and running in the opposite direction when you want them to obey. You may find yourself longing for the cuddly infant they were, even as you are learning to support their growing independence. It's no wonder you occasionally lose patience with each other.

On the other hand, this is also a time of joy and new independence for your 2-year-old. Their language grows, and their ability to be a "real person" blossoms. They play more games, can entertain themselves for longer periods, and can expand their imagination by telling stories and engaging with others.

By acknowledging and accepting these changes over the next hectic years, both the positives and the negatives, you'll make it easier for both of you. Safe, stable nurturing caregiver relationships help a child to develop adaptive skills and resilience. They learn to feel comfortable, capable, and special, largely through your responses—the encouragement and respect you show them, your appreciation for their accomplishments, and the warmth and security you offer.

These feelings will help later as they go to school and meet new people. Most importantly, they'll be proud of themselves.

Growth and Development

PHYSICAL APPEARANCE AND GROWTH

Your preschooler will continue their remarkable physical transformation to an older child. The most dramatic change will occur in their bodily proportions. As an infant, they had a relatively large head and short legs and arms; now their head will grow more slowly. Their height will increase quickly, primarily in their legs and, to some degree, the rest of their body. With these changes in growth, their body and legs will look much more in proportion.

As your child grows, it is normal for body fat to become less noticeable and for arms and legs to appear more slender and the face less round. Even the pads of fat under the foot arches, which had been giving the appearance of flat feet, may begin to disappear.

Their posture will change as well during this time. The pudgy, babyish look of a toddler was partly due to their posture, particularly their protruding abdomen and inwardly curving lower back. But as muscle tone improves and their posture becomes more erect, they tend to develop a longer, leaner, stronger appearance.

Your child will continue to grow slowly but steadily. Preschoolers grow an average of 2½ inches (6 cm) annually and gain about 4 pounds (2 kg) each year. Plot and track your child's height and weight on the growth charts in the Appendix. If you notice a pronounced lapse in growth, discuss it with your pediatrician. They will probably tell you there is no need to be overly concerned, as some healthy children do not grow as quickly during their second and third years as others.

Less commonly, a dramatic pause in growth during the preschool years may signal something else—perhaps a recurrent infection, or a chronic health problem such as kidney or liver disease. In rare cases, slow growth may be due to a hormone disorder or gastrointestinal complications of some chronic illnesses. Your pediatrician will take all these things into consideration when they examine your child.

Don't be surprised if your 2-year-old eats less than you think they should. Children need fewer calories at this time because they're growing more slowly. Even though they're eating less, they can still remain well nourished as long as a variety of healthy foods is available. Encourage healthy snacks and begin establishing sound and healthy eating habits. If

they seem overly preoccupied with food and appear to be accumulating excess weight, talk to your pediatrician about ways to encourage healthy eating and activity. Children at this age naturally have wide fluctuations in how much they eat; these changes coincide with their growth spurts. Don't worry if your child shows less interest in food at any particular meal. If you consistently present a nutritious variety of foods and ensure that mealtime is a quiet, engaging time together, your child will be more attuned to their biological needs and eat accordingly. Early eating behaviors can influence the risk of obesity throughout life, so establishing healthy eating patterns and ensuring plenty of exercise, activity, and free play in childhood is important.

MOVEMENT

At this age, your child will seem continually on the go—running, kicking, climbing, jumping. Their attention span, which was never particularly long, may seem even shorter. Try starting a game with them, and they'll immediately change to a different one. Head in one direction, and they'll quickly detour. This yearlong energy spurt between ages 2 and 3 will certainly keep you busy. But take heart—this activity level will strengthen their body and develop their coordination.

This is a critical time when childproofing your house really begins to pay off. Consider your child's increased abilities to move, run, and climb. Survey your house. Are there potentially harmful things that were previously inaccessible that are now within their reach? Creating a safe place allows your child to feel safe and free to respond to their innate drive to explore and learn. They will still need supervision. Watch over them without intruding and delight in their new discovery of independence. They will pick up on your positivity, feel good about themselves, and further develop their self-esteem and confidence.

In the months ahead, your child's running will become smoother and more coordinated. They'll also learn to kick and aim a ball, walk up and down steps by themselves while holding on, and seat themselves confidently in a child-size chair. With help, they'll even be able to stand on one leg.

Watch your 2-year-old walk. The stiff, spread-legged gait of a young preschooler will be replaced with a more adult, heel-to-toe motion. They

have also become much more adept at maneuvering their body, capable of walking backward and turning corners that are not too sharp. They also can do other things while they move, such as use their hands, talk, and look around.

MOVEMENT MILESTONES FOR YOUR CHILD AT 2 YEARS

- Walks (not climbs) up a few stairs with or without help
- Kicks a ball
- Runs



Don't worry about finding activities to help your child develop their motor skills. They'll probably be able to do that themselves. When you are able to join in, bear in mind that children this age love piggyback rides, rolling on mats, going down small slides, and climbing (with help) on a floor-level balance beam. The more running and climbing your games involve, the better.

Try to set aside times when they can go outside to have fun, play, and explore. This will help minimize wear and tear on your house as well as your nerves. While outdoors, let them use the yard, playground, or park—whichever is available and safe for them. But be aware: Since their self-control and judgment lag considerably behind their motor skills, you must remain vigilant and keep safety and injury prevention a priority.

HAND AND FINGER SKILLS

At age 2, your child can manipulate small objects with ease. They'll turn book pages, build a tower six blocks high, pull off their shoes, and unzip a zipper. They'll also be able to turn a doorknob, unscrew a jar lid, use a cup with one hand, and unwrap candy wrappers.

Fortunately, your child's quiet play will be much more focused than it was at 18 months, when they were into everything. Their attention span is longer, and now that they can turn pages, they'll be an active participant as you look at books together. They'll also be interested in activities like drawing, building, and manipulating objects. Blocks and interlocking construction sets may keep them entertained for long periods. And if you let them loose with a box of crayons or finger paints, their creative impulses will begin to flourish. Kids explore the world by touching, and even at this age they are still mouthing items, so make sure to keep all medications, supplements, cleaning products, batteries, and other potentially dangerous items up high, out of their reach.

By 24 months, your toddler may demonstrate a clear tendency toward right-or left-handedness. However, many children don't show this preference for several years. Other children are ambidextrous, using both hands equally well, and may never establish a clear preference. There's no reason to pressure use of one hand over the other or to rush the natural process that leads to a preference.



LANGUAGE/COMMUNICATION DEVELOPMENT

Your 2-year-old not only understands most of what's said, but also has a rapidly growing vocabulary of fifty or more words. Over the course of this year, they'll graduate from two- or three-word sentences ("Drink juice," "Mommy want cookie") to those with four, five, or even six words ("Where's the ball, Daddy?" "Dolly sit in my lap"). They're also beginning to use pronouns ("I," "you," "me," "we," "they") and understand the concept of "mine" ("I want my cup," "I see my mommy"). Pay attention to how they use language to describe ideas and information and to express their physical or emotional needs.

Most toddlers master at least fifty spoken words by 24 months and can put two words together to form a short sentence, although these milestones vary among children. Even among those with normal hearing and intelligence, some don't talk much during the second year. Whenever your child begins to speak, their first few words will probably include names of familiar people, their favorite possessions, and body parts. You may be the only person who understands these early words, since they'll omit or change certain sounds. They might get the first consonant and vowel right but drop

the end of the word. Or they may substitute sounds they can pronounce, such as *d* or *b,* for more difficult ones.

This is a good time to reinforce the labeling of emotions. Your child is experiencing big emotions. Providing the names of those feelings honors their life experience across the wide range of human emotions and helps them understand and appreciate what is happening inside their body and how they can manage their feelings. Helping them label their emotions lets them know that you understand. We all feel better when we know we are understood. This is an especially valuable experience you can provide for your little one.

It's human nature to measure your preschooler's verbal abilities against those of other children their age, but try to avoid this. There's more variation in language development than in any other area. While some preschoolers steadily develop language skills, others seem more uneven. Some children are also naturally more talkative. This doesn't mean that children who are more verbal are necessarily smarter or more advanced, nor does it mean they have richer vocabularies. The quiet child may know just as many words but is choosier about speaking.

Without any formal instruction, just by listening and practicing, your child will master many of the basic rules of grammar when they enter school. You can enrich their vocabulary and language skills by continuing to make a routine out of reading every day. At this age, they can follow a story line and understand and remember ideas and information presented in books. Even so, the books you read should be short, especially if they have a hard time sitting still. To keep their attention, choose activity-oriented books that encourage them to touch, point, and name objects or repeat certain phrases. Toward the end of this year, they'll also have fun with poems, puns, or jokes that play with language by repeating funny sounds or using nonsense phrases.

LANGUAGE/COMMUNICATION MILESTONES FOR YOUR CHILD AT 2 YEARS

- Points to things in a book when you ask, like "Where is the bear?"
- Says at least two words together, like "More milk."

- Points to at least two body parts when you ask them to show you
- Uses more gestures than just waving and pointing, like blowing a kiss or nodding yes

For some children, however, language development is not smooth. About one in every ten to fifteen children has trouble with language comprehension and/or speech. For some, the problem can be caused by hearing difficulty, a developmental disorder such as autism or a learning disability, lack of verbal stimulation at home, or a family history of speech delays. In most cases, though, the cause is unknown. If your pediatrician suspects difficulty with language, they'll conduct a thorough physical exam and hearing test and, if necessary, refer you to a speech/language or early childhood specialist. Early detection and identification of language delay or hearing impairment is critically important so that treatment can begin before the problem interferes with learning in other areas. Unless you and your pediatrician identify the difficulty and act, your child may have trouble with classroom learning later.

COGNITIVE DEVELOPMENT

Think back to your child's infancy and toddler months, a time when they learned about the world by touching, looking, manipulating, and listening. For a 2-year-old, the learning process has become more thoughtful. Their grasp of language is increasing, and they're beginning to form mental images for things, actions, and concepts. They also can solve problems in their head, performing mental trial and error instead of manipulating objects physically. And as their memory and intellectual abilities develop, they'll begin to understand time concepts, such as "You can play *after* you finish eating."

COGNITIVE MILESTONES FOR YOUR CHILD AT 2 YEARS

- Holds something in one hand while using the other hand—for example, holding a container and taking the lid off
- Tries to use switches, knobs, or buttons on a toy
- Plays with more than one toy at the same time, like putting toy food on a toy plate







Your child is starting to understand relationships between objects. They'll be able to match similar shapes when given shape-sorting toys, and they can complete simple jigsaw puzzles. They'll also begin to recognize the purpose of numbers in counting objects—especially the number 2. And as their understanding of cause and effect develops, they'll become much more interested in wind-up toys and turning lights and appliances on and off.

You'll also notice your preschooler's play growing more complex. They'll start stringing together different activities to create logical sequences. Instead of drifting randomly from one toy to another, they may first put a doll to bed, then cover it up. Or they may pretend to feed several dolls, one after the other. Over the next few years, they'll put together longer and more elaborate sequences of make-believe, acting out much of their own routine, from getting up to taking a bath and going to bed.

If there is one major intellectual limitation at this age, it would be your child's feeling that everything that happens is the result of something they did. With this belief, it becomes very difficult to understand concepts such as death, divorce, or illness without feeling they have played some role. If parents separate or a family member gets sick, children often feel responsible. (See the discussion in Chapter 29, *Family Issues*.)

Reasoning with your 2-year-old is often difficult. After all, they view everything in extremely simple terms. Unless they're actively playing make-believe, they often confuse fantasy with reality. Choose your words carefully: Comments you think are funny or playful—such as "If you eat more cereal, you'll explode"—may actually panic them, as they won't know you're joking.

SOCIAL/EMOTIONAL DEVELOPMENT

Children this age can often seem concerned about their own needs and act selfishly. They may refuse to share things that interest them, and they do not interact well with other children when playing side by side—that is, unless they want a toy or other object from a playmate. At times, your child's behavior may make you upset. But if you look closer, you'll notice all preschoolers are probably acting the same way.

At the same time, 2-year-olds are developing the ability to express true empathy. You can help that process by talking about how other people feel: "Emma is crying. She is sad because you took her car. Can you please give it

back?" Don't expect your 2-year-old to always be able to control their behavior; they are still working on that skill. But with your help they can practice and keep getting better.

SOCIAL/EMOTIONAL MILESTONES FOR YOUR CHILD AT 2 YEARS

- Notices when others are hurt or upset, like pausing or looking sad when someone is crying
- Looks at your face to see how to react in a new situation





With such self-directed behavior, you may find yourself worrying that your 2-year-old is spoiled or out of control. Likely, your fears are unfounded, and they'll pass through this phase. Highly active, aggressive children who push and shove usually are just as normal as quiet, shy ones who never seem to act out their thoughts and feelings.

Ironically, despite your child's apparent self-interest, they'll spend much of their playtime imitating other people's mannerisms and activities. "Pretend" is a favorite game at this age. When your 2-year-old puts their teddy to bed, you may hear them use the same words and tone you use when telling them to go to sleep. No matter how they otherwise resist your instructions, when they move into the parent role, they imitate you exactly. These play activities help them learn what it's like to be in someone else's shoes, serve as valuable rehearsals for future social encounters, and help you

appreciate the importance of role modeling, since children often do as we do, not as we say.

Your 2-year-old will best learn how to behave around other people by being given plenty of trial runs. Don't let their relatively antisocial behavior discourage you from getting play groups together. It may be wise at first to limit groups to two or three children. And although you'll need to monitor the group so that no one gets hurt or overly upset, you should also let the children guide themselves as much as possible. They need to learn how to play with one another, not with one another's parents.

HOLDING THE LINE ON TANTRUMS

Frustration, anger, and an occasional tantrum are inevitable for all 2-year-olds. You should allow your preschooler to express their emotions but also try to help them channel their anger away from violent or overly aggressive behavior. Here are some suggestions.

- When you see your child starting to get worked up, try to turn their energy and attention to a new, more appropriate activity.
- When distraction doesn't work (and it often won't), first acknowledge how your child is feeling and why: "You're mad. We have to leave now, and you don't want to leave." Don't try to reason with them, and don't yell, scold, or punish. Also, don't reward the tantrum by giving them what they want. Instead, make sure they are safe, and give them some space and time to work through this emotional storm. Then let them know that you're going to give them some time to calm down. In time, they will.
- If you're in public when their behavior is embarrassing you, simply remove them without discussion or fuss. Wait until they've calmed down before you return or continue with your activities.
- Do not use physical punishment or hitting to discipline your child. If you do, they will learn that aggression is an acceptable way to respond when they don't get their way.
- If the tantrum involves them hitting, biting, or some other potentially harmful behavior, you can't ignore it. Model an empathic response by giving the victim caring attention that your child can see and learn from. But overreacting won't help your child. Instead, tell them immediately and clearly they are not to behave this way, and move them off by themselves for a few minutes. They can't understand complicated explanations, so don't try to reason with them. Just make sure they understand what they were doing is wrong and give your consequence then and there. If you wait an hour, they won't connect the punishment with the "crime." Remember, physically punishing your child is only likely to make things worse and teach them that hurting others is how we respond when we don't like what others are doing. (See *Temper Tantrums,* page 486.)
- Limit and monitor their screen time. (See Chapter 35, *Media.*) Preschool children may behave more aggressively if they watch violent programs on TV.

HYPERACTIVITY

By adult standards, many 2-year-olds seem "hyperactive." But it's perfectly normal at this age to prefer running, jumping, and climbing to walking slowly or sitting still. They also may speak so fast it's hard to understand, and you may worry about their short attention span, but be patient. This excess energy usually subsides by school age.

Given most 2-year-olds' high energy level, it makes more sense for parents to adjust than to force the child to slow down. If your preschooler is a "mover," adjust your expectations accordingly. Don't expect them to stay seated through a long community meeting or restaurant meal. If you take them shopping, be prepared to move at their pace, not yours. In general, avoid putting them in situations you know will be frustrating, and give them plenty of opportunities to release excess energy through games involving running, jumping, climbing, and throwing or kicking a ball.

Without strong guidance, an active child's energy can easily turn aggressive or destructive. To avoid this, establish clear and logical rules and enforce them consistently. You also can encourage low-key behavior with praise whenever they play quietly or look at a book for more than a couple of minutes. It helps, too, to keep bedtime, mealtime, bath, and nap routines as regular as possible so that they have a sense of structure to their day.

Some preschool children have very severe problems with hyperactivity and short attention spans that persist beyond the preschool years. Only if these problems significantly interfere with preschool activities, preschool performance, or social behaviors do they warrant special treatment. (See *Hyperactivity and the Easily Distractible Child,* page 480.) If you suspect your child may be having difficulties in these areas, ask your pediatrician to evaluate them.

High-quality early education offers structured opportunities to interact with other children in a safe environment. As they approach 3, your child may develop real friendships. Inviting these new friends to play provides a great opportunity for them to develop their social skills.

AUTISM SPECTRUM DISORDER

Awareness of autism spectrum disorder (ASD) has increased in recent years, and there has been a notable increase in the number of diagnosed cases of young children with the condition. When a child is diagnosed as having ASD, they will likely have difficulties with communication and social skills.

Pediatricians recognize that the sooner ASD is identified, the sooner an intervention program directed at the child's symptoms of autism can start. For that reason, you need to be aware of the early warning signs of ASD, and talk to your pediatrician if you suspect that any of them are present. These symptoms may include:

- Difficulty making or keeping eye contact
- A lack of, delay in, or loss of language
- A lack of response to a parent's smile or other facial expressions
- Repetitive body movements (such as hand-flapping or rocking)

- A lack of pretend play
- Using toys or other objects in unusual, repetitive ways
- Difficulty understanding other people's feelings or talking about their own feelings

The American Academy of Pediatrics recommends screening for ASD at 18 and 24 months, and at any age if you or your pediatrician is concerned that problems with development may be present. Children develop at their own pace, but there are general developmental milestones to be aware of during the 2- to 3-year age range when children are speaking more and developing play skills with other children.

(For more information about ASD, see pages 516–22.)

It's difficult to follow the ups and downs of a 2-year-old. One moment they're beaming and friendly, the next sullen and weepy—often for no apparent reason. These mood swings, however, are part of growing up. They are signs of emotional changes taking place as your child struggles to control actions, impulses, feelings, and their body.

At this age, your child wants to explore and seek adventure. They'll spend most of their time testing limits—their own, yours, and their environment's. Unfortunately, they still lack many skills required for the safe accomplishment of everything they need to do, and they often will need your protection.

When they overstep a limit and are pulled back, they often react with anger and frustration, a temper tantrum, or sullen rage. They may even hit, bite, or kick. At this age, they don't have much control over their emotional impulses. Their anger and frustration tend to erupt suddenly in the form of crying, hitting, or screaming. It's their only way of dealing with the difficult realities of life. They may even act out in ways that unintentionally harm themselves or others. It's all part of being 2.

Have sitters or relatives told you your child never behaves badly when they're caring for them? It's not uncommon for preschoolers to be angels when you're not around. They don't trust these other people enough to test their limits. But with you, your preschooler is willing to try things that may be dangerous or difficult. They know you'll rescue them if needed.

Whatever protest pattern developed around the end of their first year will probably persist for some time. When you're about to leave them with a sitter, they may become angry and throw a tantrum in anticipation of the separation; they may whimper, whine, and cling to you; or they may become

subdued and silent. Whatever their behavior, try not to overreact by scolding or punishing. The best tactic is to reassure them you will be back and then, when you return, praise them for being so patient while you were gone. Take solace in the fact that separations should be much easier when they're 3.

The more confident and secure your 2-year-old feels, the more independent and well-behaved they're likely to be. You can help them develop these positive feelings by encouraging them to behave more maturely. Consistently set reasonable limits that allow them to explore and exercise their curiosity but draw the line at dangerous or antisocial behavior. They'll soon begin to sense what's acceptable and what's not. The key is consistency. Praise them every time they play well with another child, whenever they feed, dress, or undress themselves without help, and when they complete an activity by themselves. When you do this, they'll feel good about these accomplishments and themselves. With their self-esteem rising, they'll develop an image of themselves as someone who behaves the way you have encouraged, and negative behavior will fade.



Since 2-year-olds normally express a range of emotions, be prepared for everything from delight to rage. However, you should consult your pediatrician if your child seems very passive or withdrawn, perpetually sad, or highly demanding and unsatisfied most of the time. These could be signs

of depression, caused by either hidden stress or biological problems. If your doctor suspects depression, they'll probably refer your child to a mental health professional for a consultation.

Basic Care

FEEDING AND NUTRITION

By age 2, your child should be eating three healthy meals each day, plus one or two snacks. They can eat the same food as the rest of the family. With their improved language and social skills, they'll become an active participant at mealtimes if given the chance to eat with everyone else. Do not fixate on amounts or make mealtimes a battle. Do, however, adopt healthy eating habits and make healthy food choices as a family. Sitting as a family at mealtime is the beginning of a good habit, too!

Fortunately, your child's feeding skills have become relatively "civilized" by now. At age 2, they can use a spoon, drink from a cup with one hand, and feed themselves a wide variety of finger foods. But while they can eat properly, they're still learning to chew and swallow efficiently, and may gulp their food when in a hurry to get on with playing. For that reason, the risk of choking is high, so avoid the following foods, which could block the windpipe:

HOT DOGS (unless sliced lengthwise, then across)

WHOLE NUTS (especially peanuts)

ROUND, HARD CANDIES OR GUM

POPCORN

WHOLE GRAPES

CHUNKS OF APPLE OR OTHER RAW FRUITS OR VEGETABLES (unless cut into small slices)

SPOONFULS OF PEANUT BUTTER

WHOLE RAW CARROTS

RAW CHERRIES WITH PITS

RAW CELERY

MARSHMALLOWS

Offer and encourage your child to eat from each of the four basic food groups each day:

1. Fruits (like apples and grapes, cut up)
2. Vegetables (such as spinach, broccoli, and carrots, cooked)
3. Grains (whole grains rather than processed)
4. Proteins (such as eggs, tofu, fish, chicken, red meat, and beans)

Don't be alarmed, however, if they don't always meet this goal. Many preschoolers resist eating certain foods, or insist on eating only one or two foods for long periods. The more you struggle with your child over their eating preferences, the more determined they'll be to defy you. As suggested, if you offer a variety of foods and give them choices, they'll eventually consume a balanced diet on their own. They may be more interested in healthy foods if they feed them to themselves. So, whenever possible, offer finger foods (e.g., fresh fruits or raw or cooked vegetables cut into small pieces) instead of soft food requiring utensils to eat. Avoid offering sugary foods every day, and especially don't use them as a reward for eating healthy foods.

DIETARY SUPPLEMENTS. Vitamin supplements (except vitamin D or iron) are rarely necessary for preschoolers eating a varied diet. However, supplemental iron may be needed if your child eats very little meat, iron-fortified cereal, or vegetables rich in iron. Large quantities of milk (more than 16 ounces [480 ml] per day) also may interfere with proper iron absorption, thus increasing the risk of iron deficiency. Two servings of dairy or 2 cups of milk each day will provide most of the calcium needed for bone growth and not interfere with their appetite for other foods, particularly those that provide iron. Children with multiple food allergies may benefit from a nutrition evaluation.

A vitamin D supplement of 600 IU (15 mcg) per day is important for all children over age 1. This amount of vitamin D can prevent rickets.

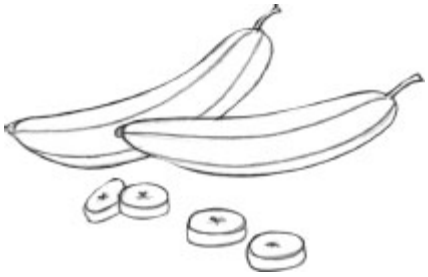
SAMPLE ONE-DAY MENU FOR YOUR CHILD AT 2 YEARS

This menu is for a 2-year-old weighing approximately 27 pounds (12.2 kg).

1 teaspoon = 5 ml
3 teaspoons = 1 tablespoon = ½ ounce = 15 ml
⅛ cup = 1 ounce = 30 ml
½ cup = 4 ounces = 120 ml
1 cup = 8 ounces = 240 ml

Breakfast
½ cup milk
½ cup iron-fortified, whole-grain, low-sugar cereal or 1 slice whole-wheat toast
⅓ cup fruit (for example, banana, cut-up cantaloupe, or strawberries)
1 egg





Snack
4 crackers with cheese or hummus or ½ cup cut-up fruit or berries
½ cup water



Lunch
½ cup milk
½ sandwich: 1 slice whole-wheat bread, 1 ounce meat, slice of cheese, veggie (avocado, lettuce, or tomato)
2–3 carrot sticks (cut up or cooked) or 2 tablespoons other yellow or green vegetable
½ cup berries

Snack

½ cup milk

½ apple (thinly sliced), 3 prunes, ⅓ cup grapes (cut up), or ½ orange





Dinner

½ cup breast milk or dairy milk

2 ounces meat

⅓ cup whole-grain pasta, rice, or potato

⅓ cup vegetables

TEETHING AND DENTAL HYGIENE

By age 2½, your child should have all twenty of their primary (or baby) teeth, including the second molars, which usually erupt between 20 and 30 months. Their secondary (or permanent) teeth probably won't appear until they're 6 or 7, although it's quite normal for them to arrive earlier or later than this. While parents have blamed teething for a variety of symptoms, including runny nose, diarrhea, fever, and fussiness, teething doesn't cause any of these. As a rule, take your child to the doctor for any symptom that would normally concern you if your child was not teething. Also, remember that gels that promise to numb the gums contain benzocaine, which is dangerous to children and should not be used.



The number one dental problem among preschoolers is tooth decay. Approximately 10 percent of 2-year-olds already have one or more cavities; by age 3, 28 percent of children do; by age 5, nearly 50 percent. Many parents assume cavities in baby teeth don't matter because they'll be lost anyway. But that's not true. Dental decay in baby teeth can negatively affect permanent teeth and lead to future dental problems.

The best way to protect your child's teeth is to teach good dental habits. With proper coaching they'll quickly adopt good oral hygiene as a daily routine. However, while they may be enthusiastic, they won't yet have the control or concentration to brush their teeth by themselves. You'll need to supervise for quite some time to come, usually until age 6, to help ensure that they brush well enough to remove plaque—the soft, sticky, bacteria-containing deposits that accumulate on teeth, causing tooth decay. Also, keep an eye out for areas of brown or white spots, which might be signs of early decay.

Help your child brush their teeth twice a day with a child-size toothbrush with soft bristles. There are brushes designed for children of all ages. Select a toothbrush that is appropriate for your child. Start by using a tiny amount (the size of a grain of rice) of fluoride toothpaste, which helps prevent cavities. If your child doesn't like the taste, try another flavor or

texture. Also teach your child to not swallow it, although they may be still too young to rinse and spit. Swallowing too much fluoride toothpaste can cause white or brown spots on your child's adult teeth. It is safe for your child to swallow the recommended dose of fluoride toothpaste, the size of a grain of rice, used twice a day.

You'll hear competing advice on the best brushing method: up and down, back and forth, or around in circles. The truth is, the direction doesn't matter. What's important is to clean each tooth thoroughly, top and bottom, front and back. This is where you may encounter resistance. Your child will probably concentrate only on the front teeth they can see. It may help to turn it into a game of "find the hidden teeth." A child cannot brush their teeth without help until older—about 6 to 8 years old. Be sure to supervise or do the actual brushing if necessary.

Besides regular toothbrushing, diet will play a key role in your child's dental health. Of course, frequent excess sugar is often the cause of cavities. The longer and more frequently their teeth are exposed to sugar, the greater the risk of cavities. Residue from sticky, sugary foods such as dried fruit can stay in their mouth and bathe their teeth in sugar for hours, doing serious damage. Make sure to always brush your child's teeth after sugary foods. In addition, do not allow your child any sugary liquid or juice in a sippy cup. Children should never sleep with a bottle or sippy cup of any beverage other than water. During regular well-child visits, the pediatrician will check your child's teeth and gums. If they notice problems, they may refer your child to a pediatric dentist or a general dentist familiar with the dental needs of children. Both the American Academy of Pediatrics and the American Academy of Pediatric Dentistry recommend all children see a pediatric dentist and establish a "dental home" by age 1, so hopefully your child will be seeing a pediatric dentist by now. A dental home is an ongoing relationship between a dentist and a child to help institute a lifetime of good oral health.

As part of the exam, the dentist will make sure all teeth are developing normally, check to see that there are no dental problems, and give you further advice on proper hygiene. Both pediatricians and dentists routinely apply fluoride varnish to the teeth at this age to prevent cavities. If you live in an area where the water is not fluoridated, your child's dentist or

pediatrician may prescribe fluoride drops or chewable tablets. (For more guidance on fluoride supplements, talk to your pediatrician, and see page 73.)

TOILET TRAINING

By the time your child is 2, you probably can't wait for toilet training. The pressure may be particularly intense if you are considering a preschool or childcare program that requires children to be toilet trained. Be forewarned, though: Pushing them too early will likely prolong the process and be disruptive to your relationship with your child. If the pressure to toilet-train is coming from an outside source, such as a preschool, try to find a preschool that takes a developmental approach to their expectations of the child, so that your child can develop at their own pace without unrealistic pressure to advance more quickly than they are able to. This approach will preserve their self-esteem and confidence. Rest assured, they will eventually be toilet trained. And when they see that some of their peers are toilet trained, they may be more encouraged to learn it themselves.

If you've started training prior to 18 months of age, keep your expectations for success realistic and don't punish your child if they have difficulty following instructions or have accidents. Nonetheless, most experts think toilet training is most effective if delayed until the child themselves can control much of the process. Studies indicate that many children who begin training before 18 months are not completely trained until after age 4. By contrast, most who start around age 2 are completely trained before their third birthday. The average age of complete training is a little over 2½ years.

In order for a preschooler to be successfully potty trained, they need to be able to sense the urge to go, understand what the feeling means, and verbalize that they need your help to make it to the toilet. Waiting until your child is truly ready will make the experience much faster and more pleasant for everyone involved.

In addition, toilet training probably won't be successful until your child is past the extreme-resistance phase of early toddlerhood. They must want to take this major step. They'll be ready when they seem eager to please and imitate you, and also seem to want to become more independent. Since they

need independence, it's important to avoid power struggles, which usually delay training. Most children reach this stage between 18 and 24 months, but a little later is also normal. Often when your child is ready to be toilet trained, they will give you some verbal cues such as "need a clean diaper" or "need to go pee-pee" even if their diaper is already dirty or wet. This awareness indicates your child is ready to be toilet trained.

Once your child is ready to begin this process, things should proceed smoothly as long as you maintain a relaxed, unpressured attitude. Never criticize the child's efforts, even if they fall short. Instead, maintain a positive attitude regarding all aspects of the toilet training process. Setbacks may occur, so provide encouragement, praise them for their successes, and reframe their mistakes as opportunities to do better next time. Punishing them or making them feel bad for an "accident" will only add an unnecessary element of stress.

How should you introduce the concept of using the toilet? The best way is to let them watch other family members of their sex if possible. Also talk to them frequently about the process.

The first goal is bowel training. Urination usually occurs with the bowel movement, so at first it is difficult for the child to separate the two. Once bowel training is established, most children (especially girls) will quickly relate the two. Boys usually learn to urinate in the sitting position but gradually transfer to standing, particularly after watching older boys or their father. If your child is having fewer than two bowel movements per week or is having hard and painful stools, be sure to discuss with your pediatrician, as constipation can significantly affect toileting habits both now and in the future. Preventing constipation can also help make potty training go more smoothly, for if the stool is hard and it hurts to go, your child won't want to use the toilet. Be sure to encourage plenty of high-fiber foods such as fresh fruit, including cut-up plums, apricots, and grapes, dried fruits such as prunes, and plenty of water, so that your toddler is having at least one soft stool a day.

The first step in training is obtaining a potty chair and placing it in your child's room or nearest bathroom. Then do the following:

1. For the first few weeks, let your child sit on the potty fully clothed while you tell them about the toilet, what it's for, and when to use it. If they are initially afraid of the chair, avoid pressuring them to use it. Later, try to reintroduce the concept when they are relaxed and playing.
2. Once they sit on it willingly, let them try it with their diaper off. Show them how to keep their feet solidly on the floor. This not only is especially important for bowel movements, but also plays an important role in allowing your child to relax completely when urinating. Make the potty part of their routine, gradually increasing the frequency from once to several times each day.
3. Encourage them to drop the contents of dirty diapers into the potty under them to show that this is the chair's purpose.
4. Once your child grasps how it works, they'll probably be more interested in using the potty properly. To encourage this, let them play near the chair without a diaper and remind them to use the potty when they need to. Remember that children often have short attention spans; therefore, keeping them focused can be challenging. They're bound to forget or miss at first, but don't display disappointment or frustration. Instead, wait until they succeed, and reward them with excitement and praise. Right after meals is a great time to try, since that's when they are most likely to poop. For children who seem reluctant to have a bowel movement in the potty, it may be useful to check the stools to ensure they are not too hard, which can cause pain on defecation.
5. After they are using the potty chair regularly, gradually switch over from diapers to training pants during the day. Loose-fitting clothing or disposable training pants can be helpful. At this point, most boys quickly learn to urinate into an adult toilet by imitating their fathers or older boys. Both girls and boys may be able to use adult toilets outfitted with training seats. Remember to always supervise your child in the bathroom to prevent drowning, falls, and scalding accidents.



For the first few weeks, let your child sit on the potty fully clothed while you tell them about the toilet, what it's for, and when to use it.

Like most children, your preschooler will probably take a little longer to complete nap and nighttime toilet training. Even so, encourage these steps along with daytime training, and stress them even more after they're routinely using the potty. The best approach is to encourage use of the potty immediately prior to bed and as soon as they wake up. Be aware that some children will not achieve nighttime dryness until 5 or 6 years of age, or even longer. You can use regular or disposable training pants at night, rather than diapers. There will be accidents, but a plastic sheet on the mattress will minimize cleanup. Reassure your preschooler that all children have accidents, and praise them whenever they make it through the nap or night without wetting. Also, tell them that if they wake up in the middle of the night and need to use the toilet, they can call for you to help.

Your goal is to make this entire process as positive, natural, and non-threatening as possible so that they're not afraid to make the effort eventually on their own. If nap-time or nighttime wetting is still a consistent problem one year after daytime training is complete, discuss the situation with your pediatrician, but keep in mind that nighttime wetting is considered normal until at least age 6.

When your child is 2, they may sleep between eleven and fourteen hours a day, including naps. Most children this age still need to nap, and a two-hour daytime nap is common.

At bedtime, your child is likely familiar with their going-to-sleep ritual. They now know that at a certain time each day they change into their nightclothes, brush their teeth, listen to a story, and take their favorite blanket, toy, or stuffed animal to bed. If you change this routine, they may complain or even have trouble falling asleep. It is important to keep this routine predictable for your child.

However, even with a predictable bedtime routine, some children resist sleep. If still in a crib, they may cry when alone or even climb out to look for Mom and Dad. If they've graduated to a bed, they may get up again and again, insisting they're not tired (even when clearly exhausted) and asking to join in whatever is going on in the household.

TRANSITIONING TO A BED

Begin using a bed instead of the crib by the time your child is 35 inches (90 cm) tall. Transitioning to a regular or "big-kid" bed can be difficult for two reasons. First, they are used to the sides of their crib keeping them on their mattress. Initially transitioning to a small mattress (like the one from their crib or a twin mattress) on the floor makes sense, since they're likely to roll out of their new bed anyway; better that it's already on the floor. Over time the crib mattress can be replaced with a larger mattress (placed on the floor), then later raised up onto a frame if desired. The bed can be a child-size bed or, if they feel comfortable with it, a regular-size bed. The second difficulty with transitioning to a big bed involves getting them to stay on the bed. A guardrail can help keep them safe and secure while in bed. At the very least, their room needs to be childproofed; a gate might be needed at the door to keep them from wandering around the house at night. (See Chapter 18 for more information on safety.)

To give a child like this a feeling of control, let them make as many choices as possible at bedtime—which pajamas to wear, what story they want. Also, use a nightlight and let them sleep with their security objects (see *Transitional Objects,* page 191) to take the edge off their separation anxiety. If they still cry after you leave, give them several minutes (ten, for example) to stop on their own before you go in to settle them down; then leave for several minutes more, and repeat the process as needed. Don't

scold, but also don't reinforce their behavior by staying with or feeding them.



When a nightmare awakens your child, the best response is to comfort them. Let them tell you about the dream if possible, and stay until they're calm enough to fall asleep. Your child will have nightmares more frequently when anxious or under stress. If they have bad dreams often, try to determine what's worrying them. For example, if nightmares happen during the toilet-training period, relax the pressure to use the potty. Also try talking with them (to the extent they can) about possible issues bothering them. Some of their anxieties may involve separation from you, time spent in childcare, or changes at home. Talking can sometimes help prevent stressful feelings from building up. If your child is watching television, carefully select programs as a precaution against nightmares. Even programs you consider innocent may contain images frightening to them. (See Chapter 35, *Media*.)

At bedtime, put your preschooler in a sleeping frame of mind by playing quietly with them or by reading them a pleasant story. Soothing music also may calm them as they fall asleep, and a nightlight will reassure them if they wake. (See Chapter 38 for more information on sleep.)

Behavior

DISCIPLINE

The greatest challenge facing you as a parent during this and the next few years is, without a doubt, discipline. Your child develops the ability to control their impulses very gradually. At age 2 (and even through age 3), they'll still be very physical, using temper tantrums, pushing, shoving, and quarreling to get their way. Most of these reactions are impulsive; they don't plan to behave this way, yet they cannot control themselves. Whether they consciously understand it or not, the point of their misbehavior is to find their limits and yours.

Your child is communicating their needs as best as they can. We all react less maturely under emotional distress. This means that when distressed, your 2-year-old will act more like an 18-or even 12-month-old. The learning process for how to stay regulated under physical, emotional, or social stress goes on throughout our lives. Your 2-year-old is learning how to develop that skill and establishing patterns of behavior that they will carry forward.

SOME GOLDEN RULES OF PRESCHOOLER DISCIPLINE

Whether you're a strict disciplinarian or more easygoing, the following guidelines should help shape a strategy of discipline ultimately benefiting both you and your child. Remember, your 2-year-old is busy learning the rules—they don't want to be bad!

- Always encourage and reward good behavior and discourage the bad, without ever resorting to spanking or other physical punishments. Whenever you have a choice, take the positive route. If your 2-year-old is moving toward the stove, try to distract them with a safe activity instead of waiting for them to get into trouble. When you notice they have independently chosen acceptable behavior instead of misbehaving, congratulate them on making the right decision. By showing you're proud of them, you'll make them feel good about themselves and encourage them to behave similarly in the future.
- Establish rules that help your child learn to control their impulsiveness and behave well socially without impairing their drive for independence. If your rules are overly restrictive, they may be afraid to explore on their own or try out new skills.
- Always keep your child's developmental level in mind when setting limits. Don't expect more than they're capable of achieving. A 2-or 3-year-old can't control the impulse to touch attractive things. It's unrealistic to expect them not to touch displays at grocery or toy stores, for example.
- Set the consequences to your child's developmental level. If you decide to send your preschooler to their room for misbehaving, don't keep them there more than about five minutes; any longer and they'll forget why they're there. If you prefer to reason with them, first wait until they're no longer

upset. Then keep the discussion simple and practical. Never use hypothetical statements such as "How would you like it if I did that to you?" No preschooler can understand this kind of reasoning. Instead, just focus on the rule: "We don't hit. Hitting hurts people."

- Don't change the rules or the punishments at random. That will only confuse your child. As they grow older, you will naturally expect more mature behavior, and when you change the rules at that time, tell them why. You may tolerate them pulling on your clothes to get your attention when they're 2, but by 4, you may want them to find a more grown-up way of approaching you. Once you change a rule, explain it to them before you start enforcing it.
- Make sure all adults in the house and other caregivers agree to and understand the limits and punishments used to discipline your child. If one parent says something is okay and the other forbids it, the child is bound to be confused. Eventually they'll figure out they can play one adult against the other, which will make your lives miserable now and in the future. You can prevent this game-playing by presenting a united front.
- Remember that you are a key role model for your child and that your child will do as you do. The more evenhanded and controlled your behavior, the more likely your child will be to pattern themselves after you.

TIME-OUT/TIME-IN

Although you can't ignore dangerous or destructive behavior, you can call a time-out. Beginning relatively early—18 to 24 months—create a foundation for time-out by teaching your child that it means being quiet and still. You can then build longer quiet-and-still time as your child grows.

As a skill needing to be learned, time-outs are most successful with 3-year-olds (as well as 4-year-olds), who generally know they've done something wrong and understand that their behavior is why they're being disciplined. It should be coupled with a firm "no" and used only in special circumstances —so pick your battles.

Here's how time-out works:

1. Have your child sit in a chair or go to a boring place with no distractions. By doing this you're separating them from their misbehavior and giving them time to cool off.
2. Briefly explain what you're doing and why. Tell them you love them but their behavior was unacceptable. No long lecture. When children are young, time-out is over as soon as they are calm.
3. End time-out once they are quiet and still. This reinforces that time-out means quiet and still.
4. Once they have learned to calm themselves, a good rule of thumb is one minute of time-out for each year in the child's age.
5. Parenting experts are increasingly recommending starting with the time-in instead of the time-out. Your child may still need some time to cool off, but afterward you spend a moment sitting with them and helping them calm down by attending to their emotions while still putting a stop to the unacceptable behavior. This approach prevents children from feeling isolated while helping them build the skill of controlling their own behavior and emotions.

EXTINCTION

Extinction is a disciplinary technique most effective with 2-and 3-year-olds, although it can be useful into the school years. The idea is to ignore the child systematically whenever they break certain rules. This method should be used for misbehavior that's annoying or undesirable, like whining, but not dangerous or destructive; the latter needs the direct, immediate approach already discussed.

Here's how extinction works:

1. Define exactly what your child is doing wrong. Do they scream for attention in public? Do they cling to you when you're trying to do something else? Be very specific about the behavior and the circumstances in which it occurs.
2. Keep track of how often your child does this, and what you do in response. Do you try to pacify them? Do you stop what you're doing to pay attention to them? If so, you're unwittingly encouraging them to keep misbehaving.
3. Keep recording the frequency of their misbehavior as you begin to ignore it. The key is consistency. Even if every person in the grocery store glares at you, do not show your child you hear them screaming. Just keep doing what you're doing. At first, they'll probably act out more intensely and more frequently to test your will, but eventually they'll realize they're not getting the desired response. Be strong and—most important—ignore the misbehavior. If you give in to the outburst, you may reinforce the behavior you're trying to eliminate.
4. When your child acts properly in a situation where they usually misbehave, be sure to compliment them. If, instead of screaming over a toy you won't buy, they talk to you in a normal voice, praise them for acting so grown-up.
5. If you manage to extinguish the misbehavior and it reappears, start the process over again. It probably won't take as long the second time.

Family Relationships

A NEW BABY

During this year, if another baby is due, you can expect your preschooler to greet this news with considerable jealousy. After all, they don't yet understand the concept of sharing time, possessions, or your affection. Nor are they eager to have someone else become the center of the family's attention.

The best way to minimize their jealousy is to start preparing them several months in advance. If they understand, you can let them help shop for baby items or help get the house or room ready. If your hospital offers a sibling preparation class, take them during the last month of pregnancy so that they can see where the baby will be born and where they can visit.

Discuss what it will be like having a new member of the family, how fun and important it is to be a big sibling, and how they can help their little sibling.

STIMULATING CHILD BRAIN GROWTH: 2 YEARS

Age 2 is an important time in your child's life and brain development. As previously described, your child's physical growth may slow during this time, but their brain and intellectual growth are moving ahead full speed. Just as you've stimulated their brain growth from birth, you should continue doing so during this crucial year. Here are some suggestions:

- Encourage creative play, building, and drawing. Provide the time and tools for playful learning.
- Be attentive to your child's rhythms and moods. Respond when they are upset as well as happy. Be encouraging and supportive, with firm discipline as appropriate, but without yelling, hitting, or shaking. Provide consistent guidelines and rules.
- Give consistent warm, physical contact—hugging, skin-to-skin, body-to-body contact—to establish a sense of security and well-being.
- Talk to or sing to your child during dressing, bathing, feeding, playing, walking, and driving, using adult talk. Speak slowly and give your child time to respond. Avoid replying with "uh-huh," because your child will recognize you're not listening; instead, expand on your child's phrases.
- Read to your child every day. Choose books that encourage touching and pointing to objects, and read rhymes, jingles, and nursery stories.
- If you speak a foreign language, use it at home.
- Introduce your child to musical instruments (toy pianos, drums, etc.). Musical skills can influence math and problem-solving skills.
- Play calm and melodic music for your child.
- Listen to and answer your child's questions.
- Spend one-on-one personal time with your child each day.
- Offer your child simple choices in appropriate situations throughout the day ("Do you want a strawberry or some cheese?" "Do you want to wear the red T-shirt or the yellow one?").
- Help your child use words to describe emotions and to express feelings such as happiness, joy, anger, and fear.
- Limit your child's television viewing and video time; avoid violent programming and games. Monitor what your child watches and discuss programs with them. Don't use the TV as a babysitter.
- Keep the television off and phones put aside. Even if your toddler doesn't seem to be paying attention, adults tend to talk or engage much less when they are distracted, and every word is important for your toddler's language development.
- Promote out-of-home social experiences such as preschool programs and play groups in which your child can play and interact with other children.
- Acknowledge desirable behavior frequently (e.g., "I like it when the two of you play together").
- Make sure other people providing care and supervision for your child understand the importance of forming a loving and comforting relationship with them.
- Spend time on the floor playing with your child every day.

- Choose quality childcare that is affectionate, responsive, educational, and safe (you may want to consider programs that are accredited by the National Association for the Education of Young Children [NAEYC]); visit your childcare provider frequently and share your ideas about positive caregiving.

Once the baby is home, encourage your preschooler to help and play with the newborn (after washing their hands, of course), but don't force them. If they show interest, give them tasks to make them feel like a big sibling, such as bringing you diapers or blankets for the baby and picking out the baby's clothes or bath toys. And when you're playing with the baby, invite your preschooler to join and show them how to hold and move the baby. Make sure they understand, however, that they're not to do these things unless you or another adult is present. Remember to reserve special time alone to spend with older siblings.



HERO WORSHIP

Does your preschooler have older siblings? If so, you'll probably start seeing signs of hero worship around age 2. In the young child's eyes, older brothers or sisters can do no wrong. They are perfect role models—people who are strong and independent but still play like kids.

This relationship has both benefits and drawbacks. Your preschooler will probably follow their older sibling around like a puppy. This gives you some freedom, and it's usually fun for both children for a while. But before long, your older child will want their freedom back, which is bound to cause disappointment for—and perhaps tears or misbehavior from—your little one. Nevertheless, it's up to you to make sure they don't overstay their welcome with their big brother or sister. If you don't step in, their relationship is likely to become strained.

If the older child is 8 or over, they probably already have a fairly independent life, with friends and activities outside the home. Given the chance, your preschooler will tag along with them everywhere they go. You shouldn't allow this unless the older child desires it or you are going along and can keep the little one from becoming a pest. If the older child is of babysitting age, compensating them for taking care of your preschooler when you're out will help prevent resentment.

Pressures and rivalries are inevitable between siblings, but with a healthy balance between comradeship and independence, the bond between your children should grow and contribute to both children's self-esteem. Through their older sibling, your preschooler will get a sense of family values and a preview of being a "big kid." The older child, meanwhile, will discover what it means to be a hero in their own home.

Being a role model for a younger brother or sister is a big responsibility, and if you point this out to your older child, it may prompt improved behavior. If you feel they're a bad influence on their younger sibling, however, and don't improve, you have no choice but to separate them whenever they're misbehaving. Otherwise, your preschooler will mimic them and soon pick up bad habits. Don't embarrass the older child by punishing them in front of the preschooler, but make sure the younger one understands the difference between "good" and "bad" behavior.

Visit to the Pediatrician

Beginning at 24 months, your child should see the pediatrician for routine examinations twice a year. In addition to screening tests performed during earlier examinations, they may undergo the following laboratory tests:

- A blood test to check for lead exposure and hemoglobin (oxygen-carrying protein in red blood cells)
- A skin or blood test for tuberculosis (depending on the risk of possible exposure)

■ YOUR CHILD AT 2 YEARS OLD CHECKLIST ■

Immunization Update

By age 2, your child should have received most of their childhood immunizations. These include:

- The hepatitis B series
- The Hib vaccine series against *Haemophilus influenzae* type b
- The vaccine series against pneumococcus
- The first three doses of the polio vaccine
- The first four doses of DTaP (diphtheria, tetanus, acellular pertussis)
- The first dose of the MMR vaccine (measles, mumps, rubella)
- Two doses of the hepatitis A vaccine
- Two or three doses of the rotavirus vaccine (depending on the vaccine type given for doses one and two)
- The chickenpox (varicella) vaccine

Once a year, beginning at 6 months, your child should also receive the influenza vaccine. An annual COVID-19 vaccine may also be important. Also remember to have your child get booster shots for DTaP, polio, MMR, and varicella at elementary school entry or 4 to 6 years of age. In the case of a child with primary immunodeficiency, discussion with an immunologist or infectious disease specialist regarding administration of live viral vaccines may be recommended. For more information on immunizations, see Chapter 34.

Safety Check

Your preschooler is now able to run, jump, and learn to ride a tricycle. With their natural curiosity, they'll explore many new things, including some dangerous places. Unfortunately, their self-control and ability to rescue themselves are not yet fully developed, so they still need careful supervision. (See Chapter 18 for additional information on safety.)

For a complete list, refer back to the *Safety Check* elements in Chapters 10 through 12.

CAR SAFETY

- Use approved and properly installed car safety seats for every ride and keep them rear-facing as long as possible. Once your child outgrows the height or weight limit for rear-facing in their convertible seats, they should ride forward-facing in a car safety seat equipped with a five-point harness as long as possible, or until they reach the highest weight or height allowed by the seat's manufacturer. Most convertible car safety seats have limits that permit nearly all children to ride rear-facing well past their second birthday. Remember, never put your child in the front seat, even for a short ride. Airbags are not child-friendly, and if a crash sets off the airbag, your small child could get seriously injured. Always put the car safety seat in the rear seat and use the seatbelt or LATCH system to secure the seat (not both). Never let them unbuckle or climb out of their car safety seat while the car is in motion.
- Never leave your child alone in the car. The internal temperature of a car can rise rapidly, leading to heatstroke and potentially to death.

CHAPTER 14

Your Child at 30 Months



If you could pick three words to summarize your 30-month-old, they might be "Look at me!" At this point your child is busy showing you everything they can do, from dashing across the yard to feeding dolls, from loading dump trucks to making observations about the pictures in a favorite book or the dogs walking by their window. As their imaginations take flight, they'll transport you to their rapidly expanding pretend worlds while at the same time challenging your ability to keep them safe from hazards they don't yet understand.

At this age, you and your child can treat the whole world like one big adventure. The grocery store offers a chance to discover how a pineapple feels different from an apple. A rainy sidewalk offers endless puddles to jump both over and through as well as little streams where leaves can float like boats. A day stuck indoors provides time to snuggle under a blanket with a favorite book and then to turn that blanket into a tent from which to spot exotic animals like the family dog and cat. The world is truly wondrous when viewed alongside a preschooler!

Growth and Development

PHYSICAL APPEARANCE AND GROWTH

By this time the rocket-like growth of the first year is in the past, but your child is still gaining weight, height, and head circumference steadily. Expect shoes to get tight and pants to get short a couple of times between now and their third birthday. The 30-month well-child exam is a perfect time to visualize exactly how quickly your child is growing. Your pediatrician can show you the growth curves for weight, height, and body mass index and let you see for yourself how your child's size now compares to where it was before. You may be amazed at how far they've come!

SCREENING

The 30-month well-child exam also offers you and your child's doctor a chance to see how far their development has progressed. There are a variety of screening questionnaires designed to ensure that your child is developing all the new skills and abilities typical of children this age. These are not IQ tests—they don't predict whether your child will become a concert pianist or cure cancer—but they may provide clues to issues that deserve further attention, such as signs of autism spectrum disorder, challenges with strength and balance, or delays in understanding and using speech. Increasingly, pediatricians' offices are providing these tools to parents on paper or electronically to complete in the comfort of your own home and with input from others involved in your child's development.

When thinking about your child's development, it's almost impossible not to compare them to siblings, classmates, or children of friends and

relatives. If you do have concerns, this is the perfect opportunity to discuss them with your pediatrician. For the most part, however, the differences that you'll notice merely reflect that each child is an individual proceeding through life at their own pace, picking some things up quickly and others more slowly. "Normal" or "typical" is a broad range at this point, and your pediatrician can help you enjoy all the progress your child is making along the way.

For a sense of what many children are doing at this age, check out the lists below. Remember, however, that a quarter of children are not doing all these things at exactly this time. If you have concerns, bring them up with your child's doctor.

MOVEMENT

Your child's expanding motor skills at this age open a whole new world of possibilities along with some novel hazards. They'll be able to use their hands to grasp and twist things like doorknobs and jar lids. This skill alone means your child can now roam and explore whole new territories; from the family room to the medication or cleaning supplies, it's very important to keep them all out of reach. If your front door opens onto a busy street or you keep a jar of tacks on your desk, however, you'll need to reassess your home safety plan with an eye to their newfound abilities.

Another milestone to celebrate is your child's ability to remove some clothes, like sweatpants and open jackets. Buttons, snaps, and zippers will still pose sometimes insurmountable barriers, but a comfortably dressed 30-month-old may become a comfortably undressed 30-month-old in the time it takes you to turn around. Your child is likely to take pride in their ability to prepare themselves for bed or for preschool, provided that is the thing they feel like doing at that moment. A healthy dose of praise can reinforce these behaviors and help your child become an ally in these moments of transition.

Jumping may be a skill most of us take for granted, but getting both feet off the ground and landing again is like gaining wings for a preschooler. You can encourage your energetic child to exert themselves with simple games like jumping over a line in the dirt or trying to reach a toy you hold just over

their head. If you want to keep yourself energized, try getting into a jumping contest with your child, and see who wins!

Among the most precious new skills at this age is one that takes a surprising amount of coordination: turning the pages of a book one at a time. Where your child may have enjoyed a library of board books until now, they can now reliably manipulate paper pages with only the occasional accidental tear. Once your preschooler has worn themselves out jumping, they can curl up on a big pillow with a good book and enjoy it one page at a time, forward, backward, or however they choose!

MOVEMENT/PHYSICAL DEVELOPMENT MILESTONES FOR YOUR CHILD AT 30 MONTHS

- Uses hands to twist things, like turning doorknobs or unscrewing lids
- Takes some clothes off by themselves, like loose pants or an open jacket
- Jumps off the ground with both feet
- Turns book pages, one at a time, when you read to them

LANGUAGE/COMMUNICATION DEVELOPMENT

Sometimes the simplest milestones are also the most profound. When it comes to language, putting together a subject and a verb is the difference between an observation and a sentence. Around this time, your child will start doing exactly that, saying things like "Doggie run," "Baby eat," and "Truck go." This information revolution isn't the whole story, however, because they can also start using pronouns like "I," "me," or "you." In combination, these skills add up to an explosion of expression as your child goes from pointing things out to telling complete (very) short stories. You can encourage these skills by asking your child questions about everything they see and gently adding on to or helping them correct their responses.

They'll start this phase with around fifty or more unique words, many of which may make sense only to you and other close family members or caregivers. These aren't just any words, however; they're generally the ones most useful to you and your child, being the ones they've heard most often. Help them expand their vocabulary by narrating your daily activities together, talking your way through the grocery store or the park, and

reading together. In reading, you can explore another emerging language skill: the ability to name pictures in books when asked. Books provide an especially rich opportunity to learn new words; if your child tells you a picture of an elephant is a "doggie," point out the trunk and take turns saying "elephant." Soon they'll be able to name the whole zoo.

LANGUAGE/COMMUNICATION MILESTONES FOR YOUR CHILD AT 30 MONTHS

- Says about fifty words
- Says two or more words, with one action word, like "Doggie run"
- Names things in a book when you point and ask, "What is this?"
- Says words like "I," "me," or "we"

COGNITIVE DEVELOPMENT

As exciting as it is for your preschooler to be able to open a door and tell a story, perhaps even more thrilling is their rapidly expanding understanding of the world around them. One way you'll notice this development playing out is in pretend play. A toy can become anything, and anything can be a toy. Your child will send cars and airplanes on fantastic trips, feed, burp, and change dolls, and talk on (or, more likely, swipe and tap at) a phone. They'll "help" around the house, imitating whatever chores they see you do, from cooking to folding laundry to mowing the lawn. You can harness this inherent joy by giving them a rag or a broom or engaging them in picking up the toys they've played with and discarded. You may be surprised at what kind of real help this pretend help turns into!

You may find it tempting to lean in to this period by filling your house with toys. You certainly may do that, but also remember that your child's budding imagination is borderless at this point, and the cardboard tube inside a roll of paper towels provides infinitely more fodder than a chunk of plastic that lights up and sings on its own. Empty boxes, wooden blocks, spare fabric, and simple dolls and cars are all your child needs to pass hours building and rebuilding imaginary worlds.

Remember, too, that children this age have little concept of their own gender, much less of the gender roles our culture randomly assigns. A boy

will explore the joys of nurturing a baby doll or a stuffed animal. A girl will gleefully construct, destroy, and rebuild a tower. Pretend play gives every child an opportunity to explore every aspect of their potential and to bolster every skill they possess. Ensure that they have the freedom to engage with all the different roles they choose, including activities, clothing, or stories that we may associate more with one gender or the other. A well-rounded child will have an unlimited number of interests and strengths.

One of the purposes of imagination is improved problem-solving, another skill that develops rapidly at this age. Hazards like knives and scissors that were once safely out of reach on the kitchen counter may no longer be safe as your child learns to push a chair across the kitchen and climb on it to reach forbidden treats. They may find that a poker from the fireplace helps them reach a lost ball or that a cracker turned sideways easily disappears down the air-conditioning vent. This is a good time to rethink your home safety by simply following your preschooler around the house, seeing what catches their interest, and making any adjustments needed to avoid any potential danger.



Part of your child's development includes following two-step instructions like "Take your shoes off and put them in the closet." In the same way that two-word sentences dramatically increase their self-expression, these two-word instructions unlock nearly endless possibilities

of self-sufficiency. "Close the door and turn off the light." "Take a washcloth and add some soap." "Pick up the nuggets and hand them to me." The options are almost unlimited!

Another expanding frontier at this age involves learning colors. It will start with just one at first, but by repeatedly calling out the colors of familiar objects, you can teach your child to identify a whole rainbow of crayons, socks, and dishware.

COGNITIVE MILESTONES FOR YOUR CHILD AT 30 MONTHS

- Uses things to pretend, like feeding a block to a doll as if it were food
- Shows simple problem-solving skills, like standing on a small stool to reach something
- Follows two-step instructions like "Put the toy down and close the door."
- Shows they know at least one color, like pointing to a red crayon when you ask, "Which one is red?"

SOCIAL/EMOTIONAL DEVELOPMENT

All the above skills—movement, language, problem-solving—come together in your child's social development. Much of their emotional attention will be directed toward you: showing you things, showing off their new skills for you, and playing with you. They may start making "friends," playing in the same space with other children, but don't expect them to have a lot of back-and-forth interactions with their playmates. Instead, they will notice and be interested in other children, and may imitate what other children are doing around them. Their play may intersect from time to time, but building a shared pretend world, such as "playing house" together instead of side by side, won't usually happen for another several months. You can and should encourage sharing and fair play at this age, but you might also set aside particularly beloved toys, dolls, or stuffed animals so that they don't become objects of tension during playdates.

This is also a good time to reinforce regular, predictable routines. Bedtime and mealtimes are probably already fairly predictable, but you can add events like outings, reading time, and (best of all) cleanup time!

SOCIAL/EMOTIONAL MILESTONES FOR YOUR CHILD AT 30 MONTHS

- Plays next to other children and sometimes plays with them
- Shows you what they can do by saying, "Look at me!"
- Follows simple routines when told, like helping to pick up toys when you say "It's cleanup time"

Basic Care

FEEDING AND NUTRITION

All this growth and development requires high-quality nutrition, and this is a wonderful age to continue helping your preschooler develop a healthy diet. The concepts behind healthy eating are simple, but you'll notice that your preschooler has some strong feelings about what they want to eat and when they want to eat it, so meals and snacks may still require patience and persistence on your part. Your child will still view novel foods with understandable suspicion, so repeated introduction remains the key to adding a new food to their diet. Some toddlers will eat well one day and not as well the next. Others may like a certain food one day and refuse it the next. As a parent, it's important to understand that you are responsible for providing healthy choices for your kids to eat, and the kids are responsible for eating. Try not to get into battles over food or force-feed food, as this can set up negative interactions and patterns.

Aim to include protein-rich foods such as lean meat, poultry, fish, beans, and tofu, as well as whole grains like brown rice, whole-grain pasta, and whole-grain bread. Fruits and vegetables should also be a daily staple and offered at each meal and snack, as they provide essential vitamins, minerals, and fiber. Offer a variety of colors and textures to help keep meals interesting, and encourage your child to try new foods. You may find it tempting to offer a desired food (usually something sweet, like a cookie) as a reward for trying a less desired food (a new vegetable, for example). As logical as this practice seems, we know that it has the opposite effect we want: Children find the "treat" even more enticing and the novel food even less tasty. Instead, make the new food a regular feature of meals, and your

child is likely to pick it up and try it eventually. Introducing it when they're especially hungry can speed up the process.

It's also important to serve appropriate portion sizes for your preschooler. A serving size for a 30-month-old is smaller than an adult portion, so aim for around ¼ to ½ cup of each food group per meal. If you don't want to pull out a measuring cup, just look at your child's hand. One serving for a child is roughly the amount that fits comfortably in their palm.

Choking remains an important mealtime risk at this age, so continue the habits you built earlier. Continue to cut round foods like grapes and cherry tomatoes in quarters; do the same with hot dogs, raw carrots, and other foods that might get lodged in the airway. Nut butters are wonderful sources of protein, but whole peanuts and cashews pose a high risk of choking. Hard candies and chewing gum should remain off-limits as well. Another important habit is to serve meals with your child sitting, possibly in a booster seat or at a low table, as walking around with food poses an increased risk of choking. A responsible adult should supervise while your child eats.

Encourage your child to drink plenty of water throughout the day, and limit their juice intake to no more than 4 ounces per day.

TOILET TRAINING

Children at 30 months of age show a wide range of toileting behavior. Your child may have been using the potty for poop and pee and sleeping without a diaper for months already. Or they may have no interest whatsoever in the toilet, content to remain in diapers, seemingly forever. Both behaviors are normal at this age, but there are some things you can do to help encourage your preschooler to use the toilet.

The most important element is to avoid bathroom struggles. Treats for using the toilet are fine, but they don't have to be anything huge; a sticker or a hug is just as good as a new toy. If you feel comfortable, let your child watch you use the bathroom and model appropriate behavior, including washing hands. Filling the bathroom area with toys and books can make it more fun, and be sure to have either a child-size potty or a stool where your child can rest their feet. Sitting on the potty after meals and regularly timed toileting gives your child the highest chance of success when it comes to

pooping in the toilet. When your child does poop in their diaper, have them help you dump it in the toilet and flush to reinforce the idea that that's where these things go. While some children may stay dry all night at this age, many still need a diaper or training pants to get through the night, which is still normal for a few more years.

If your preschooler seems resistant to using the potty, pushing harder is likely to make matters worse, not better. As difficult as it may seem, pull back. Pretend that you couldn't care less whether your child ever uses the potty. In this situation, it's best to stop all reminders, and never, ever punish a child for accidents. Feel free to continue rewards and reinforcement if and when your child decides to use the potty on their own. Most children will ultimately tire of the hassle and discomfort of diapers and train themselves when the time comes. Parents whose children are slow to potty-train sometimes become frustrated and even angry; if you find yourself with those feelings, talk to your pediatrician about how to deal with them.

SLEEPING

Little affects your child's mood, energy level, and behavior more than getting a good night's sleep. On average, children this age need eleven to fourteen hours of sleep in every twenty-four-hour period, naps included. Some children at this age will still nap, and others are done, while some are transitioning out of naps or taking them only a few times a week. Even children who previously slept through the night may have periodic struggles with sleep as they develop, and this can easily be one of those moments. Some practices, however, can keep those struggles to a minimum.

Just as before, routine is everything. Our brains and bodies get used to sleeping at the same time every night, so the less you do to alter that schedule, the better. Travel, special occasions, and the start or end of daylight saving time may disrupt your schedule; anticipate needing several days to recover from these disruptions. Preschoolers love rituals, so doing the same thing every night can make bedtime pleasant for all. For families with kids who live in multiple households, try your best to keep the bedtime routine consistent in all locations. Many experts like the reminder "brush, book, bed," meaning start with hygiene like toothbrushing, bathing, and toileting, then read together, then turn out the lights. Feel free to personalize

the routine, adding a special song, a back rub, or whatever fits your family's needs.

One thing not to add is electronic screens of any type, especially not in a child's bedroom. These screens emit a blue light that interferes with the hormones that tell the brain it's time to sleep. Make sure that any screen time occurs at least one hour prior to bedtime, and never use the television to "help" your child sleep. A nightlight can help children who are afraid of the dark, but keep it as dim as possible, and avoid nightlights that are bright white or blue in color, favoring those with a warmer tint.

If your child awakens at night, a quick reassurance and pat should be enough to get them back in bed. Whatever becomes a part of their routine tends to stick, so if that includes sleeping in your bed or you lying down with them, expect that stopping eventually will grow more and more difficult. (For information on night terrors and nightmares, see Chapter 38.)

Behavior

DISCIPLINE

As your child gains skills, understanding, and emotional growth, they will continue figuring out what behaviors are acceptable and which ones are not. Discipline at this age could be better understood as helping your child learn to deal with their emotions. The idea is to teach, not to punish. It's important to know that hitting, spanking, or any form of corporal punishment is never recommended.

You'll want to build on the baseline you've already established of rewarding the behaviors you want to see. A reward can be as simple as a smile, a pat on the back, or a short "Good job!" Follow up by explaining exactly what behavior you're appreciating: "You brought me your cup when you were done with it. Thank you!"

Another good baseline to build is to help your child recognize and name different emotions. This practice also lets them know that you're listening to them and paying attention to how they feel: "You're angry now, because you wanted a cookie, and it's not time for cookies." Keep it short and simple but help them feel seen and heard.

When you see a behavior you don't like, try to find an acceptable substitute: "It's not time for cookies right now, but we have apple slices." "We don't draw on walls, but here is some paper." Your child is still learning the rules, and some things that we feel should be obvious may not seem nearly as clear to them. Walls are flat and blank, paper is flat and blank, so what's the difference?

When there's something your toddler doesn't want to do, such as brushing their teeth or putting on a shirt, try offering them choices as a strategy to navigate emotions. "Do you want Mom or Dad to brush your teeth? Do you want to wear the yellow shirt or the red shirt?" This is also the stage where parents say no a lot. Choose your battles, focus on your toddler's safety, and find ways to say yes and let them safely explore.

When you do have to redirect, express very briefly and clearly why: "You're mad because your friend took your toy. But we don't hit our friends. That hurts them." Children this age are still learning that other people have feelings like they do; the idea that hitting or biting another person causes that person pain is fresh and even confusing. That doesn't mean hitting and biting are acceptable behaviors; they must be interrupted. But a short explanation helps your child learn why. Expect this process to take time and repetition.

Preschoolers, especially when they get tired and frustrated, can become emotional, like everyone. When you can, use timing to your advantage; avoid high-stress situations like a trip to the grocery store if you know your preschooler is overdue for a nap or a snack. Keep an eye out for the early signs of frustration and try to use distraction or other calming techniques to help your child maintain control of their emotions.

Sometimes, of course, these tactics won't be enough, and your child will cry, scream, and act out in other ways. At the height of these emotional storms, don't expect to be able to control them; just get your child to a place where they can calm down and be safe. Here, you can have a "time-in," where you start by matching your child's energy level (within reason) and acknowledging their emotions: "You're very angry that you couldn't have that candy bar. You're mad right now." Then, slowly, model how to control those emotions. Take some deep breaths with your child. Bring your energy level down gradually while explaining what's happening: "I know you're

mad, but we can't throw things in the grocery store. It makes a mess and upsets people. Now let's breathe. Big breath. That's right. Imagine breathing in to fill up your tummy with air, and then slowly blowing a really big bubble." This process will hopefully end in a tearful hug and a "reset"—at least until it happens again, and it will.

STIMULATING CHILD BRAIN GROWTH: 30 MONTHS

- Encourage "free play," where your child can follow their interests, try new things, and use things in new ways.
- Use positive words and give more attention to behaviors you want to see ("wanted behaviors") than to those you don't want to see. For example, say "I like how you gave Jordan the toy."
- Give your child food choices that are simple and healthy. Let them choose what to eat for a snack or what to wear. Limit choices to two or three.
- Ask your child simple questions about books and stories. Ask questions, such as "Who?" "What?" and "Where?"
- Help your child learn how to play with other children. Show them how by helping them share, take turns, and use their "words."
- Let your child draw with crayons on paper, shaving cream on a tray, or chalk on a sidewalk. If you draw a straight line, see if they will copy you. When they get good at lines, show them how to draw a circle.
- Let your child play with other children, such as at a park or library. Ask about local play groups and preschool programs. Playing with others helps them learn the value of sharing and friendship.
- Eat family meals together as much as you can. Give the same meal to everyone. Enjoy each other's company and avoid screen time (TV, tablets, phones, etc.) during meals.
- Limit screen time (TV, tablets, phones, etc.) to no more than one hour per day of a children's program with an adult present. Children learn by talking, playing, and interacting with others.
- Use words to describe things to your child, such as "big"/"small," "fast/"slow," "on"/"off," and "in"/"out."
- Help your child do simple puzzles with shapes, colors, or animals. Name each piece when your child puts it in place.
- Play with your child outside. For example, take your child to the park to climb on equipment and run in safe areas.
- Allow your child to eat as much or as little as they want at each meal. Your job is to offer them healthy foods, and it's your child's job to decide if and how much they want to eat.
- Ask your child's doctor and/or teachers about toilet training to know if your child is ready to start. Most children are not able to toilet-train until 2 to 3 years old. Starting too early can cause stress and setbacks, which can cause training to take longer.
- Let your child play with large boxes. They can pretend a box is a car, bus, train, or house. Let them color it, paint it, and put stickers on it.
- Play with your child outside by playing "ready, set, go." For example, pull your child back in a swing. Say "Ready, set …," then wait and say "Go" when you push the swing.

- Encourage your child to name colors, body parts, and pictures in books.
- Kick a ball back and forth with your child. When your child is good at that, show them how to run and kick the ball.
- Have steady routines for sleeping and feeding. Create a calm, quiet bedtime for your child. Put on their pajamas, brush their teeth, and read one or two books to them. Children this age need eleven to fourteen hours of sleep a day (including naps). Consistent sleep times make it easier.
- Play "follow the leader" with your child. Walk in a straight line, make turns, walk backward, and walk on tiptoes. Let your child lead after you show them how.
- Read to your child and visit the local library. This will help your child enjoy reading and be ready to read when they are older.
- Encourage "pretend" play. For example, let your child pretend to cook using safe things from your kitchen.
- Show your child how to turn pages in a book or magazine.

Visit to the Pediatrician

The American Academy of Pediatrics recommends that 30-month-old children visit their pediatrician for a well-child encounter. The most important thing to know about this visit is that it's your time to find out about the topics that interest you the most. Is it a particular behavior? A funny-looking spot on the skin? A question about food or sleep? This is your time, so prepare and talk with other caretakers in your child's life to make sure you get the most out of this opportunity.

Most practices will start with checking your child's height and weight along with other vitals. They will probably perform some sort of developmental screening, usually using a questionnaire. Expect a full physical examination as well, which may be performed on an exam table or in a parent's lap depending on the child's comfort level. If your child is due for any vaccines, they'll get them at this time, and if they have any risks for conditions like anemia or hearing loss, those may be addressed as well.

■ YOUR CHILD AT 30 MONTHS OLD CHECKLIST ■

Immunization Update

Depending on the time of year, your child may be due for an annual influenza vaccine. An annual COVID-19 vaccine may also be important. Except for these, however, no other routine vaccines are due at this visit unless your child has missed previous immunizations. If your child is behind on vaccinations, this is a good time to catch up on any missed vaccines.

Safety Check

Your child is gaining new skills rapidly at this age, which makes it a good time to survey your entire house for hazards that may now be within reach.

- Go through each room looking for medications, chemicals, sharp objects, unguarded windows, unsecured furniture, and choking hazards.
- Remember that button batteries and strong rare-earth magnets are especially dangerous when swallowed, and children this age are at high risk for these types of events. Is there anything that your growing bright and curious child could access?

CAR SAFETY SEATS

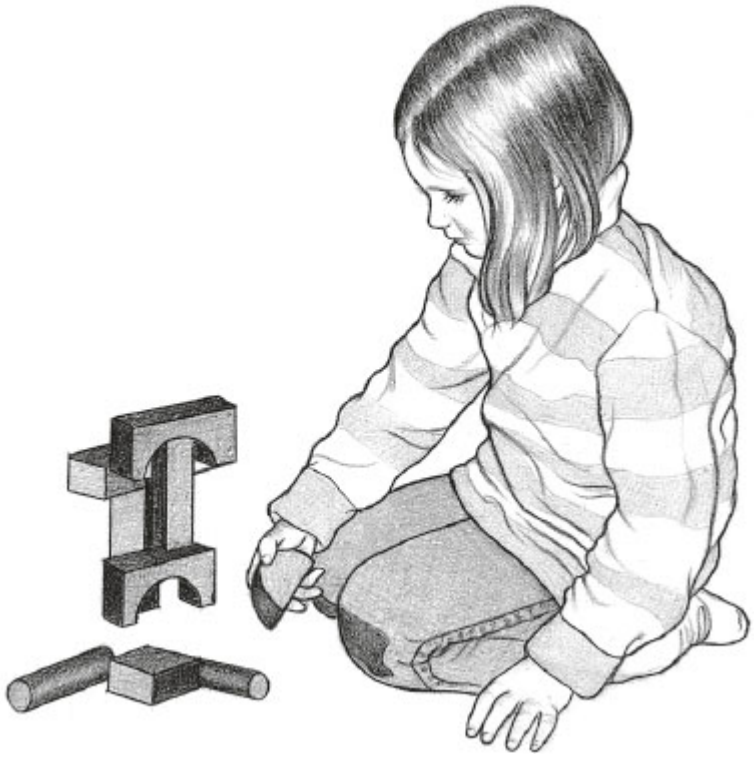
- Your child may have outgrown the ability to ride rear-facing in their convertible car safety seat by this age. Check the label on the seat for the recommended height and weight; if you're unsure, your child's pediatrician can help you weigh and measure your child.
- Your child can graduate to a forward-facing convertible or forward-facing-only car safety seat, still with five-point restraints, ideally placed in the center of the backseat.

WATER SAFETY

- At this age your child can open a door and wander outside before you know they're gone. Barriers like fences should provide protection from any swimming pools, decorative ponds, streams, ditches, or other nearby bodies of water.

CHAPTER 15

Your Child at 3 Years



With your child's third birthday, what many call the "magic years" are beginning. This is approximately a two-year period (ages 3 and 4) when your child's world will be dominated by fantasy and vivid imagination. No longer a toddler, they are more independent and, at the same time, more responsive to other children. If your child has not yet attended daycare, this is a perfect age to introduce them to school or an organized play group, where they can stretch their skills while learning to socialize.

During this time, your child will mature in toilet training and learning how to take proper care of their body. Since they can control and direct their movements, they'll be able to play more organized games and sports. They

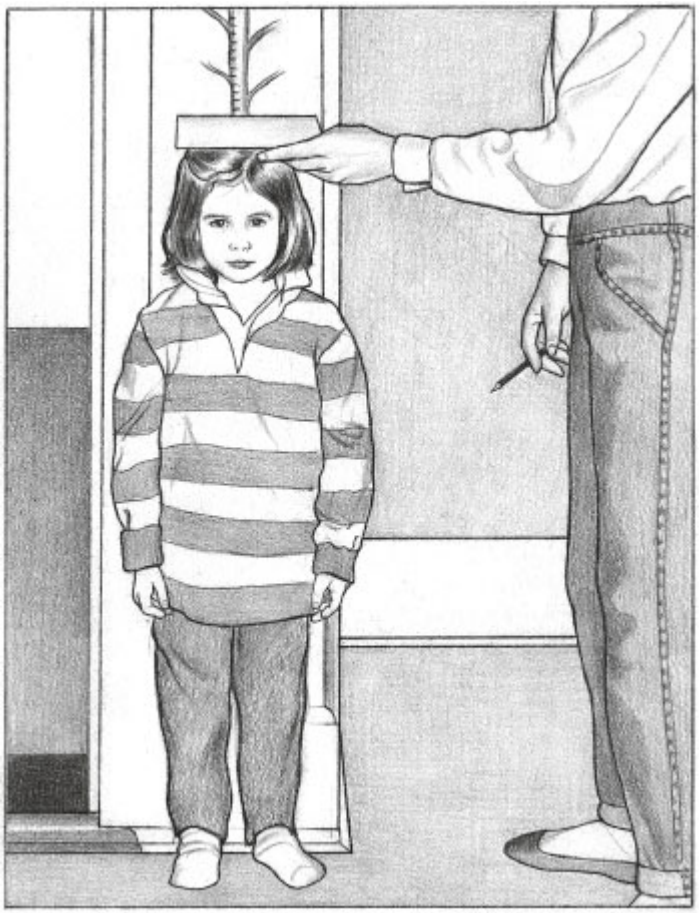
also have mastered the basic rules of language and built an impressive vocabulary that increases daily as they experiment with words. Language will play an important role in their behavior, as they learn to express their desires and feelings verbally instead of through physical actions such as grabbing, hitting, or crying. They will learn to share for the first time. Guiding their self-discipline as they put all their new skills together to feel confident and capable is one of the most important ways you can help during this period.

The relationship with your child will change dramatically during this time. Emotionally, they are able to view you as a separate person, with feelings and needs they're beginning to understand. When you're sad, they may offer sympathy or provide you with comfort, such as a hug. If you become angry at another person, they may announce they, too, "hate" that individual. They want very much to please you and know they must do certain things and behave in certain ways to do so. However, they want to please themselves as well, so they'll often try to bargain with you: "If I do this for you, will you do that for me?" Their bargaining may be irritating when you simply want them to behave as you desire. But it's a healthy sign of independence, and shows they are beginning to understand the concept of fairness.

Growth and Development

PHYSICAL APPEARANCE AND GROWTH

Your child's body should continue to lose baby fat and gain muscle during this time, giving them a stronger and more mature appearance. Their arms and legs become more slender and their upper body more narrow and tapered. In some, height gains are not matched in weight and muscle gains, and children may begin to look skinny. This doesn't mean they are unhealthy or anything is wrong; your pediatrician will track their growth, nutrition, and activity and let you know if there are any concerns.



In general, a preschooler's growth gradually begins to slow down this year, decreasing from about a 5-pound (2.3 kg) gain and about a 3½-inch (8.9 cm) gain during the third year to about 4½ pounds (2 kg) and 2½ inches (6.4 cm) during the fifth. However, after age 2, children of the same age can vary noticeably in size and weight, so try not to spend too much time comparing your child's measurements with others. As long as they're maintaining their own individual growth rate, there's no reason to worry. Measure your child and record those measurements twice a year on their growth charts in the Appendix.

They should now be growing around 2 inches (5 cm) taller a year, and your pediatrician will closely monitor their growth, nutrition, and activity. If you have any concerns about your child's height or weight, discuss this with your pediatrician.

Your child's face will also mature during these years, the length of their skull increasing slightly and their lower jaw becoming more pronounced. At

the same time, the upper jaw widens to make room for permanent teeth. As a result, their face becomes larger and their features more distinct. Most children also have all their baby teeth by around this age.

MOVEMENT

At age 3, your preschooler no longer has to concentrate on the mechanics of standing, running, jumping, or walking. Their movements are agile, whether they're going forward, backward, or up and down stairs. They walk erect, shoulders pulled back and belly held in by firm abdominal muscles. They use regular heel-toe motions, taking steps of the same length, width, and speed. They can also ride a tricycle with ease.

However, not everything comes easily. Your child still may need to make a conscious effort while standing on tiptoes or one foot, getting up from a squat, or catching a ball. But if they keep their arms extended in front of them they can catch large balls, and they can smoothly throw smaller ones overhand.

Your 3-year-old may still be as active as they were at 2, but they'll probably be more interested in structured games. Instead of running aimlessly or flitting from one activity to another, they may ride their tricycle or play in the sandbox for longer periods; of course, the average attention span of a 3-year-old varies quite a bit. Reading and playing short games together is one way to "grow" or "exercise" your child's attention.



Your preschooler may seem in constant motion much of the time. They may also enjoy active games such as tag, catch, or playing ball but will continue to appreciate unstructured play. They use their body to convey thoughts and emotions they still can't describe through language. Moving their body also helps them better understand many new words and concepts. If you start talking about an airplane, they may spread their wings and "fly" around the room. This level of activity is a necessary part of their learning process and their fun.

Because your child's self-control, judgment, and coordination are still developing, adult supervision remains essential to prevent injuries. However, it's a mistake to fuss too much over them. Bumps and bruises are inevitable and even necessary to help them discover their limits in physical activity. As a general rule, you can leave them alone with age-appropriate items in a safe environment when they are playing by themselves in a nearby room. Of course, there are situations that need more supervision—for example, when they're around other children, equipment, or machinery, and outside near traffic or water. Other children may tease or tempt them to do dangerous

things, and they lack the ability to predict what machines, equipment, and traffic may do. They still cannot anticipate the consequences of their actions such as chasing a ball into traffic or sticking their hand through the spokes of their tricycle, so you'll have to protect them in these situations.

MOVEMENT/PHYSICAL DEVELOPMENT MILESTONES FOR YOUR CHILD AT 3 YEARS

- Strings items together, like large beads or macaroni
- Puts on some clothes by themselves, like loose pants or a jacket
- Uses a fork



HAND AND FINGER SKILLS

At age 3, your child is developing both the muscular control and the concentration they need to master many precision finger and hand movements. You'll notice they now can move each finger independently or together, which means that instead of grasping their crayon in their fist they

can hold it like an adult, with the thumb on one side and fingers on the other. They can now trace a square, copy a circle, or scribble freely.

Because their spatial awareness is better developed, they're more sensitive to the relationships among objects. They'll position their toys with care during play and control the way they hold utensils and tools to perform specific tasks. This increased sensitivity and control allows them to build a tower of nine or more blocks, pour water from a pitcher into a cup (using two hands), unbutton clothes, possibly put large buttons into buttonholes, and use a fork and feed themselves independently, spilling only occasionally.



They're also extremely interested in tools such as scissors and in materials such as clay, paint, paper, and crayons. They have the skill to manipulate these objects and experiment with them to make other things. At first, they'll play randomly with craft materials, perhaps identifying the end product only after completion. Looking at their scribbles, they might decide they look like a dog. But soon this will change, and they'll decide what they want to make before starting. This change in approach will motivate them to develop even more precision with their hands.

Quiet-time activities that can help improve your child's hand abilities include:

- Building with blocks
- Solving simple jigsaw puzzles (four or five large pieces)
- Playing with pegboards
- Coloring with crayons or chalk
- Building sandcastles

- Pouring water into containers of various sizes
- Dressing and undressing dolls in clothing with large zippers, snaps, and laces

You can encourage your child to use their hands by teaching them to use certain adult tools. They'll be thrilled to use a real screwdriver, a lightweight hammer, an eggbeater, or gardening tools. You'll need to supervise closely, of course, but if you let them help as you work, you may be surprised by how much they can do themselves.



LANGUAGE/COMMUNICATION DEVELOPMENT

At age 3, your child should have an active vocabulary of 300 or more words. They can talk in sentences of three to four words and imitate most adult speech sounds. At times they'll seem to chatter constantly—a phenomenon that sometimes may disturb you but is essential to learning new words and gaining experience thinking with and using them. Language allows them to express thoughts, and the more advanced they are in speaking and understanding words, the more tools they'll have to think, create, and tell you about it.

You should be able to see how your child uses language to help them understand and participate in the things around them. They can name most familiar objects, and they'll freely ask "What's this?" when they don't know

something by name. You can help expand their vocabulary by providing additional words they might not even request. If they point to a car and say, "Big car," you might answer, "Yes, that's a big gray car. Look how shiny the surface is." If they're helping pick flowers, describe each one they collect: "That's a beautiful white-and-yellow daisy, and that's a pink geranium."

You can also help them use words to describe things and ideas they can't see. When they're describing the "monster" in their dream, ask if the monster is angry or friendly. Ask them about the monster's color, where it lives, and whether it has friends. Not only will this help your child use words to express thoughts, but it also may help overcome their fears.

STUTTERING

Many parents worry over their child's stuttering, even though such concern is usually unnecessary. It's quite common for children to repeat syllables, sounds, or words occasionally, or to hesitate between words at around age 2 or 3. Most children never realize their mistake, and they grow out of it without any help. It's only considered true stuttering when this pattern persists over a long period (more than two to three months) and interferes with communication.

About one in twenty preschool children stutters at some point, most often between the ages of 2 and 6, when language is being developed, with a threefold greater incidence in boys than in girls. The cause is unknown. Some children may have trouble learning the typical timing and rhythm of speech, but most have no medical or developmental concerns. Stuttering may increase when a child is anxious, tired, ill, or excited and tries to talk too rapidly. Some children stutter when learning too many new words at once. At other times, the child's thoughts are running ahead of their speech and they lose track of what they were saying midsentence. Repeating a sound or word allows them to catch up. In some children who stutter, the pitch of their voices may rise as they repeat syllables or sounds, or they may open their mouths to speak but nothing comes out for a few moments.

The more frustrated a child becomes about stuttering, the more trouble they will have with it. The best approach is to simply ignore the stuttering. Listen when they speak, but don't correct them. Don't interrupt or finish sentences for them, and make it clear through body language that you're interested in listening. At the same time, you can set a good example by talking calmly and correctly and using simple language when addressing them. It may also help if you slow the entire pace of your household, including the speed at which you (and other family members) speak; your slower rate of speech will be more helpful than telling your child they need to talk slower. It is important to tell them that you have all the time in the world to listen to them.

You should also set aside relaxed time each day to play and talk quietly with your child. Give them your full attention, free from distractions, and let them decide the activities you'll do together. You can build their self-esteem and confidence by praising them for all the activities they're doing correctly, while not drawing attention to their speech difficulties. Don't show any signs you're annoyed, frustrated, or embarrassed by their stuttering (avoid statements like "Talk slower!" or "Say it again more clearly this time!" or "Relax!"), and demonstrate that you accept them. Reinforce the things they do well. In an environment of acceptance, stuttering-associated anxiety will be reduced,

which will help them conquer the problem. With support, a child can usually overcome their stuttering difficulty before entering school.

With severe stuttering, speech therapy may be necessary to avoid long-term problems. If your child frequently repeats sounds or parts of words, is very self-conscious, and shows obvious signs of tension (e.g., facial twitches or grimaces), let your pediatrician know. Also inform your doctor of any family history of serious stuttering. Your pediatrician will probably refer you to a speech and language specialist.

LANGUAGE/COMMUNICATION MILESTONES FOR YOUR CHILD AT 3 YEARS

- Talks with you in conversation using at least two back-and-forth exchanges
- Asks "who," "what," "where," or "why" questions, like "Where is Mommy/Daddy?"
- Says what action is happening in a picture or book when asked, like "running," "eating," or "playing"
- Says first name when asked
- Talks well enough for others to understand most of the time

Your 3-year-old is still learning pronoun use ("I," "me," and "you"). As simple as these words seem, they're difficult ideas to grasp. They indicate where their body, possessions, and authority end and someone else's begin. To further complicate matters, the terms change depending on who's talking. Often, they may use their name instead of "I" or "me." Or when addressing you, they may say what they call you ("Mommy," "Daddy," or "Grandma," for example) instead of "you." If you try to correct them (e.g., by suggesting, "Say 'I would like a cookie'"), you'll confuse them more, because they'll think you're talking about yourself. Instead, use pronouns correctly in your own speech. Say "I would like you to come" instead of using the word they call you ("Daddy would like you to come," for example). Not only will this help them learn correct use, but it will also help them establish a sense of you as an individual apart from your role as their parent.

At this age, your child's speech should be clear enough even strangers can understand most of what they say. Even so, they may still mispronounce as many as half the speech sounds they use. They may use *w* for *r* ("wabbit," "wice," "wose"), *d* for *th* ("dis," "dat," "den"), or *t* for any sounds they have trouble with ("tee" for "three," "tik" for "six"). The sounds *b, p, m, w,* and *h*

will emerge only midway through this year, and it may take months for them to perfect their use.

If your child's language abilities are delayed or poorly developed, they should be evaluated by a developmental or speech specialist. If they also have limited interests in playing with other children or adults, or if they don't point to get your attention or show you an object of interest, they should be evaluated by a specialist skilled in diagnosing autism spectrum disorder (ASD). The earlier children with developmental concerns including ASD are identified and receive support, the easier it may be for them to learn new skills, since the most rapid brain development occurs in the first 3 to 5 years of age. (For more information about ASD, see descriptions of this disorder and its management on pages 267 and 516.)

COGNITIVE DEVELOPMENT

Your 3-year-old will spend most of their time questioning everything happening around them. They love to ask "Why do I have to …?" and they'll pay close attention to your answers as long as they're simple and to the point. Don't feel you have to explain your rules fully; they can't yet understand such reasoning and aren't interested anyway. If you try to have a "serious" conversation, they'll stare into space or turn their attention to more entertaining matters. Instead, telling them to do something "because it's good for you" or "so you don't get hurt" will make more sense than a detailed explanation.



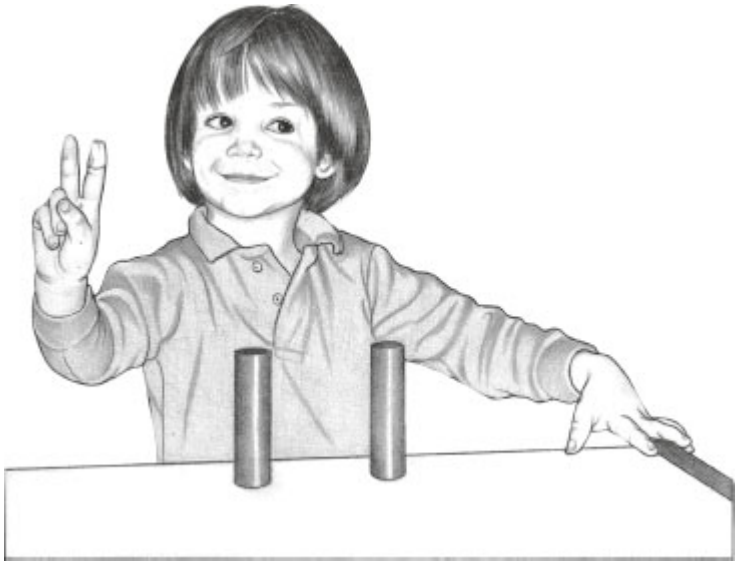
If the question is "Why can't the dog talk to me?" you can invite your child to look into the question further by finding a book about dogs.

The abstract "why" questions may be more difficult, partly because there may be hundreds each day and also because some have no answers—or none you know. If the question is "Why does the sun shine?" or "Why can't the dog talk to me?" you can answer that you don't know, or invite them to find out by reading a book about the topic. Take these questions seriously. You will be helping to broaden your child's knowledge, feed their curiosity, and teach them to think more clearly.

When your 3-year-old is faced with specific learning challenges, you'll find their reasoning still one-sided. They can't yet see an issue from two angles, nor solve problems requiring them to look at more than one factor. If you take two equal cups of water and pour one into a short, fat container and the other into a tall, skinny one, they'll probably say the tall container holds more water. Even if they see the two equal cups and watch you pour, they'll come up with the same answer. By their logic, the taller container is "bigger" and therefore holds more. At around age 7, children finally understand they have to consider multiple aspects of a problem before finding an answer.

COGNITIVE MILESTONES FOR YOUR CHILD AT 3 YEARS

- Draws a circle when you show them how
- Avoids touching hot objects, like a stove, when you warn them



At about 3 years of age, your child's sense of time will become much clearer. They'll know their daily routine and will try hard to figure out the routines of others. They may eagerly watch for the daily visit by the mail carrier but be perplexed that trash is only picked up weekly. They'll understand that certain special events, such as holidays and birthdays, occur every once in a while, but even if they know how old they are, they'll have no real sense of the length of a year.

SOCIAL/EMOTIONAL DEVELOPMENT

At age 3, your child will be much less selfish than before. They'll be less dependent on you, a sign their own sense of identity is stronger and more secure. Now they'll actually play with other children, interacting instead of just playing side by side. In the process, they'll recognize that not everyone thinks exactly as they do, that each of their playmates has many unique qualities, and that some are easier to get along with than others. You'll find them drifting toward certain children and developing friendships. As they create these friendships, they'll discover that they, too, have special qualities

that make them likable—a revelation giving a vital boost to their self-esteem.

There's more good news about your child's development at this age: As they become more aware of and sensitive to the feelings and actions of others, they'll gradually stop competing and learn to cooperate when playing with friends. They'll take turns and share toys in small groups, though sometimes they still won't. But instead of grabbing, whining, or screaming for something, they'll ask politely much of the time. You can look forward to less aggressive behavior and calmer play sessions. Three-year-olds are often able to work out solutions to disputes by taking turns or trading toys.

However, particularly in the beginning, you'll need to encourage this cooperation. You might say to your child "use your words" to deal with problems instead of acting out. Also, remind them that when two children are sharing a toy, each gets an equal turn. Suggest ways to reach a simple solution when they and another child want the same toy, perhaps drawing for the first turn or finding another toy or activity. This doesn't work all the time, but it's worth a try. Also, help them find appropriate words to describe their feelings and desires so that they don't feel frustrated. Above all, show them by example how to cope peacefully with conflicts. If you tend to anger quickly, try to tone it down in their presence. Otherwise, they'll mimic your behavior whenever they're under stress.

SOCIAL/EMOTIONAL MILESTONES FOR YOUR CHILD AT 3 YEARS

- Calms down within ten minutes after you leave them, like at a childcare drop-off
- Notices other children and joins them to play



No matter what you do, however, there will probably be times your child's anger or frustration becomes physical. When that happens, restrain them from hurting others, and if they don't calm down quickly, move them away from the other children. Talk to them about their feelings and try to determine why they're upset. Let them know you understand and accept their feelings, but make it clear that physically attacking another child is not how to express these emotions.

ADVERSITY AND SOCIO-EMOTIONAL DEVELOPMENT

Children who have experienced adversity, such as prolonged separation from their parents, chronic illness, or extreme family stressors, may have a delay in their social and emotional development. If

your child has experienced adversity, discuss this with your pediatrician. There are many strategies that can help your child to become resilient and gain new skills.

Help them see the situation from the other child's point of view by reminding them of a time when someone screamed at them, and then suggest more peaceful ways to resolve conflicts. Finally, once they understand what they did wrong—but not before—ask them to apologize to the other child. However, simply saying "I'm sorry" may not help your child correct their behavior; they need to know why they're apologizing. They may not understand right away, but give it time; by age 4 these explanations will begin to mean something.

Fortunately, the normal interests of 3-year-olds keep fights at a minimum. They spend much of playtime in fantasy activity, which tends to be more cooperative than play focused on toys or games. As you've probably seen, preschoolers enjoy assigning different roles in an elaborate game of make-believe using imaginary or household objects. This type of play helps develop important social skills, such as taking turns, paying attention, communicating (through actions, expressions, and words), and responding to one another's actions. And there's still another benefit: Because pretend play allows children to try any role they wish—including superheroes or a fairy godmother—it helps them explore complex social ideas. Plus it helps improve executive functioning such as problem-solving.

By watching the role-playing in your child's make-believe games, you may see that they're beginning to identify their own gender identity. While playing house, children may naturally adopt roles reflecting people they've encountered in the world around them. At this age, your son may also be fascinated by fathers, older brothers, or other boys in the neighborhood, while your daughter may be drawn to girls and women.

Research shows that few of the developmental and behavioral differences that typically distinguish boys from girls are biologically determined. The average preschool boy tends to be more aggressive, while girls are more verbal, although there is much overlap. However, most gender-related characteristics at this age are more likely shaped by culture and family. Regardless of the makeup of your family and the roles people play, your child will still find role models whom they are drawn to, whether that is

family, friends, neighbors, or characters in books or on television, and some of these representations may reinforce certain gender stereotypes. Your daughter, for example, may be encouraged to play with dolls by advertisements, gifts from well-meaning relatives, and approving comments from adults and other children. Boys, meanwhile, may be guided away from dolls in favor of rough-and-tumble games and sports. Children sense the approval and disapproval in these labels and adjust their behavior accordingly. By the time they enter kindergarten, children's gender identities are often well established, whether or not they correspond to their sex assigned at birth.

As children start to think in categories, they often understand the boundaries of these labels without understanding that boundaries can be flexible, and children this age will often take this identification process to an extreme. On the other hand, some girls and boys reject these stereotypical expressions of gender identity, preferring to choose toys, playmates, interests, mannerisms, and hairstyles that are more often associated with another gender. As children are better able to express themselves through language, they are more able to communicate their preferences for how they express gender (through choice of clothes, toys, playmates, hairstyle) and how they understand their own gender identity. These children are normal and healthy, but it can be difficult for parents to navigate their child's expression and identity if it is different from their expectations or the expectations of those around them.

WHERE WE STAND

The AAP works toward all children and adolescents, regardless of gender identity or expression, receiving care to promote optimal physical, mental, and social well-being. Any discrimination based on gender identity or expression, real or perceived, is damaging to the socio-emotional health of children, families, and society.

To aid in this goal, we recommend (a) that youth who identify as transgender and gender-diverse (TGD) have access to comprehensive, gender-affirming, and developmentally appropriate healthcare that is provided in a safe and inclusive clinical space; and (b) that family-based therapy and support be available to recognize and respond to the emotional and mental health needs of parents, caregivers, and siblings of youth who identify as TGD.

As your child develops their own identity in these early years, they're bound to experiment with attitudes and behaviors of different sexes. There's rarely reason to discourage such impulses, except when the child is resisting or rejecting strongly established cultural standards. If your son wants to wear dresses every day or your daughter only wants to wear sport shorts like their big brother, allow the phase to run its course unless the behavior is inappropriate for a specific event. If the child persists, however, or if they seem unusually upset about their gender, discuss the issue with your pediatrician.

Your child may also imitate certain behaviors adults may consider sexual, such as flirting or even asking to see other children's private parts. The child is most likely just curious and playing and not aware of their actions. You should remind them that such behaviors are not socially acceptable, but there's no role for shame. At this age, they have no mature sexual intentions. If, however, their imitation of sexual behavior is explicit or otherwise indicates they may have been personally exposed to sexual acts, you should discuss this with your pediatrician, as it could be a sign of sexual abuse or the influence of inappropriate media or video games.

(For more information about how the media could affect your child, see Chapter 35.)

Your 3-year-old's vivid fantasy life will help them explore and come to terms with a wide range of emotions, from love and dependency to anger, protest, and fear. They'll not only take on various identities themselves, but also assign human qualities and emotions to inanimate objects, such as a tree, a clock, a truck, or the moon. Ask them why the moon comes out at night, and they might reply, "To say hello to me."

From time to time, expect your preschooler to introduce you to one of their imaginary friends. Some children have a single make-believe companion for as long as six months, and others change pretend playmates daily or prefer imaginary animals, while still others never have one at all. Whatever the form, don't think these phantom friends signal loneliness or emotional upset; they're actually a creative way for your child to sample different activities, lines of conversation, behaviors, and emotions.

You may also notice your preschooler moving back and forth between fantasy and reality throughout the day. At times they may become so

involved in their make-believe world that they can't tell where it ends and reality begins. Their play experience may even spill into real life. One night they'll come to the dinner table convinced they're Spider-Man; another day they may be sobbing after hearing a ghost story they believe is true.

While it's important to reassure your child when they are frightened or upset by an imaginary incident, be careful not to belittle or make fun of them. This stage in emotional development is normal and necessary and should not be discouraged. Above all, never joke with them about "locking them up if they don't eat their dinner" or "leaving them behind if they don't hurry up." At this age they believe everything you say is true, and they're liable to feel terrified the rest of the day or remember it later. Likewise, never suggest that the doctor is going to give them a shot if they misbehave; they will believe that vaccines and other procedures are punishments and may fear their checkups.

From time to time, join in their fantasy play. This can help them find new ways to express their emotions and even work through problems. You might suggest that they "send their teddy bear to school" to see how they feel about preschool. Don't insist on participating in these fantasies, however. Part of the joy of fantasy for them is controlling these imaginary dramas. If you plant an idea for make-believe, stand back and let them make it what they will. If they ask you to play a part, keep your performance low-key. Let the world of pretend be the place where *they* run the show.

Back in real life, let your preschooler know you're proud of their new independence and creativity. Talk with them, listen to them, and show them that their opinions matter. Give choices whenever possible—in the foods they eat, the clothes they wear, the games you play together. This will give them a sense of importance and help them learn to make decisions. Keep their options simple. When you go to a restaurant, narrow their choices down to two or three items. Otherwise, they may be overwhelmed and unable to decide. (A trip to an ice cream store that sells many flavors can be agonizing if you don't limit their choices.)

What's the best approach? One of the best ways to nurture their independence is to maintain fairly firm control over all parts of their life, while at the same time giving them some freedom. Let them know you're still in charge and you don't expect them to make big decisions. When they

are older and their friend is daring them to climb a tree and they're afraid, it will be comforting to have you say no, so that they don't have to admit their fears. As they conquer many of their early anxieties and become more responsible in making their own decisions, you'll naturally give them more control. In the meantime, it's important they feel safe and secure.

Basic Care

FEEDING AND NUTRITION

As a preschooler, your child should have a healthy attitude toward eating. Ideally, they no longer use eating—or not eating—to show defiance, nor confuse food with love or affection. Generally (but not always), they'll view eating as a natural response to hunger and meals as a pleasant social experience. The same holds true for drinking, as milk and water should still be their main healthy beverages of choice.

Despite your preschooler's enthusiasm for eating, they still may have specific food preferences, some even varying from day to day. Your child may gobble down a particular food one day, then push away the same plate the next day. They may want certain foods several days in a row, then insist they don't like them anymore. As irritating as you may find it for them to reject a dish they devoured the day before, it's normal behavior for a preschooler. It's best to not make an issue of it. Let them eat the other foods on their plate or select something else. As long as they choose foods that aren't overly sugary, fatty, or salty, don't object. However, encourage trying new healthy foods by offering small amounts to taste, not by insisting they eat a full portion of something unfamiliar.

Your job is to decide what foods are available at each meal, ensuring choices of nutritious food. If healthy options are on the table, let them make the decision of what (and how much) to eat. If they're picky—resisting eating vegetables, for example—don't get discouraged or frustrated. Keep giving them even if they repeatedly turn up their nose at the sight of them. Before long, they may change their mind, developing a taste for foods once ignored. Kids may need as many as fifteen exposures to a given food before they accept it. This is the time healthy snacking and other habits get reinforced or established.

Meals need not be elaborate to be nutritious. If you have only a few minutes to prepare a meal, try a turkey sandwich, a serving of green beans, an apple, and a glass of milk. A simple lunch like this takes less time to prepare than driving to a fast-food restaurant, and it's much healthier. Try to avoid frequent snacking during the day, and limit juice to no more than 4 ounces a day. When snacks are offered, make them healthy options. Limit snacking to the table so that when they leave the table snack time is over.

Television advertising, incidentally, can be a serious obstacle to your preschooler's good nutrition. Studies show children who watch more than fourteen hours of TV weekly (more than two hours daily) have a greater tendency to have obesity. Children this age are extremely receptive to ads for sugary cereals and sweets, especially after visiting homes where these foods are served. Obesity is a growing problem among children in America. You need to be aware of your child's eating habits, at home and away, to ensure they're eating in as healthy a way as possible.

BEYOND TOILET TRAINING

By about age 3, many children are already fully toilet trained. As a toddler, your child may have gotten used to a potty chair instead of a toilet. But now is a good time to transition to toilets. If your child will be in preschool, ask about their policies on potty training.

If the small potty chair isn't already in the bathroom, move it next to the regular toilet. If your child isn't yet used to going into the bathroom, this will help establish that routine. When they have fully adjusted to the potty seat, get a child-size seat for the toilet, and provide a sturdy box or stool to climb up and down. This will also give them a surface for their feet while using the toilet. Once they have completely and voluntarily made the transition from potty to toilet, remove the potty from the bathroom.

Little boys generally sit down to urinate during early toilet training, but as preschoolers, they'll begin to copy their fathers, friends, or older brothers and stand up. As your son is learning, make sure he lifts the toilet seat beforehand. Be prepared for some extra cleaning around the toilet bowl for a while. He probably won't have perfect aim for some time. (*Note:* Check your toilet lid hinges to make sure the lid doesn't fall easily once it's been raised; falling seats have caused injuries.)



Away from home, teach your child to recognize restroom signs, and encourage use of public bathrooms whenever necessary. You'll need to accompany and assist them in the beginning. A trusted adult or older sibling should always accompany the child or at least wait right outside the stall door.

They'll also need to learn to use facilities when they're available, whether or not they have a strong need to go. Doing this will make outings and especially car trips much more pleasant. Sometimes, however, a bathroom will not be available when it's really needed, so you may need a portable potty chair.

During the entire process, you'll need to help your child in the bathroom, whether at home or away. Plan not only on wiping, but also on helping dress and undress. However, before they go to school teach them to manage entirely on their own, especially if they are in a school that expects children to be fully trained. A boy must learn to pull down his pants (if they have an elastic waist) or use the fly front. To make this as simple as possible, dress your child in clothes easily undone without help. Overalls, for example, may be practical in some ways, but they're very difficult for a child to get in and out of without help. Elastic-waist pants or shorts are generally the most practical clothing at this age. A dress with elastic-waist underpants will work equally well.



Sometimes when a child is excited to play with other children, they may try to hold off going to the bathroom and end up having an accident. This is common, and experiences like this are part of growing up. Never punish a child in circumstances like this. They'll outgrow it. If you notice that holding urine is becoming a pattern, it is important to start your child on a timed voiding regimen every few hours so that the bladder does not get too full and become irritated and prone to infection.

Constipation can also significantly affect appropriate voiding habits. Your child should be having at least one soft (like soft-serve ice cream) bowel movement per day. If you notice your child has very firm stools, has pain with bowel movements, or has fewer than two bowel movements per week, discuss ways to manage constipation with your pediatrician. You can also encourage high-fiber foods like prunes, plums, apricots, and cherries, plus more water in the diet, to help keep stools soft. Constipation is often the source of problems with urination as well, so be sure to keep track of your child's bowel movements if there is a change in their peeing habits.

BED-WETTING

All young children occasionally wet their beds when going through nighttime toilet training. Even after your preschooler is able to stay dry at night for a number of days or weeks, they may start wetting again, perhaps in response to stress or changes around them. When this happens, don't

make an issue of it. Simply put them back in training pants at night for a while, but not as punishment, only as a means to keep the sheets dry. As the stress decreases, they should stop wetting.

Most children with an ongoing bed-wetting pattern have never been consistently dry at night. Some may have functionally small bladders, and at age 3 (even 4 or 5) they can't last a whole night without urinating. For some, successful bladder control can take longer to develop. Preschoolers may not have learned to wake up and urinate at night when their bladders are full.

If your preschooler persistently wets their bed, the problem will likely disappear gradually as they mature. Medication is not advisable during the preschool years, nor should they be punished or ridiculed. They are not wetting the bed on purpose; usually it simply indicates that they are a deep sleeper. Limiting fluid intake in the hour before bed and waking them up to urinate may help some, but don't be disappointed if these steps don't stop the wetting. Reassuring them these mishaps are "no big deal" may help them feel less ashamed. Also, make sure they understand that bed-wetting is not their fault and that it will likely stop as they get older. If there's a family history of bed-wetting, let them know that, too. It will further take the burden off their shoulders. If it persists, however, check with your pediatrician, particularly if your child snores severely at night, as the return to bed-wetting may be a sign of obstructive sleep apnea. Should the bed-wetting continue after age 5, your pediatrician may recommend one of several treatment programs. (See *Wetting Problems or Enuresis,* page 652.)

If a child has been dry at night for six months or longer and suddenly begins wetting their bed again, there may be an underlying physical or emotional cause. Constipation frequently causes bed-wetting, so talk to your pediatrician if your child has large, painful, or infrequent bowel movements. Stressful situations can also contribute to bed-wetting. Maybe they're reacting to a new baby in the family, a move to a new neighborhood, or a divorce. If they have frequent accidents during the day, dribble urine constantly, or complain of burning or pain while urinating, they may have a urinary tract infection or other medical problem. In any of these cases, see your pediatrician as soon as possible.

SLEEPING

For many parents, their child's bedtime is the most challenging part of the day. This is more likely to be difficult if the child has older brothers or sisters who stay up later. The younger one is bound to feel left out and afraid of missing something. These feelings are understandable, and there's no harm in granting some flexibility in bedtimes. However, most children this age need at least ten to thirteen hours of sleep each night. At age 3, about 90 percent of children still take a nap each day, typically lasting one to two hours.

The best way to prepare your preschooler for sleep is by establishing a consistent and predictable bedtime routine. Brush their teeth (every night and every morning). Read them a story. But once the story is over and goodnights are said, don't let them stall or talk you into staying until they fall asleep. They need to get used to doing this on their own. Also, don't let them roughhouse or get involved in a lengthy play project right before bedtime. The calmer and more comforting the activity preceding bed, the better and more easily they'll go to sleep. Screens—televisions, mobile phones, tablets, and video games—should be monitored and turned off at least one hour prior to bedtime.

Although most preschoolers sleep through the night, some rouse several times to check their surroundings before falling asleep again. There may be nights when your child's very active dreams awaken them. These may reflect some impulse, aggressive feeling, or inner fear coming to the surface by way of frightening images or dreams. When a little older (5 or even older), they'll be better able to understand these images are only dreams. But as a preschooler, they still may need to be reassured they're not real. When they wake in the middle of the night and are afraid and crying, try holding them while talking about the dream, and stay until they're calm. For your own peace of mind, don't forget these are only nightmares and not a serious problem.

Night terrors can seem like nightmares, but they occur in the deepest part of sleep, usually earlier in the evening. During a night terror your toddler may sit upright in bed screaming, but not wake up immediately, and they won't acknowledge your presence. Once the night terror has passed, they should fall back asleep easily. In the morning, *you* will likely remember the event vividly, but your *child* is unlikely to remember it at all.

To further help overcome their nighttime fears, you might read your child stories about dreams and sleep. They'll better understand that everyone has dreams and they needn't be frightened of them. But always make sure the books themselves aren't frightening to them. (For more information about nightmares and night terrors, see page 739.)

In some cases, your child may call out for you at night simply because they have awakened. In those instances, simply reassure them everything is all right, put them back to sleep, and then leave. Don't reward them for waking up by giving them food or by taking them to your room. (See Chapter 38 for more information on sleep.)

Behavior

DISCIPLINE

As a parent, your challenge is to teach your child which behaviors are acceptable and which are not. This learning process won't happen overnight, but you've already been doing it since your child was very young. All along, you should have been—and should continue to be—consistent about your expectations regarding behavior. Set rules clearly, and stick to them. Caregivers' discipline techniques are often influenced by the way that they themselves were disciplined. If they feel that they were raised too strictly, they may be overly lenient. The reverse is true as well.

At this age, your child's misconduct tends to be more deliberate than before. As a toddler, they acted out of curiosity, finding and testing their limits; now that they're a preschooler, their misbehavior may be less innocent. A 3-year-old who is reacting to something stressful may do something they know is forbidden. They may not understand the emotions driving them to break the rules, but they certainly realize they're breaking them.

To discourage such behavior, help your child express their emotions through words instead of violent or disruptive actions. The parent whose child hits their brother might say, "Stop it! You are very angry. Please tell me why." If they don't stop, a time-out may be necessary (see page 280 for a discussion of time-outs and time-ins).

Sometimes your child won't be able to explain their anger, and it will be up to you to help them. This can be a real test of skill and patience, but it's well worth it. Usually the problem is fairly obvious if the situation is seen from their viewpoint. The parent can suggest, "You're very angry. Let's think of some ways you can feel better." This approach works best if you encourage your child to talk about problems and feelings on an ongoing basis.

When setting limits, you'll need to be patient. Describe the undesirable behavior your child has shown, and then tell them they need to stop. Keep things simple: "Don't hit your brother. That's not allowed."

Children test rules, particularly when those rules are new. But if you stay consistent and repeat the new rule at appropriate times for a few days, they'll get the message and accept it. Remember that hitting a child is *never* okay and is likely to make the situation worse over time. When you're especially angry or frustrated, you may need to give *yourself* a "time-out" to calm down.

(For more information about discipline, see page 483, as well as the description of extinction on page 281.)

Preparing for School

Kindergarten is usually considered the official start of school. But most children get a taste much earlier, through preschool, group childcare programs, and transitional kindergarten. These programs are generally not designed for academic or book-learning education, but they will get your child used to leaving home each day and introduce them to learning in a group setting.

A good preschool is designed to prepare your child for kindergarten. If the preschool's programming is aligned with your child's developmental level and is emotionally supportive, your child will make a smoother transition to kindergarten. They'll also be more likely to enjoy greater school success in the years ahead. Preschool gives a chance to improve social skills by meeting and playing with other children and adults, and it introduces rules that may be more formal than the ones you have at home. A preschool program may be especially beneficial if your child doesn't have many

opportunities to meet other children or adults, or if they have unusual talents or developmental concerns that might benefit from special attention.

Aside from these advantages, a preschool or childcare program may help you meet your own needs. Perhaps you're going back to work or have a new baby. Maybe you just want a few hours to yourself each day. At this stage of your child's development, the separation can be good for both of you.

If you haven't spent much time apart from your child, you may feel sad or guilty about this new separation. You also may feel jealous if they become attached to their preschool teacher, especially if—in a moment of anger—they insist they like their teacher better than you. But face it: You know their teacher can't replace you, any more than preschool can replace home. These new relationships help them learn there's a world of caring people in addition to their family, an important lesson as they get ready for the much larger world of elementary school.

When you're hit by pangs of sadness, guilt, or jealousy, remind yourself these structured separations help your child become more independent, experienced, and mature and also give you valuable time to pursue your interests and needs. In the end, this time apart will actually strengthen the bond between the two of you.

Ideally, every preschool program should offer children a safe and stimulating environment supervised by attentive, supportive adults. At the same time, the community at large should be sensitive to and supportive of the need for high-quality early childhood education. But unfortunately, not all preschool programs meet even the most basic requirements for an excellent environment for young children.



A preschool program may be especially beneficial if your child doesn't have many opportunities to meet other children.

How can you tell if a preschool is appropriate? Here are some things to look for:

- The school should have stated goals with which you agree. A good preschool tries to help children gain self-confidence, become more independent, and develop interpersonal skills. Be wary of programs claiming to teach academic skills or "speed up" children's intellectual development. From a developmental standpoint, most preschoolers are not ready to begin formal education, and pushing them may take away the fun of learning and decrease their drive to learn. If you suspect your child is ready to take on more educational challenges, ask your pediatrician to refer you to a child development specialist. If testing supports your suspicions, look for a program that will nurture your child's natural curiosity and talents without pressuring them to perform.
- For a child with special healthcare needs—such as language, hearing, behavioral, or developmental concerns—contact the director of special education in your local school system for a referral to appropriate programs in your area. Discuss what services and supports they can provide, and ask your child's specialists, therapists, and pediatrician for their opinions to help you determine the best fit for your child's needs.

- Look for programs with a relatively small class size. One-to 3-year-olds do best in classes of eight to ten children, with close adult supervision. By the time your child is 4, they will need slightly less direct supervision and may enjoy groups of up to sixteen. Here are the American Academy of Pediatrics' standards for child-to-staff ratios:

Age	Maximum Child-to-Staff Ratio	Maximum Group Size
< 12 months	3:1	6
13–35 months	4:1	8
3-year-olds	7:1	14
4-and 5-year-olds	8:1	16

- Teachers and aides should be trained in early childhood development or education. Be suspicious of schools with an extremely high turnover rate among staff. This may reflect poorly on the school's appeal to good teachers, and it also makes it difficult to find people who know anything about the teachers currently there. Staff should all undergo background checks prior to employment.
- Make sure you agree with the disciplinary methods used. Limit-setting should be firm and consistent without discouraging each child's need to explore. Rules should reflect the developmental level of the children in the program, and teachers should be supportive and helpful without stifling creativity and independent learning.
- You should be welcome to observe your child at any time. While it may disrupt the daily routine to have parents coming and going, this openness reassures you the program is consistent and the school has nothing to hide. Some schools even offer webcam access so that parents can check on their child's classroom throughout the day without being a distraction.
- The school and grounds should be thoroughly childproofed. (See Chapter 18 on keeping your child safe.) Make sure there's an adult present at all times who knows basic first aid, including CPR and how to care for a choking child.

- There should be a clear policy about illness among children. In general, children with fever should be excluded whenever the fever is accompanied by behavioral changes or symptoms that may need a doctor's attention. At the same time, the presence of a fever alone should not keep a child from participating in childcare, since the fever itself isn't particularly relevant to whether the disease will spread. Many childcare centers have fever rules that are stricter than these, often to comply with state or local regulations.
- Hygiene is important to minimize the spread of infectious illness. Make sure there are child-height sinks and that children are encouraged to wash their hands when appropriate, especially after using the toilet and before eating. If the school accepts children who are not yet toilet trained, a diaper-changing area isolated from activity and eating areas is critical to controlling the spread of infectious disease.
- Children should have plenty of time to play outdoors and be active. Screen time should be limited to specific learning-focused activities.
- Be certain you agree with the program's overall philosophy. Find out ahead of time how the school's philosophy affects the curriculum, and decide whether this is right for your family. Many preschools are connected with churches, synagogues, or other religious organizations. Children do not generally have to belong to the congregation in order to attend, but they may be exposed to certain rituals of faith.

(For more information about childcare and preschool programs, see Chapter 17.)

TRAVELING WITH YOUR PRESCHOOLER

As your child gets older and more active, traveling may become more challenging. Your 3-year-old will be restless when confined to a seat and, with their increasing willfulness, may protest loudly when you insist they stay put. For safety, you will need to be firm, but if you provide enough distractions they may forget their restlessness. The specific tricks of traveling will vary with your mode of transportation.

TRAVELING BY CAR. Even on short trips, your child must stay in their car safety seat. (See *Car Safety Seats,* page 397, for guidelines on selection and installation of car safety seats.) Most automobile crashes occur within 5 miles of home and at speeds under 25 mph, so there can be no exceptions to the rule. If your child protests, refuse to start the car until they're buckled. If you are driving and they escape from their car safety seat, pull over until they are secured again.

TRAVELING BY PLANE. When flying with a young child, choose a direct flight whenever possible to keep travel time to a minimum, and consider flying during your child's nap time or on a red-eye (overnight) flight. Don't forget to pack healthy food and snacks: Even if a meal is served, it may not appeal to your toddler. Do not request seating in an emergency exit row, since you will be moved.

Due to airport security policies, the Federal Aviation Administration (FAA) recommends that you give yourself more time than usual to negotiate security when traveling with small children. All child-related equipment—including strollers, car safety seats, infant carriers, and toys—must be visually inspected, as well as pass through an X-ray machine. You'll probably be asked to fold child-related equipment when you reach the X-ray belt so that it can pass through faster.

Your 3-year-old is safest flying in their own car safety seat installed with the aircraft seatbelt. Alternatively, the FAA has approved a harness-type restraint for children 22–44 pounds that is only certified for use on airplanes. Remember that you will need to have a car safety seat available to use at your destination.

For safety, dress your child in bright colors when traveling, to easily spot them in a crowd. Tuck a card into their pocket with their name (and yours), your phone number, your address, and your travel itinerary. Have an up-to-date photograph of your child in your possession. (If possible, take a picture of them with your phone on the day of your flight, wearing the clothes they're traveling in.) It's also a good idea to carry a change of clothes in case your child needs to be changed on board.

While it makes sense to pre-board when traveling with a baby, pre-boarding with a toddler or preschooler may not be wise if you think your

child will become more restless with the added wait. An advantage of air travel is that you and your child can take brief walks when the "Fasten Seatbelt" sign is off. This is the best antidote to restlessness, especially if you should meet another preschooler in the aisles. To amuse your child in their seat, take along an assortment of books, games, and toys similar to those you would pack for a car trip.

Visit to the Pediatrician

Starting at the age of 3 years, your preschooler should be examined by the pediatrician once a year. Now that they are better able to follow instructions and communicate, some screening procedures such as more accurate hearing and vision testing can be done. Your pediatrician will check your child's teeth and gums during routine visits, although your child should keep seeing a children's dentist for routine dental examinations (by age 3, 28 percent of children have at least one cavity, and by age 5, nearly 50 percent do; good dental care is important).

■ YOUR CHILD AT 3 YEARS OLD CHECKLIST ■

Immunization Update

During your child's preschool years, you and your pediatrician should work together to ensure your child's immunizations are up to date. Refer to the chart on page 746 for an overview of vaccines they should have received in the first three years. Your doctor may recommend giving any missed vaccinations according to a "catch-up" schedule approved by the American Academy of Pediatrics and other medical organizations. And remember the annual influenza vaccine, given in the fall. An annual COVID-19 vaccine may also be important.

Safety Check

FALLS

Be sure to guard against falls from the following:

- *Play equipment.* Watch your child on slides, swings, and monkey bars. Do not allow them to use playground equipment without an impact-absorbing surface underneath, such as wood chips, shredded rubber, sand, or rubber mats. Even with soft mats or chips, broken arms are extremely common in kids who fall off playground equipment, especially the monkey bars, so watch carefully and keep your child at a reasonable height for getting off and landing. Do not go down slides with your child in your lap, as this is a common cause of broken bones.
- *Tricycles.* Avoid unstable tricycles, and use the kind with a low-to-the-ground profile. Use a properly fitted bicycle helmet. It should bear a label indicating certification by the Consumer Product Safety Commission. Do not allow your child to ride in the street.
- *Stairs.* Continue to use gates at the top and bottom of staircases.
- *Windows.* Continue to use window guards on all windows.

BURNS

- Keep matches, cigarette lighters, candles, and hot objects out of your child's reach. Install and maintain working smoke and carbon monoxide detectors in your home. If the microwave is within your child's reach, stay close and do not permit your child to remove hot food or liquids.

CAR SAFETY

- If your child reaches the top weight or height limit for their car safety seat (see the manufacturer's recommendation), they may need a car safety seat that can be used to a higher weight and height. The majority of convertible, three-in-one, and combination car safety seats have forward-facing weight limits of 65 pounds or more, which should accommodate nearly all children this age. A five-point harness is much safer than a booster seat as long as your child fits within the weight and height limits.
- Your young child is not safe around cars. Keep them away from places where there are cars. Driveways and quiet streets can be dangerous, with

injuries sometimes occurring when cars back into a child playing on the sidewalk or driveway. Always hold your child's hand in parking lots, as drivers backing out of parking spots often cannot see a small child behind them. Keep cars locked when not in use so that your child cannot get in without permission. Do not leave your child alone in the car even for a second. Leaving a child in a vehicle can lead to illness or even death in a matter of minutes.

- Do not allow children to ride tricycles in the street or near traffic; do not allow them to ride down driveways into the street.

DROWNING

- Never leave your preschooler unattended near water, even if they have taken swimming lessons and have swimming skills. (See Chapter 18, pages 414–417, for guidelines on when to give your child swimming lessons.) This includes the bathtub. Also make sure there are no large buckets filled with water inside or outside of the home.
- Swimming lessons do not provide "drownproofing" for any child. Continue practicing touch supervision (an adult is within arm's reach at all times) anytime your child is in or near water.
- If you have a pool at home, make sure it is surrounded by a four-sided fence that completely separates the pool from the house. The fence should have a self-closing and self-latching gate.

POISONING AND CHOKING

- Make sure that lithium button batteries, water beads, and powerful rare-earth magnets are out of reach, as swallowing these items can cause life-threatening injuries of the digestive tract.
- Do not allow your child to walk around with food or other items in their mouth.
- Keep medications, illicit substances, and poisons, including laundry detergent packets, locked away and out of reach.
- Always supervise your child around pets, especially dogs.

CHAPTER 16

Your Child at 4 and 5 Years



Time passes quickly. Before you know it, your child has turned 4 and then 5 years old. You may find your calm child of 3 is now a dynamo of energy, drive, bossiness, belligerence, and general out-of-bounds behavior. You may be reminded of the trials and tribulations of their younger years, but by age 4, they are now taking different directions. Although they may seem to be going in all directions at the same time, they are learning from all these experiences. Over time, a more confident child will emerge around their fifth birthday.

The emotional highs and lows may have them appearing secure and bragging one minute, insecure and whining the next. In addition, 4-year-olds become set in some routines, not wanting to change for fear they will not know what to do. This fixation reveals the insecurity they feel during these months.

Your child's mind is now a font of imaginative ideas. The "monsters" they talk with at school or the "dragon" who helps them across the street are normal tall tales for 4- to 5-year-olds. They reflect your child's push to distinguish fact from fantasy, and their fantasies sometimes get a bit out of control. All this behavior and thinking will help your child build a secure foundation as they approach kindergarten.

In fact, around their fifth birthday, your child will be ready to tackle "real" school—the major occupation of childhood. This enormous step demonstrates they're able to behave within the limits expected by school and society and have the skills to take on complex learning challenges. It also means they're able to separate comfortably from you and move out on their own. Not only can they now share with and show concern for others, but they also have learned to value friends—both children and adults—outside their family.

Growth and Development

MOVEMENT/PHYSICAL DEVELOPMENT

Your preschooler now has coordination and balance nearer to that of an adult. Watch them walk and run with long, swinging, confident strides, use stairs without holding the handrail, stand on tiptoes, whirl in a circle, and pump themselves on a swing. They also have the muscular strength to perform challenging activities such as somersaults and standing broad jumps. It will be a toss-up as to who is excited more by their progress—you or them. You should talk to your pediatrician if you are concerned that your child can't keep up with other kids or is clumsier than other kids their age.

In your child's eagerness to prove their independent capabilities, they'll often run ahead when out on a walk. However, their motor skills are still way ahead of their judgment, so you'll need to remind them frequently to wait and hold your hand when crossing the street. The need for vigilance is just as important near water. Even if they can swim, they probably can't swim well or consistently. Should they go under, they may become frightened and forget how to keep afloat. To prevent drowning, never leave them alone in or near a pool, hot tub, lake, ocean, or any body of water, even for a moment (including the bathtub). Be sure to practice touch supervision

—being no farther away than arm's length while they are in the water—and avoid distractions like mobile phones.

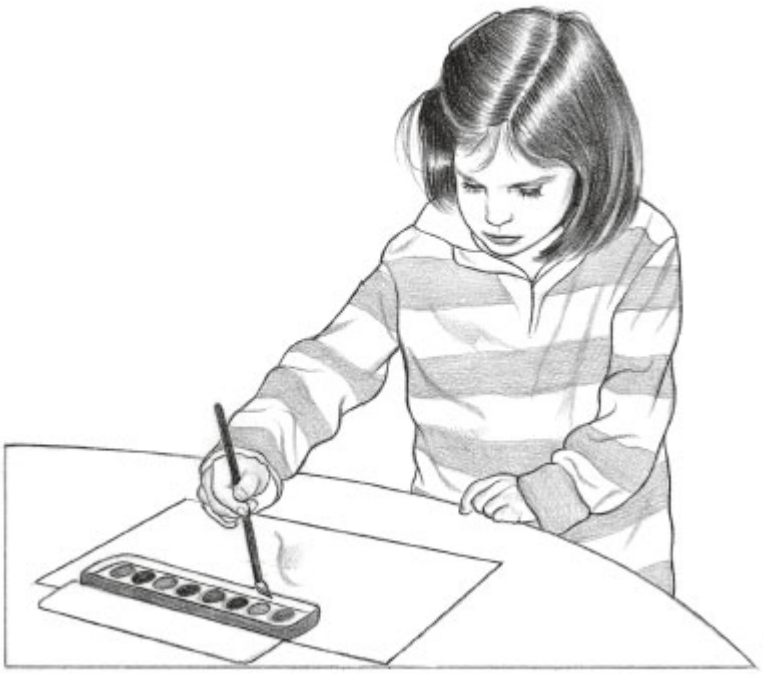
MOVEMENT/PHYSICAL DEVELOPMENT MILESTONES FOR YOUR CHILD AT 4 AND 5 YEARS

- Catches a large ball most of the time
- Serves themselves food or pours water, with adult supervision
- Unbuttons some buttons
- Holds crayon or pencil between fingers and thumb (not in a fist)
- Hops

HAND AND FINGER SKILLS

Your 4-year-old's coordination and ability with their hands are almost fully developed. They're becoming able to take care of themselves. They can brush their teeth (still with your help) and get dressed with little assistance, and may even be able to tie their shoes.

Notice how they use their hands with far more care and attention when drawing. They'll decide in advance what they want to create, then create it. Their figures may or may not have a body, and the legs may be sticking out of the head, but they'll have eyes, a nose, and a mouth. And, most important for your child, the drawing is a person to them.



Because of this growing hand control, arts and crafts in general are becoming more exciting. Their favorite activities may include:

- Writing and drawing, holding the paper with one hand and the pencil or crayon with the other
- Tracing and copying geometric patterns, such as stars or diamonds
- Card and board games
- Painting with a brush and finger painting
- Clay modeling
- Cutting (using safety scissors) and pasting
- Building complex structures with many blocks

These kinds of activities will permit them to use and improve many of their emerging skills, and they'll also discover the fun of creating. In addition, because of their successes with these activities their self-esteem will grow. You may even notice emerging talents, but at this age it's not advisable to push your child in any one direction. Provide a broad range of opportunities to exercise all their abilities. They'll take the direction they enjoy most.

LANGUAGE/COMMUNICATION DEVELOPMENT

At about age 4 your child's language skills will blossom. They'll now pronounce most sounds in the English language, with the following exceptions: *f, v, s,* and *z.* These sounds may remain difficult until midway through age 5, and they may not fully master *sh, l, th,* and *r* until 6 or later.

Your preschooler's vocabulary has expanded to around 1,500 words and will grow by another 1,000 or so over the course of this year. They can now tell elaborate stories using relatively complex sentences of up to eight words. And they will tell you not only about things happening to them and things they want, but also about their dreams and fantasies.

LANGUAGE/COMMUNICATION MILESTONES FOR YOUR CHILD AT 4 AND 5 YEARS

- Says sentences with four or more words
- Says some words from a song, story, or nursery rhyme
- Talks about at least one thing that happened during their day, like "I played soccer"
- Answers simple questions like "What is a coat for?" or "What is a crayon for?"
- Tells a story they heard or made up with at least two events (for example, a cat was stuck in a tree and a firefighter saved it)
- Answers simple questions about a book or story after you read or tell it to them
- Keeps a conversation going with more than three back-and-forth exchanges
- Uses or recognizes simple rhymes (bat-cat, ball-tall)

Don't be surprised, however, if some words are not those you want to hear. They've learned how powerful words can be, and they'll enthusiastically explore this power, for better or worse. If your 4-year-old is like most, they'll be very bossy at times, perhaps commanding you to "stop talking" or their playmates to "come here now." To counter this, teach them "please" and "thank you." Also, review how you and other adults in the family address your child and each other. They will repeat many of the commands they hear most often.

Your child may pick up swear words at this age. From their point of view, these are the most powerful words of all. They hear adults say them when they are most angry or emotional, and whenever they use them, they get quite a reaction. What's the best way to stop this behavior? Be a good role

model and make a conscious effort to avoid saying these words, even when stressed. In addition, try to minimize your child's use of them without drawing too much attention to them. They probably have no idea what these words really mean; they just enjoy their energy.

When your child's upset, they may use words as insults. This is certainly preferable to physical violence, although it can be disturbing to you. Keep in mind that when your child uses these words, they're disturbed, too. If they say "I hate you!" what they really means is "I am very angry, and I want you to help me sort out my feelings." Getting angry and shouting back will only hurt and confuse them more. Instead, remain calm and tell them you know they don't really hate you. Then let them know it's okay to feel angry and talk about the events leading up to their outburst. Try giving them the words that show how they feel.

LEARNING TO READ

Is your child interested in learning the names of letters? Do they look through books and magazines on their own? Do they like to "write" with a pencil or pen? Do they listen attentively during story time? If the answer is yes, they may be ready to learn the basics of reading. If not, they're like most preschoolers and will take another year or two to develop the language skills, visual perception, and memory needed to begin formal reading.

Although a few 4-year-olds sincerely want to learn to read and will begin to recognize familiar words, there's no need to push your child. Even if you succeed in giving them this head start, they may not maintain it once school begins. Some early readers lose their advantage during the second or third grade, when the other students acquire the same basic skills.

The most crucial fact determining a student's success in school is a child's enthusiasm, not how aggressively they were pushed early on. Parents should make learning to read fun, without forcing their child. Encouraging your child's enthusiasm in learning is more important than the age at which a child actually learns to read.

What's the most successful approach to early learning? Let your child set their own pace and have fun. Read to them every day, preferably from actual books rather than from electronic devices. Talk with them about what you are reading together. Encourage their curiosity and tendencies to explore on their own. Read them books they enjoy, but don't push them to learn the words. Provide them with educational experiences, but make sure they're also entertaining.

When your child is ready for letters and reading, there are plenty of valuable tools to help—books, puzzles, games, songs. There are also television programs and video/computer games that aim to teach reading, but your child can't be expected to do the job on their own. If they are watching an educational TV show, sit with them and talk about the concepts shown. If they're playing a computer game, do it with them to ensure it's appropriate for their abilities. If the game is too frustrating, it may

diminish their enthusiasm and defeat the purpose. Active learning in a warm, supportive environment is the key to success.

If the insults they choose are mild, the best response may be a joke. If they call you a "wicked witch," you might laugh and respond: "And I just boiled up a pot of bats' wings and frogs' eyes. Want some?" This kind of humor can take the edge off their anger as well as your own.

From time to time your preschooler may be extremely talkative. Try redirecting their verbal energy. Instead of allowing them to chant mindless sound rhymes, teach them some limericks or songs, or take time out to read some poems. This will help them pay more attention to the words they speak and will boost their appreciation for written language as well.

COGNITIVE DEVELOPMENT

By age 4, your child is exploring many basic concepts to be taught in greater detail in school. They now understand the day is divided into morning, afternoon, and night, and that there are different seasons. By the time they're 5, they may know some days of the week and that each day is measured in hours and minutes. They also may comprehend counting, the alphabet, size relationships (big versus small), and the names of geometric shapes.

There are many children's books illustrating these concepts, but don't feel compelled to rush. There's no advantage to them learning early, and if they feel pressured to perform now, they may resist learning when they get to school.

The best approach is to offer a wide range of learning opportunities. This is the perfect age to introduce zoos and museums if you haven't done so already. Many museums have special children's sections, where they can actively experience the learning process.

At the same time, you should respect their special interests and talents. If your child seems very artistic, take them to art museums and galleries, or try a preschool art class. If you know an artist, take them for a visit so that they can see a studio. If they're most interested in dinosaurs, take them to the natural history museum. Whatever their interests, books can help answer their questions and open their horizons even further. At this age, your child

should be discovering the joy of learning so that they can be self-motivated when formal education begins.

COGNITIVE MILESTONES FOR YOUR CHILD AT 4 AND 5 YEARS

- Names a few colors of items
- Tells what comes next in a well-known story
- Draws a person with three or more body parts
- Counts to 10
- Names some numbers between 1 and 5 when you point to them
- Uses words about time, like "yesterday," "tomorrow," "morning," or "night"
- Pays attention for five to ten minutes during activities—for example, during story time or making arts and crafts (screen time does not count)
- Writes some letters in their name
- Names some letters when you point to them

You'll also find, in addition to exploring practical ideas, your 4-year-old will probably ask universal questions about subjects such as the origin of the world, death and dying, and the composition of the sun and sky. Now is when you'll hear the classic question "Why is the sky blue?" Like many parents, you may struggle to answer these questions, particularly in language your child understands. Don't make up answers; rely instead on children's books. These questions provide the perfect opportunity to visit libraries or bookstores with your child. If you choose to look this information up online, refer to reliable scientific websites and take time to look at pictures and videos together.

SOCIAL/EMOTIONAL DEVELOPMENT

By age 4, your child should have an active social life filled with friends, maybe even a "best friend." Ideally, they'll have neighborhood or preschool friends they see routinely.



What if your child is not enrolled in preschool and doesn't live near other children the same age? In these cases, you might arrange play sessions with other preschoolers. Parks, playgrounds, and preschool activity programs all provide excellent opportunities to meet other children.

Once your preschooler has found playmates they seem to enjoy, you need to take initiative to help build their relationships. Encourage them to invite these friends to your home. It's important for them to share their home, family, and possessions with other children. This will establish a sense of self-pride. Incidentally, to generate this pride, their home needn't be luxurious or filled with expensive toys; it need only be warm and welcoming.

It's also important to recognize that their friends are not just playmates. They actively influence their thinking and behavior. They'll desperately want to be like them, even during times when they break rules and standards you've taught them from birth. They now realize there are other values and opinions besides yours, and they may test this new discovery by demanding things you've never allowed—certain toys, foods, or clothing, or watching certain TV programs.

Don't despair if your relationship changes dramatically in light of these new friendships. Your child may be rude to you for the first time in their life.

Hard as it may be to accept, this sassiness is actually a positive sign they're learning to challenge authority and test their independence. Once again, deal with it by expressing disapproval, and possibly discussing with them what they really mean or feel. If you react emotionally, you'll encourage them to continue the behavior. If the subdued approach doesn't work and they persist in talking back, a time-out (or time-in) is the most effective form of discipline (see page 280).

SOCIAL/EMOTIONAL MILESTONES FOR YOUR CHILD AT 4 AND 5 YEARS

- Pretends to be something else during play (teacher, superhero, dog)
- Asks to go play with children if none are around, like "Can I play with Alex?"
- Comforts others who are hurt or sad, like hugging a crying friend
- Avoids danger, like not jumping from tall heights at the playground
- Likes to be a "helper"
- Changes behavior based on where they are (place of worship, library, playground)
- Follows rules or takes turns when playing games with other children
- Sings, dances, or acts for you
- Does simple chores at home, like matching socks or clearing the table after eating



Bear in mind that even though your child is exploring the concepts of good and bad, they still have an extremely simplified sense of morality. When they obey rules rigidly, it's not necessarily because they understand them, but more likely because they want to avoid a negative response. In their mind, consequences count, but not intentions. When they break something of value, they probably assume they're bad, even if they didn't break it on purpose. They need to be taught the difference between accidents and doing something on purpose.

To help them learn this difference, you need to separate them from their behavior. When they do or say something that calls for punishment, make sure they understand they're being punished for the act, not because they're "bad." Describe specifically what they did wrong, clearly separating the person from the behavior. If they are picking on a younger sibling, explain why it's wrong, rather than saying "You're bad." When they do something wrong without meaning to, comfort them and tell them you understand it

was unintentional. Try not to get upset, or they'll think it's them you're angry with rather than what they did.

It's also important to give your preschooler tasks you know they can perform and then praise them when they do them well. They're ready for simple responsibilities, such as setting the table or cleaning their room. On family outings, explain that you expect them to behave well, and congratulate them when they do. Along with responsibilities, give them ample opportunities to play with other children, and tell them how proud you are when they share with or are helpful to another child.

Finally, it's important to recognize that the relationship with older siblings can be particularly challenging, especially if the sibling is three to four years older. Often your 4-year-old is eager to do everything their older sibling does; just as often, your older child resents the intrusion. They may resent the intrusion on their space, their friends, their more daring activity and busier pace, and especially their room and things. You often become the mediator of these squabbles. It's important to seek middle ground. Allow your older child their own time, independence, and private activities and space, but also foster cooperative play when appropriate. Family vacations are great opportunities to enhance the positives of their relationship while giving each child their own activity and special time.

Just as it was when they were 3, your 4-year-old's fantasy life remains very active. However, they're now learning to distinguish between reality and make-believe, and they'll be able to move back and forth between the two without confusing them.

As pretend games advance, don't be surprised if your child experiments with make-believe games involving some form of violence. War games, dragon-slaying, and even games like tag all fall into this category. Some parents forbid store-bought toy guns, only to find their child cutting out cardboard guns or pointing a finger and shouting "Bang!" Parents shouldn't panic over these activities. There is no evidence these children are violent. A child has no idea what it is to kill or die. For them, all toys are an innocent and entertaining way to have fun, be competitive, and boost self-esteem.

If you want a gauge of your child's developing self-confidence, listen to the way they talk to adults. Instead of hanging back, as they may have done at 2 or 3, now they are probably friendly, talkative, and curious. They are

also likely to be especially sensitive to the feelings of others—adults and children—and enjoy making people happy. When they see others are hurt or sad, they'll show sympathy and concern. This will probably come out as a desire to hug or "kiss the hurt," because this is what they want most when in pain or unhappy.

At about 4 and 5, your preschooler may begin to show an avid interest in basic sexuality, both their own and that of others. They may ask where babies come from and about the organs involved in reproduction and elimination. They may want to know how boys' and girls' bodies are different. When confronted with these questions, answer in simple but correct terminology. A 4-year-old doesn't need to know details about intercourse but should feel free to ask questions, knowing they'll receive direct and accurate answers.

Along with this increased interest in sexuality, they'll probably play with their own genitals and may demonstrate an interest in the genitals of other children. These are not adult sexual activities but signs of normal curiosity and don't warrant scolding or punishment.

What limits should parents set on such exploration? It's probably best to not overreact, since in moderation the behavior is normal. However, children need to learn what's socially appropriate. You may decide to tell your child:

- Interest in genital organs is healthy and natural.
- Nudity and masturbation in public are not acceptable.
- No other person, including close friends and relatives, may touch their "private parts." The exceptions to this rule are doctors and nurses during physical examinations and their own parents when they are trying to find the cause of pain or discomfort in the genital area.

At about this same time, your child may also become fascinated with a parent or adult figure of a different sex. There's no need to feel threatened or jealous.

Basic Care

HEALTHY LIFESTYLE

Preschool years are a good time to adopt a healthy lifestyle for the entire family, and to encourage your child's healthy habits. The lifestyle they become accustomed to at 4 and 5 is likely to influence health-related choices for the rest of their life. That means being conscientious about the food they eat and exercise they get.

Pediatricians are more aware than ever that a growing number of children have overweight. Your doctor has been keeping track of your child's height and weight since infancy. They'll be able to calculate whether your child weighs more than they should. Fortunately, steps can be taken now to reduce your child's likelihood of developing obesity, and to keep them on track for a healthy life. Give thought to your child's physical activity. It's really important for kids to be active for at least three hours a day. Although some of this activity does happen at school, much still needs to happen while at home. Encourage active play and exercise activity whenever possible.

These years are when they should be developing their motor skills, improving their coordination, and playing games and sports with greater skill. Make sure they have access to age-appropriate play equipment, such as balls and plastic bats, that will make exercise fun and something they look forward to doing. Of course, play periods must be supervised; keep them away from dangerous situations like running into the street to chase a ball. You can serve as a playmate and role model by practicing exercise and active play yourself.

SAMPLE ONE-DAY MENU FOR A PRESCHOOLER

This menu is planned for a 4-year-old child who weighs approximately 36 pounds (16.3 kg).

1 cup = 8 ounces = 240 milliliters
1 ounce = 30 milliliters
1 teaspoon = ⅓ tablespoon = 5 milliliters

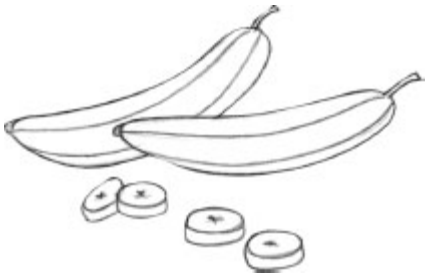


Breakfast

½ cup non-fat or low-fat milk

½ cup whole-grain cereal

4–6 ounces or ½–¾ cup cantaloupe, strawberries, or banana



Snack

½ cup non-fat or low-fat milk

½ cup fruit such as melon, banana, or berries

½ cup yogurt



Lunch

½ cup non-fat or low-fat milk

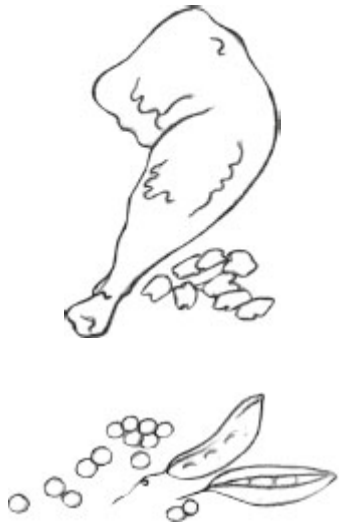
1 sandwich: 2 slices whole-wheat bread with 1–2 ounces meat and cheese, veggie, and dressing (if needed), or peanut or almond butter (and jelly if needed)

¼ cup yellow or green vegetable



Snack

1 teaspoon peanut or almond butter with 1 slice whole-wheat bread, 5 whole-grain crackers, string cheese, or cut-up fruit



Dinner

½ cup non-fat or low-fat milk

2 ounces lean meat, fish, or chicken

½ cup whole-grain pasta, rice, or potato

¼ cup vegetable

Make an effort to have family time be physically active. Rather than going to an afternoon movie, take the entire family on a hike. Or fly a kite, play tag, or throw a ball back and forth. Whenever possible, spend time outdoors with your family. Research shows that spending time in nature can help to improve attention span, memory, and brain growth, while lessening anxiety.

Television, computers, video games, tablets, and mobile phones all compete with more active pursuits for your child's attention and time. Some gaming consoles can promote activity ("exergaming"), which may be useful when weather or other circumstances limit outside play. Mobile phone and tablet apps may also encourage activity or exploration. At the same time, most screen-based pursuits can distract your child from more active or imaginative play. In order to determine the role screen time will play in your child's life, first think about your goals for activity, sleep, and family time, then assign some remaining time to age-appropriate, constructive electronic

activities. Your participation can help your child get the most from these programs and apps. (See Chapter 35, *Media*.)

FEEDING AND NUTRITION

Good nutrition is an important part of your child's healthy lifestyle. Fast-food restaurants may be tempting because of cost and convenience, but there are now many acceptable alternatives to the higher-calorie, less nutritious items on the menu. During the preschool years, your child should eat the same foods as the rest of the family, with an emphasis on those with nutritional value. This includes fresh vegetables and fruits, dairy products (milk, yogurt, cheeses), lean meats (chicken, turkey, fish, lean hamburger), and whole-grain cereals and bread. At the same time, limit or eliminate junk food from your child's diet, and get rid of sweetened beverages as well. Junk food includes foods with low nutritional value, especially food that's overly processed. Dairy is important for your child's diet. Research demonstrates that regardless of flavoring (such as chocolate), milk does not adversely affect body mass index measurements in children. Desserts like ice cream and cake are fine occasionally but shouldn't be an everyday indulgence. Particularly if your child has overweight, pay attention to portion sizes, and for 4-and 5-year-olds, servings should be smaller than an adult-size portion.

While 3-year-olds are frequently picky eaters and 4-year-olds may continue to be so, the older child may be more vocal about their preferences. They may become more insistent about refusing to eat certain foods. Their nutritional needs are the same as when they were a year younger, but they may have unpredictable emotional responses to foods. They may talk back if they don't like what's being served, but if you put well-balanced meals on their plate, they'll have enough wholesome choices to keep them healthy.

At this age, your child should be good company at meals and ready to learn basic table manners. By 4, they'll no longer grip their fork or spoon in their fist, but rather hold it like an adult. With instruction, they also can learn proper use of a table knife. You can teach other table manners as well, such as not talking with their mouth full, using their napkin, and not reaching across another person's plate. While it's necessary to explain these rules, it's more important to model them; they'll behave as they see the family behaving. They'll also develop better table manners if your family is

accustomed to eating together. Try to make at least one meal a day a special and pleasant family meal, and have your child set the table or help with the meal preparation.

HOW MUCH IS ENOUGH?

Many parents worry whether their children are getting enough to eat. Here are some guidelines to help you make sure your child gets enough, but not too much.

- Your child does not need the serving size of an adult. Offer them small portions, typically about half the adult size, with seconds only if they ask. For many foods, a child portion is about the size of their palm (not yours). Using child-size plates can help guide portions as well. Here are some acceptable child-size portions.

  1 teaspoon = 5 ml
  1 ounce = 30 ml
  1 tablespoon = 15 ml
  1 cup = 8 ounces = 240 ml

  4–6 ounces milk or juice
  ½ cup cottage cheese or yogurt
  2 ounces hamburger
  1 slice toast
  4 tablespoons vegetables
  ½ cup cereal
  2 ounces chicken
  1 teaspoon margarine, butter, or dressing

- In general, limit snacks to two a day; more may spoil their appetite for main meals. Choose healthy items instead of unhealthy foods such as soft drinks, candy, pastries, or salty or greasy items. To minimize the risk of cavities and excess calories, rely on nutritious snack foods like those listed below. If needed, consider cutting them into small pieces for easier chewing and to avoid any choking hazards. It often takes about twelve to fifteen tries for a child to develop a taste for an unfamiliar food.

  Fruit
  Carrot, celery, or cucumber sticks (can dip into low-fat ranch dressing or hummus)
  Yogurt
  Whole-grain toast or crackers (with healthy nut butter)
  Low-fat bran muffins
  String cheese

- On special occasions, your child can have dessert items or a sweet treat, but don't make dessert dependent on what they eat for a meal. Instead pick a couple of days a week as "dessert days." Also,

pay attention to portion sizes of desserts: One scoop of ice cream provides pretty much exactly the same pleasure as two.

- Don't use food as a reward for good behavior.
- Make sure your child actually is hungry or thirsty when they ask for food or drink. If what they really want is attention, talk or play with them. Don't use food as a pacifier.
- Don't allow them to eat while playing, listening to stories, or watching television. Allowing them to do so will lead to mindless eating well past the point of fullness.
- Don't worry if your child's food intake is inconsistent. One day they may seem to eat anything they get their hands on, and the next they'll grimace at the sight of everything. When they refuse to eat, they may not be hungry because they've been less active that day. Also consider the possibility they're using food as a means of control. Especially when they're being negative about nearly everything, they're bound to resist your efforts to feed them. When that happens, don't force them. They will not starve themselves, and they'll seldom, if ever, lose weight. If, however, a markedly decreased appetite persists for more than one week, or there are other signs of illness, such as fever, nausea, diarrhea, or weight loss, consult your pediatrician.
- Your child needs to drink approximately 2 cups (16 ounces [480 ml]) of non-fat or low-fat milk daily to meet their calcium requirement. Milk is an important food, mainly because of its calcium and vitamin D content. Too much milk, however, may reduce their appetite for other important foods, and some children don't like dairy. Children should take a daily vitamin D supplement anyway, and other high-calcium foods include seeds, cheese, oily fish such as salmon, beans, almonds, and leafy green vegetables.



Handwashing is an important part of a healthy lifestyle.

Monitor your child's television viewing and exposure to advertisements. Television advertising, even after the best of explanations, presents a serious obstacle to your preschooler's good nutrition. Research shows a strong

relationship between time spent watching television and obesity; cutting back on television time improves weight in kids with overweight. Four-and 5-year-olds are extremely receptive to ads for sugary cereals and sweets, especially after they've visited other homes where these foods are served. Be aware of your child's eating habits, at home and away, and monitor them to ensure they're eating as healthfully as possible.

To combat unhealthy influences, keep your own home as healthy as possible. Stock up on whole, less-processed, nutrient-rich foods without added fats or sugars. Eventually your child will become accustomed to healthy whole foods, which may make them less susceptible to the temptation of the sugary, salty, or greasy ones.

SLEEPING

If your child is having difficulty with nighttime sleep, it often helps to establish routines before bedtime. A 4-year-old may respond positively to having a schedule of a bath, brushing their teeth, and a bedtime story before the lights are turned off. You might also try setting bedtime earlier rather than later; the nighttime struggles over sleep might subside when your child is less tired and cranky. Your child's need for naps may also gradually subside during this period.

Night terrors can be an issue for this age group. Since some children have night terrors when they're overtired, try putting your child to bed thirty minutes earlier than usual and see if the episodes diminish in frequency. In any case, they'll disappear naturally as the child grows older. (For more information on night terrors, see page 739.)





Behavior

DISCIPLINE

By age 4, your preschooler may be controlling some of their unpredictable emotional responses, but they still can't manage their feelings of defiance. At this age, they may openly disobey rules and, as mentioned earlier, even talk back or swear. Often they'll behave badly just to test you and to see your response. As irritating and embarrassing as this behavior may be, it's rarely a sign of emotional illness and usually disappears by school age if a relaxed approach is taken.

Children want guidance and to be shown expected behaviors in a consistent way. They need to feel safe and protected even if their behavior gets out of hand. Time-outs and time-ins continue to be effective. If you use a time-out, follow it with a brief time-in to review with your child the reason for it. Another technique is the loss of privileges. However, do not use empty threats, and never resort to physical punishment. You must teach what is and isn't acceptable behavior. The only way they'll learn to set their own limits later is by having you set reasonable limits now and having you guide them in learning emotional control. If you are loving, firm, and consistent, they will become more secure. It's also important to create opportunities for autonomy. If you're heading out the door together on a cool day, ask if they want a sweater or jacket and ask them to help find it. At the grocery store, ask them to help point out a product you're looking for.

FIBBING

Not telling the truth is common at this age. Preschoolers fib for a variety of reasons. Sometimes they're afraid of punishment; other times they've gotten carried away with fantasies, or perhaps they're imitating behavior seen in adults. Before you punish your child for fibbing, make sure you understand their motive.

When they're trying to avoid punishment, they may have broken a household rule. They may have damaged something they shouldn't have been handling. Or maybe they were too rough and hurt one of their playmates. In any case, they've concluded it is best not to admit to what they have done. You will want to explain why it is important for them to understand what they have done and to be able to talk about it with you. Say something like "This is broken. I wonder how it happened." If they confess, remain calm and even-tempered, and if there is a punishment, make it reasonable and meaningful. This way they may be less afraid to admit to their behaviors the next time.

Telling tall tales is entirely different from lying. Tall tales are usually just an expression of your child's imagination and do no harm. It becomes a problem only if you—or your child—can no longer distinguish truth from fantasy. Although a tall tale doesn't require punishment, it does call for a lesson. Tell them the story of the boy who cried wolf, and explain how it could be dangerous for them to keep making up falsehoods. (What if they were hurt and you didn't know whether to believe them or not?) Make it clear it's in their best interests to tell the truth.

When your child's lying is just a copy of your behavior, you can best stop it by eliminating the model. When your child hears you telling "white lies," they may not understand you're doing it to be tactful or in an effort not to hurt someone's feelings. All they know is that you're not telling the truth, so they feel free to lie as well. You can try teaching them the difference between outright and white lies, but they probably won't understand most of it. You're more likely to succeed by changing your behavior.

In deciding limits, keep in mind that many strategies used when your child was younger are also suitable now. Rewarding and praising desired behaviors and ignoring unwanted behaviors work better than punishing. Avoid physical punishments. It's still essential to deal with misbehavior promptly and fairly, not waiting so long your child forgets why they're being disciplined. Now more than ever, you need to model appropriate behavior by controlling your emotions, selecting your words carefully (label the behavior, not the child), and using words (not violence) to address emotions and settle disputes. Be sure to share your discipline strategies with your child's caregivers so that your child receives consistent messages and appropriate forms of discipline. (For more information, see *Discipline* on page 295, which is also largely applicable to 4-and 5-year-olds.)

Preparing for Kindergarten

Many 4-year-olds will attend preschool. Many school districts offer free or lower-cost preschool options that are actually part of the school system. Kindergarten, however, is a major turning point. Even if your child attended preschool, they'll be expected to be more mature as they enter elementary school, and they'll be given more responsibilities and independence. "Regular" school is also a larger and more confusing social setting than any they've known before. Even though their class may be the same size as at preschool, they may spend part of each day mixing with children from older classes. They must be emotionally prepared for the tasks of kindergarten and the challenge of being among the youngest in a big school.

As your child nears school age, you can start preparing by talking to them about going to kindergarten. Explain how their routine will change, and involve them in choosing their back-to-school clothes. It will also help to drive or walk them by the school occasionally and even go in and show them the classroom so that they'll know firsthand what to expect. Many schools open their classrooms before school begins, so you can take your child in and meet the teacher. This preparation will help build their enthusiasm and lessen their anxiety about the next big step.



Kindergarten is a major turning point for your child.

Prior to beginning school, your child should also have a thorough physical examination. (Many states require it.) Your doctor will evaluate your child's vision, hearing, and overall physical development, and make sure they have the necessary immunizations or give any boosters needed. (See Chapter 34, *Immunizations,* and the immunization schedule in the Appendix.) Depending on state law and likelihood of exposure, the doctor also may administer a test for tuberculosis and do routine labs in the office or send you to a laboratory for other tests.

Most school systems accept children for kindergarten based on age, often with a rigid cutoff date. While this approach works well for most

children, it's not perfect for everyone. Developmental rates vary so widely that one child may be prepared for school at age 4 while another isn't ready until 6.

If you are in doubt about your child's readiness to start kindergarten, or if you are debating whether to start or give an extra year of preschool before kindergarten, there are experts who may be able to help you determine what's best. If your child is attending preschool, their teacher may be able to help, as they have seen them in action with other children and should be able to tell you if they're ready for a more structured classroom experience. Your pediatrician can also help evaluate your child or arrange for developmental testing to help determine whether they have the necessary skills to do well in kindergarten. These same experts and tests can also help if you feel your child is advanced for their age and you wish them to start school early.

Many school districts conduct screening assessments for all kindergarten-age children to assess school readiness and, in some instances, to identify children who will need an Individualized Education Program (IEP) and special education services. Testing of developmental skills is generally held at the school during the spring or summer before the child is scheduled to enter kindergarten. At the same time, school nursing personnel may collect information about the child's health, making sure they've been fully immunized, and perhaps examining their hearing and vision if there is no documentation your pediatrician has already done so.



Unless there's evidence your child may need modifications or accommodations to succeed, the best test may be a trial run when school opens. If there is a serious question about progress during the school year, your child may need a psychoeducational evaluation to decide whether an IEP is necessary. This decision will be based largely on their ability to learn, follow directions and routines, and relate to other children as well as the teacher.

TALKING ABOUT BULLYING

Bullying can be a fact of life for many preschoolers. Bullying occurs when one child picks on another, and it can happen at preschool, in the neighborhood, at playgrounds, or in parks. The targeted child is often smaller or weaker, is shy, and feels helpless when confronted by bullying that can be physical (punching, pushing, kicking, choking), verbal (teasing, taunting, threatening, hate speech), or social (excluding from activities).

When children are bullied, they are often afraid to go to school. They may have difficulty paying attention at school and may complain of headaches or stomach pains. Make sure your child understands bullying is not their fault. Talk to them about ways to stay safe when they're being subjected to this aggressive behavior. Here are some often effective strategies your child can use:

- Look the bully directly in the eye.
- Stand tall and stay calm.
- Walk away.

- Say (in a firm voice) things such as “I don’t like what you’re doing” or “Please don’t talk to me like that.”

Have your child practice these approaches at home so that they will happen more naturally when they’re needed. Also, let them know that when bullying takes place, they should ask an adult for help. At the same time, you need to let preschool teachers and playground monitors know bullying is going on and ask them to help stop it if they see it occurring. When you are not around, an adult should be nearby who can keep watch and protect your child’s safety.

Now, what if your child is the one doing the bullying? What if they are bullying other children in their preschool or neighborhood? Take steps to put a stop to this behavior as soon as possible. Bullying needs to be taken seriously. This is the time to change undesirable behavior, before things get worse. Here are some guidelines:

- Set consistent limits on your child’s aggressive behavior. Make sure your child understands bullying is never acceptable.
- Be a positive role model. Show your child they can get what they need without threatening or teasing other children.
- When you need to discipline your child for their behavior, use non-physical approaches, such as time-outs, time-ins, and the loss of privileges. Make sure your child understands why this behavior is unacceptable.
- If you’re having trouble putting a stop to your child’s bullying, seek help from a teacher, a counselor, or your pediatrician.

Visit to the Pediatrician

Continue to visit your pediatrician once a year. They will confirm your child is up to date on immunizations and give booster doses of vaccines against polio, diphtheria, tetanus, pertussis, measles, mumps, rubella, and chickenpox for ages 4 to 6 years. Many states require these before kindergarten. (For a schedule of recommended immunizations, see the Appendix.)

HEARING. Around age 4, your child can talk well enough to describe different sounds. Your pediatrician may suggest a thorough hearing check, using tones at different frequencies. This test should be repeated every year or two, or more often if hearing problems are found.



VISION. At ages 4 and 5, your child can understand directions and cooperate well enough to have a formal vision test, although photo vision screening devices used at younger ages are also acceptable for screening at this age. Using either device, their visual acuity should be 20/30 or better. More important than the absolute vision in each eye is any difference in visual acuity between the two. If you suspect a problem or anything is picked up on a vision screening or exam, they should be evaluated by a pediatric optometrist or ophthalmologist.

■ YOUR CHILD AT 4 AND 5 YEARS CHECKLIST ■

Safety Check

Throughout this book, there are recommendations for keeping your child safe at and away from home. In particular, Chapter 18 is devoted to safety in a number of areas, including at playgrounds, on bicycles and tricycles, and in your own backyard.

Here are some guidelines applicable specifically to 4-and 5-year-old children:

- As your child learns to ride a bicycle, they should always wear a helmet. When you purchase a bike, buy a helmet at the same time, and make sure it fits correctly. Set a good example by wearing your own helmet every time you ride a bicycle.
- Never let your child ride a bike in the street. They are too young to ride safely in the street.
- If your child darts into a street, they're in danger of being struck by a car. Accompany your child to the park or playground. Instruct them on the importance of stopping at the curb and of never crossing the street without an adult. Keep in mind, though, your child may not remember this safety rule and must be supervised closely when near a street.
- While your child can learn to swim at this age, never let them swim alone, even if they seem capable, as drowning is the second-leading cause of death in this age group. Your child should never play around a body of water (a lake, stream, pool, or ocean) or bathtub unless an adult is nearby supervising and watching at all times. Preferably at this age, touch supervision—staying no farther away than an arm's length—should be used so that an adult can quickly take hold of the child if they unintentionally go under the water.
- Whenever you're on a boat with your child, they should wear a life jacket. Teach them never to dive or jump into the water unless an adult has checked the water depth.
- Teach your child never to play with matches, lighters, sparklers, or fireworks, and make sure these items are never left around the house where they can have access to them.
- If there are firearms in your home or any other home they spend time at, always keep them locked, with ammunition locked in a separate location.

(For additional information about safety, see Chapter 18.)

Traveling with Your Child

While guns are the greatest danger to your child's life and well-being, car crashes are a close second. A collision or sudden stop, even when traveling

at slow speed, can cause devastating injuries. Most 4-and 5-year-old children should still be in a car safety seat with a five-point harness, but if your child is nearing the weight or height limit for the seat, it will soon be time for one with higher limits or a booster seat. The backseat is still the safest place for your child to ride.

Particularly for lengthy car trips with your 4- or 5-year-old, your child is less likely to resist the confinement of a car safety seat if you make the trip fun. Here are some suggestions to help pass the time:

- Talk about the passing sights. Ask your child what they see out their window. Point out interesting sights. When they begin to learn colors, letters, and numbers, ask them to identify them in signs and billboards. Remember to keep your eyes on the road, however.
- Keep a variety of picture books and small, lightweight toys in the car within reach of their car safety seat.
- Play children's songs in the car. Encourage your child to sing along with their favorite tunes.
- For longer trips, bring a small bag filled with age-appropriate activities, such as coloring or activity books, crayons, paper, stickers, or paper dolls. (Do not allow scissors in the car; they could be hazardous in the event of a sudden stop.) Your child may travel with a tablet or mobile phone, but take time beforehand to consider what games, stories, and shows or movies will be best, and be sure to build in some screen-free time to talk, sing, or play travel bingo. Avoid violent and age-inappropriate content, and remember that what they see on their screen is likely to set their mood for the trip. Monitor children's use of screens in order to avoid overuse or nausea.
- Stop at least every two hours to break up the trip. This will allow your child a chance to stretch, perhaps eat a snack, and use the toilet.
- If your child is prone to motion sickness, it may help to give them an appropriate dose of non-drowsy motion-sickness medication half an hour before getting in the car. (See *Motion Sickness,* page 660.)
- Don't allow yelling, hitting, biting, or loud noisemaking.

- Don’t allow children to touch door handles. It may be helpful to use the child safety lock if your car has one.
- Remind children to be considerate of other people in the car.

Always remember:

- Never leave a child alone in a car, even for a minute. Keeping a teddy bear in the front seat or leaving your wallet, purse, or mobile phone near your child’s seat can help you remember to check when you exit the car.

CHAPTER 17

Early Education and Childcare



Who will care for your child during the hours when you are away? Sooner or later you're bound to face this question. Whether you need someone to care for your child a few hours a week or nine hours a day, you'll want to feel confident about the person. But finding the right caregiver or team of caregivers for your child can be a big challenge. When selecting childcare, your top priority should be the well-being of your child, overriding all other considerations. This chapter provides suggestions to make your search easier, and also contains guidelines for preventing, recognizing, and resolving problems once your choice is made.

To find good childcare it is important to judge both the quality of the childcare program and the character and abilities of the caregivers involved with your child. Approximately six out of every ten families with children between 3 and 6 years of age use out-of-the-home center-based daycare.

Parents may also choose to share care between themselves or have relatives or non-relatives provide care. Some children participate in different types of childcare at different times of the day or on different days of the week. If your child's caregiver is not a family member, chances are you will meet this person only a few times before entrusting your child to them. Even so, you will want to feel as confident about your choice as if they were a family member. While it is impossible to be absolutely sure under these circumstances, you can tell a great deal by observing caregivers at work for a day or two and by carefully checking references. Entrust your child to someone only after you have watched them with your child and other children and you feel confident in their abilities and dedication.

What to Look for in a Care Provider: Guidelines for the Toddler and Preschool Child

(For infants, see *Your Baby's First Sitter,* page 120.)

Children thrive when cared for in a safe, healthy environment by warm, affectionate, and supportive adults who help them learn, interact, and work out solutions while protecting them from making harmful choices. The following list describes several things to look for when observing someone who might take care of your child. More specific suggestions appear throughout this chapter, but remember they are general guidelines. They apply to all out-of-home and in-home care, including babysitters, nannies, and teachers during preschool and the early primary school years. Also, keep all this in mind as you play with your child or supervise groups of children.



Never entrust your child to anyone until you have taken time to watch them with your child.

A good caregiver will:

- Listen carefully to children and observe their behavior
- Set reasonable limits for children and maintain them consistently
- Promote children's intellectual and physical growth and development through exposure to reading, singing, hands-on activities, and physical activity
- Tell children why certain things are not allowed and offer acceptable alternatives
- Deal with difficult situations as they arise, before they get out of control
- Anticipate trouble and intervene early to prevent it
- Live up to promises made to the children
- Join children at play without disrupting their activity
- Ease stressful transitions for children
- Encourage children to think of their own ideas before offering suggestions
- Reward children's efforts and relieve their "hurts" with an affectionate physical gesture, such as a hug or a pat

- Talk naturally and conversationally with the children about what they are doing
- Help children encourage each other by asking them to share their accomplishments
- Encourage children to complete projects, even if they take longer than originally planned
- Limit adult conversations in the children's presence
- Show respect for the children's ideas and decisions
- Avoid offering children choices when there are none
- Allow children to make mistakes and learn from them (as long as there is no danger involved in doing so)

Choices in Care

In addition to these general suggestions, you will want to identify your specific needs and desires. Before you meet and interview potential caregivers, questions you need answered should include:

- Where do I want my child to be during the day? At home? In someone else's home? In a childcare center? If out-of-home care, how far away? What other family members or friends will my child be near?
- What days and hours do I need or want childcare each week?
- How will I transport my child to and from the program? If the caregiver needs transportation during the day or evening, how will it be handled?
- What backup arrangements can I make? How will I handle days when my child is sick or when my child's caregiver is unavailable because of illness or personal business? What are the arrangements for holidays, summertime, and vacations?
- How much can I realistically afford?
- What size program do I want for my child? How much group interaction do I want for my child?
- How much structure and stimulation do I want for my child?
- What qualifications do I want the caregiver(s) to have?

- What type of discipline do I want used for my child?
- What other basic conditions would make me feel comfortable about leaving my child with someone else?

While a majority of young children in the United States are in some form of childcare, over a quarter of this care is provided by relatives, mostly grandmothers. Not only are many grandparents caring for children for part of the day, but more and more are involved in taking children to and from other childcare arrangements.

If you have family members or friends whom you would like to care for your child and who live nearby, ask yourself if you are comfortable with their care and whether they would be willing to provide it (perhaps for a few hours a day or two to three days a week), either on a regular basis or as a backup if other arrangements fail. When possible, consider offering payment for these services to make the arrangement fairer and to create an additional incentive for the person to help you.

Other options include bringing someone into your home or taking your child to another person's home or a childcare center. Your financial resources, the age and needs of your child, and your own preferences about child-rearing will help you decide.

Remember that your child will grow and develop quickly, and that the correct choice today may not be the best choice tomorrow. Keep reevaluating your child's needs and the fit of your current childcare arrangement over time.

Here are suggestions to keep in mind when deciding among in-home care, family childcare, or a childcare center.

IN-HOME CARE/NANNY

If you are returning to work while your child is an infant, one choice for childcare (often a more expensive one) is to have someone come into your home on a live-in or live-out basis. A person you hire to work in your home is not required to be licensed, so there are important considerations that should be part of your evaluation and the hiring process.

- Check references.

- Perform a background check, if possible.
- Ask for documented work experience (preferably for the previous five years).
- Ask about the person's approach to discipline, scheduling, feeding, comforting, and providing appropriate activities. Determine if that approach matches your style of child-rearing and is right for your child. Make sure the person you select shares your philosophy about how to react to excessive crying, how to respond when your child has an accident, or what to do when they don't want to take a nap or go to bed. (Sharing this kind of information is applicable no matter the type of care setting.)
- How will the caregiver report back about the child's day?

How Do I Find an In-Home Caregiver?

- Ask friends, work colleagues, and neighbors for recommendations.
- Scan or place ads online or in the paper (especially local publications for parents).
- Go through a service.
- Contact a childcare resource and referral agency in your community or an au pair service.

After Choosing an In-Home Caregiver

- Arrange a trial period of at least a week when you can be home to watch the caregiver work under your supervision.
- In the days and weeks ahead, carefully monitor the caregiver's performance.

Advantages of In-Home Care

1. Your child will stay in familiar surroundings and receive individualized care and attention.
2. They will not be exposed to the illnesses and negative behaviors of other children.
3. When your child is sick, you won't have to stay home from work or make additional arrangements to care for them.

4. Some caregivers do light housework and prepare family meals. If you want your caregiver to do household work in addition to childcare, make it clear from the start.

Disadvantages of In-Home Care

1. You may have difficulty finding someone willing to accept the wages, benefits, and confinement of working in your home; or you may find the costs of qualified in-home care prohibitive.
2. Since you will be considered an employer, you must meet minimum-wage, Social Security, and tax-reporting requirements.
3. The presence of a caregiver may infringe on your family's privacy, especially if they live in your home.
4. Because your caregiver will be alone with your child most of the time, you have no way of knowing exactly how they will perform their job.
5. Your caregiver may not always have backup help available for when they are sick, have a family crisis, or want time off. You will be responsible for securing a replacement.
6. Your caregiver will likely have less initial or ongoing training in child development and health and safety issues such as CPR, first aid, and medication administration. CPR and first aid are skills they have to learn. Consider signing them up for a class in these lifesaving skills, and offer to pay for it.
7. You may need to provide a car for your caregiver if you expect your child to be taken on outings.

FAMILY CHILDCARE

Many people provide informal care in their homes for small groups of children, often looking after their own children or grandchildren at the same time. Some even offer evening care or sick care. Family childcare is generally less expensive and more flexible than care offered by childcare centers. A small family childcare home typically has fewer than six children and one caregiver. Large family childcare homes may have up to twelve children and one caregiver and an assistant, though the exact numbers are dependent on the ages of the children and state and local regulations. See the suggested staff-to-child ratios on page 321 in Chapter 15.

Family childcare may be licensed, registered, or unregulated. It is always best to seek out a licensed setting. (Licensing regulations vary from state to state and can be found at places like the website Child Care Technical Assistance Network, childcareta.acf.hhs.gov.)

In Choosing a Family Childcare Home

- Observe the caregiver's work.
- Look for signs of good-quality care, such as hygienic diaper changing and safety measures.
- Ask for references.
- Check certification and licensing compliance.
- Look over the home to ensure its safety.
- Find out how many children the provider has enrolled and during what hours. It also helps to know the ages of the other children and whether they have any special healthcare needs or behavioral challenges.
- Inquire about substitute arrangements when the caregiver is sick or cannot provide care.
- Request information on the caregiver's emergency situation plans.
- Ask the provider what training they have.
- Ask if the provider's program is accredited by the National Association for Family Child Care.
- Ask how the caregiver will report back about your child's day.
- Ask for the provider's approach to discipline, scheduling, feeding, comforting, and providing appropriate activities. Determine if that approach matches your style of child-rearing and is right for your child. Make sure the family care home you select shares your philosophy about how to react to excessive crying and squabbles between children, how to respond when your child has a bathroom accident or an injury, and what to do when they don't want to take a nap or go to bed.



How Do I Find a Family Childcare Provider?

- Ask friends for recommendations.
- Scan or place ads online and in local parenting-oriented publications.
- Contact a local resource and referral agency: Child Care Aware at 1-800-424-2246 or childcareaware.org. Or the National Association for Family Child Care, nafcc.org.

After Choosing a Family Childcare Provider

- Monitor your child's adjustment and carefully observe interactions between the caregiver and your child, and between your child and the other children.
- Keep the lines of communication open and address issues that arise.

Advantages of Family Childcare

1. In good family childcare settings, there is a favorable child-to-adult ratio. In general, the total number of children to adults should be no more than about three children for one adult, especially if some children are under 24 months. (See page 321 for additional information on optimal child-to-staff ratios.)
2. Your child will have the comforts of being in a home and can be involved in many of the same household activities they'd find at home.

3. When other children are present, your child will have social stimulation coming from having playmates.
4. Family childcare has the potential to be relatively flexible. Special arrangements can often be made to meet your child's individual interests and needs.
5. Your child may have more individualized attention and quiet time.
6. Your child may be exposed to fewer infectious diseases or less negative behavior from other children.

Disadvantages of Family Childcare

1. You cannot observe what happens to your child in your absence. While many providers carefully organize activities appropriate for children, there are instances where they may use the TV as a babysitter and even let children watch shows inappropriate for them.
2. Many family childcare providers work without supervision or advice from other adults.
3. The caregiver might share the care of your child with relatives, boyfriends, or other people who might not give high-quality care.
4. Family childcare centers may have fewer protocols or trained staff for assisting with children and youth who have special healthcare needs. On the other hand, they may be able to provide more personalized care. During your selection process, if your child has special healthcare needs or if other children in the center have special healthcare needs, be sure to understand whether there are enough caregivers to address each child's needs.

CHILDCARE CENTERS

Childcare centers may also be called daycare, child development centers, nursery schools, preschools, or other similar names. These facilities typically provide care for children in a non-residential building with classrooms for children of different age groups. Most centers are licensed, caring for children from birth to 6 years. Of the approximately 4 million children in childcare in the United States, about 2.7 million children are in licensed facilities, meaning that about 25 percent are cared for in unlicensed and

unregulated settings. Centers demonstrate a higher commitment to quality by participating in the accreditation process.

There are several types of childcare centers, most notably the following:

- Chain centers offer a wide variety of programs and appealing activities for children. Because they are chains and run under central management, some do not offer variation and room for individual creativity in their operations.
- Independent for-profit centers depend on enrollment fees to pay their overhead, typically earning a narrow profit for their owners. Because many of these programs are built around one or two dedicated people, they can be excellent—as long as those individuals remain actively involved in the daily operations.
- Non-profit centers are sometimes linked to religious institutions, community centers, universities, social service agencies, or independently incorporated facilities. Some have access to additional public funding, permitting discounted fees for lower-income families. Any income earned above expenses goes back into the program, directly benefiting the children.
- Head Start is a national child development program for children from birth to age 5, providing services to promote academic, social, and emotional development, as well as social, health, and nutrition services for income-eligible families.
- State-funded pre-kindergarten or transitional-kindergarten programs are for children not quite at the cutoff age to enter kindergarten or those who aren't quite ready to start. They are fully or partially funded by state education agencies and are operated in schools or under the direction of state and local education agencies.
- Centers for children and youth with special healthcare needs may be for-profit or non-profit chains or may have some public support. These centers are specially designed and staffed to meet the needs of children with developmental disabilities, chronic illnesses, or behavioral concerns.

How Do I Find a Childcare Center?

- The internet often lists childcare centers.
- Ask your pediatrician or other parents with children in childcare to recommend a center.
- Contact your community's health or welfare agency, or a local or national resource and referral organization, such as Child Care Aware at childcareaware.org or 1-800-424-2246.

Advantages of Childcare Centers

1. More information is generally available about them, since the majority of centers are regulated by licensing agencies.
2. Many centers have structured programs designed to meet children's developmental needs, functional abilities, and medical care needs.
3. Most centers have several caregivers, so you are not dependent on the availability of just one person.
4. Workers in these centers have higher educational requirements and tend to be better supervised than caregivers in other settings.
5. Some centers may allow you to arrange shorter hours or fewer days if you work part-time.
6. Many centers encourage parental involvement, so you can help make the center better. Co-op daycare centers rely on parents' involvement, and the daycare contract lists the days a parent must volunteer.

Disadvantages of Childcare Centers

1. Regulations for childcare centers vary widely based on the type of center.
2. Good programs in high demand may have waiting lists for admission.
3. Due to the number of children cared for in this type of program, your child may receive less personalized attention than in a smaller program.
4. Many childcare centers suffer from low pay and high staff turnover. Keeping staff skilled in the care of children with special healthcare needs can be challenging in these settings.

Selecting a Childcare Center

When considering childcare centers, you need to know the rules and practices that would affect your child. If the program is formal enough to have a printed or electronic handbook, this may answer many of your questions. Otherwise, ask the program director the following (some of which apply to in-home or family childcare as well):

1. What are the hiring requirements for staff members? (Regulations vary from state to state.) In many good programs, caregivers must have at least two years of college, pass minimum health requirements, and receive basic immunizations. Ideally, they will have some background in early child development and perhaps have children themselves. Directors generally have a college degree or many years of experience, qualifying them as experts in both child development and administration. Staff members should also have training in CPR and first aid.
2. What is the ratio of staff to children? Although some children need highly personalized attention and others do well with less, the general rule to follow is: The younger the child, the more adults are needed per group. Each child should have one primary caregiver responsible for that child's care, providing most of the child's feeding and diapering, and putting the child to sleep.
3. How many children are in each group? Generally, smaller groups offer children a better chance to interact with and learn from one another. While fewer children per adult is usually better, there is a desirable maximum ratio and group size for each age category. The designated ratios vary from state to state, and some good facilities do not reach the ideal child-staff ratios (see page 321).
4. Are there frequent staff changes? If so, this may suggest there are problems with the facility's operations. Ideally, most caregivers should have been with the program for several years, since consistency is desirable. Unfortunately, staff turnover in this profession is an issue for a variety of reasons, including low wages.
5. Are caregivers prohibited from smoking, even outside? This is important for your child's health.
6. Are caregivers required to have updated immunizations, including whooping cough (pertussis) and influenza vaccines?



The younger the child, the more adults there should be in each group.

7. What are the goals of the program? Some are organized and try to teach children new skills or attempt to change or mold their behavior and beliefs. Others are relaxed, with an emphasis on helping children develop at their own pace. Still others fall somewhere in between. Decide what you want for your child, and make sure the program you choose meets your desires. Avoid programs offering no personalized attention or support for your child.
8. What are the admission procedures? Quality childcare programs require relevant background information on each child. Be prepared for specific questions about your child's individual needs, developmental level, and health status. You may also be asked about your child-rearing desires and about your other children.
9. Does the childcare provider have a valid license and recent health certificate, and does the provider enforce health and immunization

requirements in the program? Standard immunizations and regular checkups should be required for all children and staff members.

10. How are illnesses handled? Parents should be notified if a staff member or child contracts a significant communicable disease (not just a cold, but illnesses such as chickenpox or hepatitis). The program should also have a clear policy regarding sick children. You should know when to keep your child home and how the center will respond if your child becomes ill during the day.
11. What are the costs? How much is it to start, and when are the payments due? What do the payments cover specifically? Will you need to pay when your child is absent for illness or vacations with the family?
12. What happens on a typical day? Ideally, there should be a mix of physical activity and quiet times. Some activities should be group-oriented, others individualized. Times for meals and snacks should be set. While a certain amount of structure is desirable, there also should be room for free play and special events.
13. How much parental involvement is expected? Some programs rely on parent participation, while others request very little. At the least, quality programs should welcome your opinions and allow you to visit during the day. If the school maintains a closed-door policy for part or all of the day—typically for educational reasons—be sure you are comfortable with this practice.
14. What are the general procedures? A well-organized program should have clearly defined rules and regulations regarding:
    - Hours of operation
    - Transportation of children
    - Field trips
    - Meals and snacks, whether they are provided by parents or are prepared on-site
    - Administration of medication and first aid
    - Emergency evacuations
    - Notification of child's absence

- Weather cancellations
- Withdrawal of children from the program
- Supplies or equipment parents must provide
- Sleep arrangements, especially for infants
- Special celebrations
- How parents are to contact staff during the day or night
- Exclusion of children while they are sick with certain illnesses
- Security to ensure that everyone who enters the facility, including outdoor play areas, is screened by childcare personnel. Strangers should not be able to enter any childcare area, indoors or out, nor should familiar adults who act oddly be allowed to stay.
- How discipline or behavior challenges are addressed

Ask for their approach to discipline, scheduling, feeding, comforting, screen time, physical activity, outdoor time, and providing appropriate activities. Determine if their approach matches your style of child-rearing and is right for your child. Make sure the center you select shares your philosophy about how to react to excessive crying, how to respond when your child has an accident or an injury, and what to do when they don't want to take a nap or go to bed.

Once you've received this basic information, take a tour of the building and grounds during operating hours to see how the caregivers interact with the children. First impressions are especially important, since they'll influence all your future dealings with the program. If you sense warmth and a loving approach to the children, you'll probably feel comfortable placing your child there. Spanking or restraining a child too forcefully is *not* okay and should be reported.

Try to observe daily routines, paying attention to how the day is organized and what activities are planned. Watch how food is prepared and find out how often children are fed. Check how frequently children are taken to the toilet or diapered. While touring the childcare home or center, also check if the following basic health and safety standards are being met:

- The premises are clean and reasonably neat (without discouraging play).

- There is plenty of play equipment, and it is in good repair.
- The equipment is appropriate for the developmental skills of the children in the program.
- Children are closely supervised when climbing on playthings, roughhousing, or playing with blocks (which are sometimes thrown) and other potentially dangerous toys.
- Food is stored appropriately. If the childcare site is preparing the food, it is nutritious.
- Areas where food is handled are separate from toilets and diaper-changing areas.
- Diaper-changing areas are cleaned and sanitized before and after being used for each child.
- Handwashing sinks are available where needed and are used by the children and also staff members during the following:
  - Upon arrival
  - When moving from one childcare group to another
  - Before and after eating or touching food or food preparation surfaces
  - Before and after giving medication
  - Before and after playing in water used by more than one person
  - After diapering
  - After using the toilet or helping children use the toilet
  - After handling any body fluid, such as nasal discharge, blood, vomit, drool, or sores
  - After playing in sandboxes
  - After handling garbage
- Potty chairs are avoided to decrease risk of spreading diarrheal illnesses.
- Children are supervised by sight and sound at all times, even when napping.

Once you are satisfied a particular program will provide your child with a safe, loving, healthy environment, let them test it out while you're present. Watch how the caregivers and your child interact, and make sure all of you are comfortable with the situation.



While touring the childcare home or center, also check to see if basic health and safety standards are being met.

NAPPING IN CHILDCARE SETTINGS

Many parents know the importance of placing a baby to sleep on their back to minimize the risk of sudden unexpected infant death (SUID) or sudden infant death syndrome (SIDS). Obviously, this same precaution should be followed in childcare settings, where 20 percent of all SUID cases occur—a disproportionately high amount. Although the American Academy of Pediatrics stresses the importance of using the back-sleeping position to lower the incidence of SUID during childcare, not all states in the United States have licensing regulations to mandate that childcare facilities place infants on their backs to sleep.

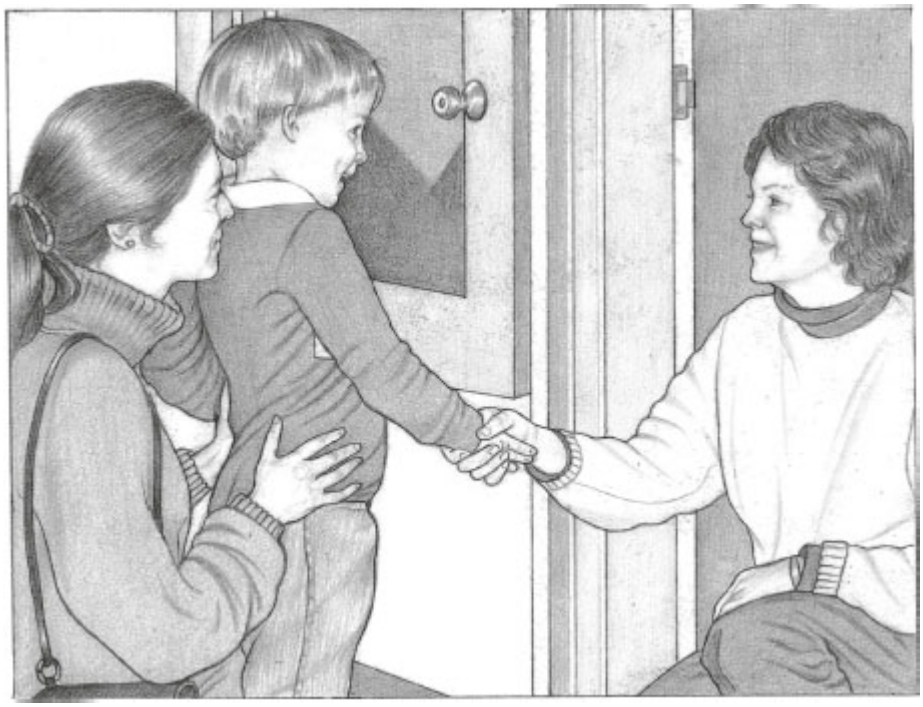
If your baby will be napping at their childcare site, you must discuss this issue with the caregivers before making a final selection about a facility. Make sure the childcare setting you choose routinely follows this simple procedure. (For more information about SUID, see page 82.) For older children, make sure that bedding is clean and hypoallergenic. (Additional information about crib safety is available on pages 381–83.)

Building a Relationship with Your Child's Care Providers

For your child's sake, develop a good relationship with the people who care for them in your absence. The better you get along with their caregiver, the more comfortable your child will feel as they interact with both of you. The better you communicate with the caregiver, the more continuity there will be in your child's care throughout the day.

Talk with the caregiver—even briefly—each time you drop your child off or return for your child. If something exciting or upsetting happened during the early morning, it might affect your child's behavior the rest of the day, so the caregiver should know about it. Share family stresses, both good and bad, like an expected birth or a family illness.

When you arrive for pickup, you should be told about any important events from the day, from a change in bowel movements or eating patterns to a new way of playing or their first steps. Also, if they've developed symptoms of illness, you and the caregiver should discuss the situation and agree on what to do if symptoms get worse.



TIPS FOR TRANSITIONING TO CHILDCARE

Getting the day started can be a challenge. So here are some suggestions to make childcare drop-off a little easier for everyone.

Your Child's Developmental Stage	Your Response
0 TO 7 MONTHS	
In early infancy your baby primarily needs love, comforting, and good basic care to satisfy their physical needs.	Although this period may be a difficult time of separation for you, young infants generally will transition to a consistent childcare worker in

	almost any setting. Be patient during this initial settling-in period.
7 TO 12 MONTHS	
Stranger anxiety normally occurs at this time. Suddenly your baby may be reluctant to stay with anyone outside their family. The unfamiliar setting of a childcare center also may upset them.	If starting childcare during this period, ease into it and know it may take a little longer to adjust. If your child is already in a program, take extra time each day before you say goodbye. Create a short goodbye ritual, perhaps letting them hold a favorite stuffed animal. Say goodbye and then quietly leave. Above all, be consistent from day to day.
12 TO 24 MONTHS	
This is when separation anxiety peaks and your child has the most difficulty with your leaving. They may not believe you will return and may weep and cling to you as you try to leave.	Be understanding but firm and persistent. Reassure them you will return when you're done with work or have finished your errands, and then make a quick departure. Once you have left, do not reappear unless you are prepared to stay or take your child home.

A rivalry may develop between you and the caregiver for your child's affection and control of their behavior. When your child misbehaves, you may hear, "Funny, they never do that for me." Don't take this seriously, as children usually save their worst behavior for those they trust most.

If you treat caregivers as partners, they will feel you respect them and will probably be more enthusiastic about looking after your child. Here are some ways to build this sense of partnership on a daily basis.

- Show the caregiver something your child made at home or talk about particularly funny or interesting things they've done. Explain that sharing this kind of information is important to you, and encourage two-way communication.
- Extend basic courtesy to your child's caregivers.
- Provide materials and suggestions for special projects the caregivers can do with your child and the group, or ask for ways you can help with planned activities.
- Help plan and carry out special activities with the caregiver.

- Make sure your child always knows you are leaving. Keep a positive tone, and be sure to say goodbye before you disappear, but leave without prolonging your departure. Don't just slip away.

Periodically, you and the caregiver should also have longer discussions to review your child's progress, discuss any problems, and plan for future changes. Schedule these extended conversations at a time when you won't be rushed, your child's caregiver isn't busy, and you are both in a place with no distractions. If possible, arrange for someone else to care for your child during the conversation. Allow enough time to discuss all of your child's achievements and concerns from both perspectives and agree on specific objectives and plans.

Resolving Conflicts

Most parents are pleased with the childcare they've chosen. Nevertheless, whenever two or more people share responsibility for a child, conflicts sometimes arise. In many cases, you can resolve a disagreement about childcare simply by talking through the problem. You may find the conflict is nothing more than a misunderstanding of the situation. Other times, especially when several people are involved in the care of your child, you may need a more organized approach. The following step-by-step strategy can help.

1. Define the problem clearly. Understand who is involved but avoid blaming anyone. If your child has been involved in a biting or hitting incident with another child, find out which caregivers were on hand at the time. Ask what they observed and focus your attention on realistic measures that can be taken to prevent the likelihood of further incidents. Maybe you can suggest an alternative way in which caregivers can respond if the incident recurs.
2. Listen to everyone's ideas to find other possible solutions.
3. Agree on a specific plan of action with clearly defined time limits and assignments to each of the caregivers—including you.

4. Consider everything that could go wrong with the plan and decide how these problems might be avoided or how they will be handled if they occur.
5. Put the plan into action.
6. Meet again at a specified time to decide whether the plan is working. If it's not, go through the process again to decide what changes need to be made.



The better you get along with the caregiver, the more comfortable your child will feel as they interact with both of you.

What to Do When Your Child Is Sick

If your child is like most, they will get their share of illnesses, whether they are in a childcare program or not. Most illnesses are colds or other respiratory infections, which tend to occur more often between early fall and late spring. At times your child may get infections one right after another and be sick for weeks. If both parents work full-time, this can be a problem and cause a great deal of stress, since often one will need to stay home with the ill child.

Even children who seem only mildly ill may be sent home from childcare programs; if the program's policies are based on sound principles,

this may be for good reason. A sick child may be contagious and risks giving their illness to other children. Also, a sick child may need more individual care and attention than a provider can offer without interfering with the care of others.

States often have regulations requiring childcare programs to send sick children home. This makes sense, particularly when a child has a fever or symptoms like rashes that are weeping, vomiting two or more times in a twenty-four-hour period, or frequent diarrhea that is not contained in the diaper and/or more than two stools above normal, since those circumstances enable contagious diseases to spread. The ultimate goal is to provide your child with care and to limit the spread of contagious illnesses.

Ideally, you would stay home when your child is sick. However, there may be times when this option is particularly difficult or simply not possible. Be sure to talk to your employer ahead of time to see what arrangements might be available. You might suggest telecommuting, taking work home, or identifying co-workers who can fill in for you when this situation arises. Spouses, other family members, and trusted friends may be able to help as well.

If your job and your spouse's employer require full-time attendance, you will have to make other arrangements for a sick child. These are days when you might arrange alternative care, preferably where both the caregiver and the setting are familiar. If you rely on a relative or hire a sitter, make sure the caregiver understands the nature of the illness and how to manage it.

If your child requires medication, confirm your childcare provider's policies regarding giving medication to children, and always obtain written instructions from your pediatrician to give to your caregiver. Do not expect your caregiver to follow your instructions without a pediatrician's authorization. Also, both prescription and over-the-counter medications should have a pharmacy or drugstore label on them with the child's name, medication dosage, and expiration date. Giving medication to children is a significant responsibility and can be a challenge for caregivers. It should be requested only when necessary. Often medication dosages can be adjusted so that they are given in the morning, before childcare, and in the evening, after childcare. Address any questions to your pediatrician.

Your child's caregiver will need to know the reason for giving the medication, how it should be stored and administered (what doses, at what intervals, and for how long), and what side effects to look for and what to do if they occur. Again, this should all be put in writing. Do not disguise medicine as food or describe it as candy; instead, your child should know that it's medicine and why it's needed. Ask the caregiver to record the time each dose is given.

If your child is in a childcare center, be prepared to sign a consent form authorizing staff to administer medication. Also, expect your child's medications to come home each evening (regulations typically do not allow medicine to be kept at childcare facilities overnight).

A few communities have services specializing in care for mildly ill children. These include the following:

Home-Based Programs

- Family childcare homes equipped to care for both sick and well children. If a child becomes ill in such a program, they can continue attending in a segregated area, if necessary. Not all infections are contagious.
- Family childcare homes that care only for sick children. Some of these are associated with well-child care centers.
- Agencies or childcare centers that provide caregivers to work in your home.

Center-Based Programs

- Regular childcare centers that have trained staff members to care for sick children in the usual childcare setting, but apart from the main group.
- Centers offering a separate "get-well room" for sick children, staffed by a caregiver.
- Sick-child care centers set up specifically to care for ill children.

In sick-child programs, caregivers adjust the activity level to the child's ability to participate, and the children receive a lot of cuddling and personal attention. These programs should pay extra attention to hygiene for both caregivers and children. The premises and equipment, especially toys,

should be cleaned thoroughly and often. Disposable toys may be necessary, depending on the nature of the illnesses. A pediatrician and public health consultant should be on call for every sick-child care facility.

Controlling Infectious Diseases

Whenever children gather, their risk of getting sick increases. Infants and toddlers are particularly affected, since they place their hands and toys in their mouths, making the spread of infections even easier.

While it's impossible for adults to keep toys and other objects in perfect sanitary condition, many precautions and practices can help control the spread of infection. Childcare programs should be extremely careful about maintaining good hygiene. Children and teachers should have easy access to sinks with soap. They should be reminded, and children assisted, to wash hands with soap and water after using the bathroom. Staff members also should wash at the times listed earlier in this chapter (page 361), and especially after changing diapers. Both the caregiver's and child's hands should be wiped after removing the soiled diaper, and then washed at the end of the diaper change routine. Handwashing or the use of alcohol-based hand sanitizers after blowing or wiping noses and before handling food or food surfaces can also significantly reduce infections.

If a center cares for infants, toddlers, and toilet-trained children, each group should have separate areas with accessible sinks for handwashing. The facility and all equipment should be cleaned at least daily. Changing tables should be cleaned after each diaper change, and toilets should be washed and disinfected regularly.

If an injury involving blood occurs, the caregiver should put on gloves and wash the wound, administer first aid, and apply a bandage. All blood-contaminated surfaces or clothing should be washed and disinfected. Also, since breast milk can transmit HIV and other viruses, be sure the childcare facility has procedures to prevent feeding one mother's breast milk to another mother's child. If such an incident occurs, the situation should be handled following the national standards described in "Caring for Our Children," published by the National Resource Center for Health and Safety

in Child Care and Early Education (nrckids.org/CFOC). (Also see description of HIV on page 370.)

As a parent, you can help control the spread of disease by keeping your child at home when they have a contagious illness with fever or one requiring medical attention. Also notify their caregiver as soon as anyone in your family is diagnosed as having a particular illness, and request that all parents be alerted if a child in the program has a serious or highly contagious illness. Many childcare centers exclude children with fever for twenty-four hours, although this measure has never been shown to reduce the spread of illness.

Immunizations can greatly reduce outbreaks of serious infectious diseases. Centers should require children to be immunized (at appropriate ages) against hepatitis B, rotavirus, diphtheria, tetanus, pertussis, polio, influenza, *Haemophilus influenzae* type b, pneumococcus, measles, mumps, rubella, hepatitis A, and chickenpox (also, the meningococcal vaccine is available for certain high-risk children). The immunity of your child's caregivers should be checked as well, and if there is any doubt, they should receive appropriate immunizations.

Teach your child proper hygiene and handwashing habits so that they are less likely to spread illnesses. Finally, educate yourself about common illnesses in childcare settings, so you know what to expect and how to respond if they occur. These include the following.

COLDS

Children in childcare typically have about seven to nine colds each year and are more likely to get these infections than infants cared for at home. Fortunately, the chances of contracting some of the most severe illnesses or complications associated with colds can be decreased by immunizing children. In childcare centers, toys, tables, doorknobs, and other surfaces touched by hands should be sanitized frequently.

Colds are spread by direct or close contact with the mouth or nose secretions of an infected individual, or by touching contaminated objects. In childcare settings, children can be taught to wash their hands frequently, and to sneeze into their upper arm rather than their hands. They should also be taught proper disposal of tissues and not to share cups or eating utensils.

(For more information about colds and influenza, see pages 540–42 and pages 498–500, respectively.)

CYTOMEGALOVIRUS (CMV) AND PARVOVIRUS INFECTION

Cytomegalovirus and parvovirus usually don't cause any (or only mild) illness in children and adults. However, these viruses can be dangerous to pregnant women who are not immune to them and can sometimes also cause a serious infection in the unborn child. The infection is transmitted through direct contact with body fluids (tears, urine, saliva). Fortunately, most adult women are already immune to CMV and parvovirus, but if a woman is pregnant, has a child in daycare, or works in a childcare home or center, she has an increased risk of exposure and should discuss her risk with her obstetrician. Good hand hygiene is the most effective way to decrease transmission of CMV when caring for sick children. If necessary, her obstetrician can order a blood test to see if she has already had these diseases.

DIARRHEAL DISEASES

The average child has one or two episodes of diarrhea a year. These illnesses can spread easily in childcare homes and centers. If your child has diarrhea, do not take them to childcare unless their stools have become manageable by normal diaper changes or by using the toilet. This will help avoid the chance of the infection being transmitted to others. If diarrhea is persistent with dehydration, or if stools have blood or mucus, the child should undergo medical evaluation; further lab tests may be required to identify the responsible bacteria, virus, or parasite for treatment and management before returning to childcare. (See *Diarrhea,* page 435.)

EYE AND SKIN INFECTIONS

Conjunctivitis (pinkeye), impetigo, scabies, and cold sores are common problems in young children. These infections of the skin and mucous membranes can spread by contact. Childcare staff should notify you if any child in the program contracts one of these illnesses. If so, watch for symptoms in your child and if symptoms appear, contact your pediatrician for early diagnosis and possible treatment. (See *Eye Infections,* page 604;

Impetigo, page 711; *Ringworm (Tinea),* page 720; *Scabies,* page 723; *Herpes Simplex* [cold sores], page 549.)

HEAD LICE

Head lice are small, tan-colored insects less than ⅛ inch long that live on blood they draw from the scalp. Although families and caregivers often become very upset about lice, the insects do not carry disease, though they do cause annoying symptoms such as itching. Lice are spread by direct contact with infested hair. By using medications that kill lice and nits, the infestation can be controlled. Children should not be excluded from childcare due to head lice. (Also see *Head Lice,* page 710.)

HEPATITIS A VIRUS

Because of the success of the hepatitis A vaccine, this infection in childcare settings is now rare, but it remains contagious. In infants and preschool children, most infections are asymptomatic or cause mild, non-specific symptoms. Older infected children may have only mild fever, nausea, vomiting, diarrhea, or jaundice (a yellowish skin color). However, adults who get this illness usually experience these symptoms to a much greater degree. (See *Hepatitis,* page 445.)

HEPATITIS B VIRUS

Infants receive the hepatitis B vaccine series starting at birth. The virus can be acquired during birth from an infected mother or after birth by exposure to infected blood such as during a needle stick, but children also can contract the virus through frequent casual contact with household members. Transmission rarely occurs in a childcare setting, so there is no need to exclude a child with hepatitis B infection from group childcare. (Also see descriptions of hepatitis B and the vaccine on pages 445–47.)

HUMAN IMMUNODEFICIENCY VIRUS (HIV)/AIDS

HIV (the virus that causes AIDS) can produce a serious chronic infection. Some children acquire HIV from their infected mothers before or during birth. HIV can also be transmitted from one child to another by exposure to blood; however, there have been no reports of HIV transmission in

childcare. There is no need to exclude an HIV-infected child from childcare in the belief that this would protect others, since the risk of HIV transmission in this setting is extremely low when standard appropriate blood and body fluid precautions are used. If an injury involving blood occurs, see pages 569–71 for standard cleanup procedures.

RINGWORM

Ringworm (or tinea) is not a worm but a mildly contagious fungal infection, causing red circular patches with raised edges. On the scalp, ringworm can lead to patchy areas of dandruff-like scaling. Ringworm is spread by direct contact with contaminated combs, brushes, towels, clothing, or bedding. The infection is easily cured with appropriate medication. Ringworm is a common condition and should not exclude a child from childcare settings. (See also *Ringworm (Tinea),* page 720.)

Preventing Injuries and Promoting Car Safety

Many injuries occurring at home or in childcare settings are predictable and preventable (see pages 357–62 for sections on assessing and selecting childcare). Safety for children (and adults) in and around cars is a special concern. The center should have well-marked pickup and drop-off areas where children and adults are protected from street traffic, with "Children at Play" or similar signs placed in the pickup/drop-off areas as well as along nearby streets. The center should never allow a child in these areas, or in any area where cars come and go, unless they are being picked up or dropped off and are accompanied by an adult. Children should also never go behind vehicles that could back over them. Keep in mind that adults may need assistance dealing with more than one child in the car. Cars should not be left running and should always be driven slowly near childcare centers.

If your child shares a ride to and from childcare, be sure the drivers have good driving records and are using appropriate car safety seats for all children. The driver must check to ensure that everyone is properly buckled in a car safety seat before pulling away, and that everyone has left the vehicle before locking up and leaving the car. School buses and vans also need to follow measures ensuring child safety while in transit (see pages 373–74).

CAR-POOL SAFETY

If you use a car pool, you are responsible for every child in the car in addition to your own child. This means making sure each child is properly restrained in a car safety seat appropriate for their size, installing each car safety seat correctly, not overloading the car, disciplining children who disobey safety rules, and checking that your insurance covers everyone on board. In addition, make sure you and other drivers observe the following precautions:

- Pick up and drop off children only in an area where they are protected from other cars. They should be dropped off on the same side of the street as the school to avoid having them cross the street in traffic areas. There are too many vehicle-pedestrian collisions involving children crossing a street with no specific crosswalk or crossing guard.
- If possible, have each child's own parents or another responsible adult buckle them into the car safety seat and take them out when returning home.
- Turn all children over to the direct supervision of a parent or childcare staff.
- Close and lock all car doors, but only after checking that fingers and feet are inside.
- Open passenger windows only a few inches and lock all power window and door controls from the driver's seat if possible.
- Remind children about safety rules and proper behavior before starting out.
- Plan your routes to minimize travel time and avoid hazardous conditions.
- Pull over if a child gets out of control or misbehaves. If any child consistently presents a problem, discuss the difficulty with their parents and exclude them from the car pool until their conduct improves.
- Have available emergency contact information (ideally in your phone) for each child.
- Ideally, equip each vehicle with a fire extinguisher and first-aid kit.
- Be sure no child is ever left in the car without a supervising adult.

If your childcare program includes swimming, appropriate safety precautions must be followed. Any pool, lake, creek, or pond used by children should first be checked by public health authorities. If the pool is at or near the childcare center, it should be entirely surrounded by at least a 4-foot-high (1.2 m), four-sided fence with a self-closing, self-latching gate that completely separates the center from the pool. For hygiene and safety reasons, portable wading pools should not be used.

WHERE WE STAND

To ensure the safety of children while being transported to school, the American Academy of Pediatrics strongly recommends all children travel in age-appropriate and properly secured child restraint systems in all motor vehicles.

The AAP has a long-standing position that new school buses should have safety restraints. Parents should work with school districts to encourage that new buses be equipped with lap/shoulder seatbelt restraints that can also accommodate car safety seats, booster seats, and harness systems. School districts should provide height-and weight-appropriate car safety seats and restraint systems for all children of preschool age; these systems include booster seats with a three-point belt.

When districts have policies on seatbelt use, children tend to be better behaved and less likely to distract the driver.

Care for Children with Special Healthcare Needs

If your child has a developmental disability or chronic health condition, don't let that keep them from preschool or childcare. Quality childcare may be good for them. They are likely to benefit from the social contact, physical exercise, and variety of experiences of a group program.

The time your child spends in a childcare program will be good for you, too. Tending a child with special healthcare needs often places great demands on your time, energy, and emotions. The challenge is to find a program that encourages normal childhood activities and meets their special healthcare needs; fortunately, these are more available than in the past.

SCHOOL TRANSPORTATION SAFETY

Whether you rely on a bus or on alternative vehicles (such as vans) to take your child to school, preschool, or childcare, specific safety measures must be taken to protect them on that daily commute. *Where We Stand,* above, describes the American Academy of Pediatrics' strong recommendation for the use of lap/shoulder seatbelts on school buses. Also, make sure your child understands that on the school bus, they should:

- Stay seated on the bus, never moving around once they've found and taken a seat
- Always remain within view of the bus driver
- Follow the instructions of the driver
- Talk softly with classmates, so the driver can concentrate
- Never stick their hands, books, or other objects out the window

Because most school-bus-related injuries happen while the child is getting on or off the bus, safe habits are also important before they board and after they are dropped off at school or home. For example, they should:

- Walk to the bus stop with you or another responsible adult
- Arrive at the bus stop five minutes before the bus arrives, to avoid rushing
- Wait for the bus to stop before approaching it to board
- Tell the driver if they drop something near the bus; your child shouldn't try to pick it up themselves until they tell the driver that the item is there
- Take their time while boarding and leaving the bus
- Look both ways for traffic before crossing the street—looking to the left, then right, then left again

(For other guidelines on car safety, see page 286.)

Federal law (the Individuals with Disabilities Education Act [IDEA]) requires all states to develop special education programs for preschool-age (3-to 5-year-old) children with developmental disabilities. This act also gives states the option to develop special education programs for infants and toddlers with special healthcare needs or delays and ensures that childcare centers provide children with special healthcare needs with an equal opportunity to participate in all programs and services. Centers are expected to evaluate the child's needs on an individual basis and make reasonable accommodations and inclusions for the child. When selecting a childcare program, be sure to discuss your child's strengths and abilities. Parents should also check with their pediatrician or their state education or health department regarding the availability of these early intervention programs.

SAFETY WALK CHECKLIST

Next time you walk through your child's childcare setting, use the following checklist to ensure the facility is safe, clean, and in good condition. If there is a problem with any item on the list, bring it to the attention of the director or caregiver and follow up later to ensure it has been corrected.

INDOORS IN ALL PROGRAMS

- Floors are smooth, are clean, and have a non-skid surface.
- Medicines, cleaning agents, and tools are locked up and out of children's sight and reach.
- First-aid kit is fully supplied and out of children's reach.
- Windowsills, walls, and ceilings are clean and in good repair, with no peeling paint or damaged plaster. (Windowsills are the highest-risk areas for lead poisoning.)
- Children are never left unattended.
- Bookcases, dressers, and other tall furniture are secured to the wall so that they cannot tip over if a child climbs on them. Televisions are mounted or strapped to the wall or secured to low, sturdy

furniture that is designed to hold them.
- Electrical outlets are covered with childproof caps that are not a choking hazard.
- Electric lights are in good repair, with no frayed or dangling cords.
- Care is taken that batteries are not left around, particularly button batteries, which can be very damaging if swallowed.
- Heating pipes and radiators are out of reach or covered so that children cannot touch them.
- Ask if the hot water heater is set at or below 120 degrees Fahrenheit (48.9 degrees Celsius) to lessen the risk of a scald burn.
- There are no poisonous plants or disease-bearing animals (e.g., turtles or iguanas).
- Trash containers are covered.
- Exits are clearly marked and easy to reach.
- Smoking is not allowed in the childcare facility.
- Windows at or above the second story have guards to prevent falls, and all drapery or window blind cords are secured out of children's reach. If possible, it is best to use cordless window coverings.
- Leaks are fixed promptly and any mold is properly treated.

OUTDOORS IN ALL PROGRAMS

- Grounds are free of litter, sharp objects, and animal droppings.
- Play equipment is smooth, well anchored, and free of rust, splinters, and sharp corners. All screws and bolts are capped or concealed.
- Outdoor playground equipment is mounted over impact-absorbent surfaces for a distance of at least 6 feet (1.8 m) on all sides of the equipment. Playground surfaces should be made of at least 12 inches (30 cm) of wood chips, mulch, sand, pea gravel, or other impact-absorbing material under and around areas where falls are more likely to occur (under monkey bars, slides).
- Swing seats are lightweight and flexible, and there are no open or S-shaped hooks.
- Slides have wide, flat, and stable steps with good treads; rounded rims along the sides to prevent falls; and a flat area at the end of the slide to help children slow down.
- Metal slides are shaded from the sun.
- Sandboxes are covered when not in use.
- Childproof barriers keep children out of hazardous areas.

INFANT AND TODDLER PROGRAMS

- Toys do not contain lead or have any signs of chipping paint, rust, or small pieces that could break off. (A clue that suggests a toy might contain lead is that the toy feels unusually heavy or soft for its appearance.)
- High chairs have wide bases and safety straps.
- Toddlers are not allowed to walk around with bottles or take bottles to bed.
- Infant walkers are not used.

- Cribs, portable play yards, and beds meet safety standards and are free of pillows, blankets, bumpers, toys, and loose bedding.
- No recalled products or old products with broken or missing parts are used. Recalled products can be determined by checking the website of the Consumer Product Safety Commission: saferproducts.gov. Caregivers can subscribe to email alerts from the CPSC notifying them when any toy or other children's product is recalled.

Start your search with your pediatrician by asking about the best type of group programs for your child. Ask for referrals to suitable centers. Your pediatrician can draft an individualized care plan to address your child's special healthcare needs and help your childcare providers understand what is needed. Although only one appropriate site may be available in smaller communities, in many communities you will have several to choose from. The one you select should meet the same basic requirements outlined earlier, plus the following:

1. The program should include children with and without chronic health conditions and special healthcare needs, to the extent possible. Having relationships with typically developing playmates helps a child with a disability feel more relaxed and confident socially and helps build self-esteem. The arrangement also benefits the typically developing child and those with no special healthcare needs by teaching them to look past surface differences and helping them develop sensitivity and respect.
2. The staff should be trained in the specific care your child requires. Some of the training needs can be specified in your child's care plan.
3. The program should have at least one physician consultant who is active in the development of policies and procedures affecting the type of special healthcare needs present. Your own pediatrician should also play an active role. Give permission for your childcare providers to discuss questions and issues with your pediatrician.



If your child has a developmental disability or chronic health condition, they are likely to benefit from the social contact, physical exercise, and variety of experiences of a group childcare program.

4. All children should be encouraged to be as independent as their abilities allow, within the bounds of safety. They should be restricted only in activities that might be dangerous or that have been prohibited by a doctor's order.
5. The program should be flexible enough to adapt to slight variations in the children's abilities. This may include altering equipment or facilities for physically challenged or visually or hearing-impaired children.
6. The program should offer special equipment and activities to meet the special healthcare needs of children, such as breathing treatments for children with asthma. The equipment should be in good repair, and the staff should be trained to operate it correctly.
7. The staff should be familiar with each child's medical and developmental status. The staff should recognize symptoms and determine when the child needs medical attention.
8. If the program includes off-site field trips or activities, the staff should be trained in safe transportation of children with special healthcare

needs.

9. The staff should know how to reach each child's physician in an emergency and be qualified to administer any necessary emergency medications. Emergency planning should be specified in the child's care plan.

These are general recommendations. Because special healthcare needs vary widely, it's impossible to advise more precisely how to determine the best program. If you're having trouble deciding among the programs your pediatrician suggested, go back and discuss your concerns with them. They will work with you to make the right choice.

Whatever your child's special healthcare needs, how they will be cared for in your absence is an important decision. The information here should help. However, you know your child better than anyone. Rely most heavily on your impressions when choosing a childcare arrangement.

CHAPTER 18

Keeping Your Child Safe



Everyday life is full of well-disguised dangers for children: sharp objects, shaky furniture, reachable hot water faucets, pots on hot stoves, hot tubs, swimming pools, and busy streets. Adults navigate this minefield so well we no longer think of things like scissors and stoves as hazards. To protect your child from the dangers they'll encounter in and out of your home, you have to see the world as they do, and you must recognize they cannot yet distinguish hot from cold or sharp from dull.

Keeping your child physically safe is your most basic responsibility—a never-ending one. Unintentional injuries are a leading cause of death and disability in children over age 1, with drowning and car crashes accounting for a large number of injuries and deaths. Each year, children experience

more than 6 million emergency department visits for unintentional injury, and almost 4,000 children and adolescents under the age of 15 die from injuries.

Many children are injured or killed by equipment designed specifically for them. In one recent twelve-month period, high-chair-related injuries sent almost 8,000 children to the hospital. In 2017, toys caused almost 122,000 injuries serious enough to require an emergency department visit in children under 15.

These are worrisome numbers, but many injuries can be prevented. In the past, injuries were called "accidents" because they seemed unpredictable and unavoidable. Today we know injuries are not random but are often predictable and preventable. By understanding how a child grows and develops, and the risk of injury at each developmental stage, parents can take precautions to prevent many of these injuries.

Why Children Get Injured

Every childhood injury involves three elements: factors related to the child, the object that causes the injury, and the environment in which it occurs. To keep your child safe, you must be aware of all three.

Your child's age greatly affects the kind of protection they need. The 3-month-old cooing in an infant seat requires different supervision from the walking 10-month-old or the toddler who's learned to climb. At each stage of your child's life, you must revisit the present hazards and consider how to eliminate them. As your child grows, you must repeatedly ask: How far and how quickly can they move? How high can they reach? What objects attract their attention? What can they do today that they couldn't yesterday? What about tomorrow versus today?

During the first 6 months, you can secure your child's safety by never leaving them alone, even for a moment, in dangerous situations—for example, on a bed or a changing table where they might fall off. As they grow, they'll create dangers of their own—perhaps by creeping into places they shouldn't, or actively seeking out dangerous things to touch and taste.

For the child on the move, you'll certainly tell them no whenever they approach something potentially hazardous, but they won't understand the

significance of your message. Many parents find the ages between 6 and 18 months extremely frustrating, because the child doesn't seem to learn from reprimands. Even if you tell them twenty times a day to stay away from the toilet, they're still in the bathroom every time you turn your back. Your child is not being willfully disobedient; their memory isn't developed enough to recall your warnings when they're attracted by the forbidden object or activity. What looks like naughtiness is actually the testing and retesting of reality—the normal way a child this age learns.

The second year is also risky because a child's physical abilities exceed their understanding of the consequences of their actions. Although judgment has improved, their sense of danger won't be intense enough and their self-control developed enough to make them stop once they've spotted something interesting. At this point, even things they can't see will interest them, so curiosity may take them to the bottom shelf of the refrigerator, the medicine cabinet, or under the sink—to touch things and perhaps to taste.

Young children are extraordinary mimics and may try to take medicine as they've seen Mom do or play with a razor just as Dad does. Yes, your child may realize after the fact that the tugging of the cord is what pulled the lamp down on their head, but their ability to anticipate this is still months away.

Gradually, between the ages of 2 and 4 years, your child develops a more mature sense of themselves as an agent of change—when they flip a switch, the light goes on. Although this thinking eventually helps children avoid danger, at this age they are so self-involved they're likely to see only their part in the action. A child who sees their ball roll into the street will think only about retrieving it, not about the danger of being hit by a car.

The risks of thinking like this are obvious, and they're compounded by something called magical thinking, where a child behaves as if their wishes and expectations actually control what happens. A 4-year-old may light a match to re-create the beautiful bonfire they saw on television. It won't occur to them the fire could get out of control; but even if they did have that thought, they might discount the possibility because it isn't their idea of what *should* happen.

This type of self-centered, magical thinking is entirely normal. Nonetheless, you must be twice as careful about your child's safety until they outgrow this stage. You can't expect your 2- to 4-year-old to understand that

their actions can have harmful consequences for themselves or others. They may throw sand at a playmate because it amuses them and is fun. They will find it difficult to understand that their friend might not enjoy the game.

For all these reasons, you must establish and consistently enforce rules related to safety during the early preschool years. Explain the reasons behind the rules: "You can't throw stones, because you'll hurt your friend"; "Never run into the street, because you could be hit by a car." But don't expect these reasons to be persuasive—or for the rules to be consistently remembered. Repeat the rule every time your child is on the verge of breaking it until they understand that unsafe actions are always unacceptable. For most children, it takes dozens of repetitions before even the most fundamental safety rules are remembered. Be patient. Also, even if they seem to understand, don't assume they will always follow the rules. You still must watch them very closely.

Your child's temperament also may be a factor. Studies suggest that extremely active and unusually curious children have more injuries. At certain stages of development, your child is likely to be stubborn, easily frustrated, aggressive, or unable to concentrate—all characteristics that can be associated with injuries. When you notice your child having a bad day or going through a difficult phase, be especially alert with your supervision in terms of accident prevention.

Since you can't change your child's age and you have little influence over their basic temperament, most of your efforts to prevent injury should focus on objects and surroundings. By designing an environment where obvious hazards are removed, you can ensure the freedom your child needs to explore.

Some parents feel that childproofing their home is unnecessary because they intend to supervise their children closely. It's true that with constant vigilance, most injuries *can* be avoided. But even the most conscientious parents can't watch a child every moment. Most injuries occur not when parents are alert and at their best but when they're under stress. The following situations are often associated with injuries:

- Hunger and fatigue (e.g., the hour or so before dinner)
- Mother's pregnancy

- Illness or death in the family
- Changes with the child's regular caregiver or other change in routine
- Tension between parents or caregivers
- Sudden changes in the environment, such as moving to a new home or going on vacation

All families experience some of these stresses. Childproofing eliminates or reduces opportunities for injury, so even with momentary distraction—the telephone or doorbell—your child is less likely to encounter harm-causing situations or objects.

The pages that follow include advice about how to minimize dangers in and out of the home. The intention is to alert you to hazards—particularly those that might seem harmless—so you can take the sensible precautions to keep your child safe and still allow them the freedom to grow up happy and healthy.

Safety Inside Your Home

ROOM TO ROOM

Your lifestyle and your home's layout will determine which rooms should be childproofed. Examine every room where your child spends time (for most families, that means the entire house). It's tempting to exclude a formal dining or living room behind closed doors, but remember that the forbidden rooms are the ones your child will want most to explore. Any areas not childproofed require extra vigilance on your part, even if entrances are normally locked or blocked. At the very least, your child's room should be a place where everything is as safe as it can be.

NURSERY

CRIBS. Your baby is usually unattended in their crib, which should be a totally safe environment. Newborns are at risk for suffocation-related deaths and injuries, especially when there are soft materials in the crib or bassinet such as blankets, crib bumpers, pillows, or stuffed animals. In older infants and toddlers, falls are the most common injury associated with cribs, even

though they can often be prevented. Children are most likely to fall when the mattress is raised too high for their height or not lowered properly as they grow.

It is strongly recommended to use a crib manufactured after June 2011, when a stronger mandatory safety standard was implemented. If your crib has a side that lowers and raises, it is too old and should be replaced. Older cribs pose too high a risk of injury to infants.



No matter the age of your crib, inspect it carefully for the following features:

- Slats should be no more than 2⅜ inches (6 cm) apart so that a child's head cannot become trapped between them. Widely spaced slats can allow an infant's legs and body to fall through but will trap the infant's head, which can result in death.

- There should be no decorative cut-outs in the headboard or footboard, as your child's head or limbs could become trapped in them.
- If the crib has corner posts, they should be flush with the tops of the end panels, or else be very, very tall (such as posts on a canopy bed). For posts that stick up past the end panels, clothing and ribbons can catch on them and strangle an infant.
- All screws, bolts, nuts, plastic parts, and other hardware should be present and original equipment. Never substitute something from a hardware store for the original parts; obtain replacement parts from the manufacturer. They must be tightly fastened to prevent the crib from coming apart, as otherwise a child's activity could cause the crib to collapse, trapping and suffocating them.
- Before each assembly and weekly thereafter, inspect the crib for damage to hardware, loose joints, missing parts, or sharp edges. Do not use a crib if any parts are missing or broken.

Prevent other crib hazards with the following guidelines.

1. The mattress should be the same size as the crib, with no gaps to trap arms, body, or legs. If more than two fingers can be inserted between the mattress and sides or ends of the crib, the crib/mattress combination should not be used.
2. For a new mattress, remove and destroy all plastic wrapping that comes with it. It can suffocate a child.
3. Before your baby can sit up by themselves, lower the mattress to the level where they cannot fall out by leaning against the side or by pulling themselves over it. Set the mattress at its lowest position before your child learns to stand. Most falls occur when a baby tries to climb out. Move your child to another bed when they are 35 inches (89 cm) tall, or when the height of the side rail is less than three-quarters their height (approximately nipple level).
4. Periodically check the crib to ensure that no rough edges, no sharp metal points, and no splinters or cracks in the wood have developed. If you notice tooth marks on the railing, cover the wood with a plastic strip (available at most children's furniture stores).

5. Do not use bumper pads in cribs. There is no evidence they prevent injuries, and there is risk of suffocation, strangulation, or entrapment. Infant deaths in cribs have been associated with bumper pads. In addition, toddlers can use a bumper guard to climb and fall out.
6. Pillows, quilts, comforters, sheepskins, stuffed animals, and other soft products should not be placed in a crib with an infant. Babies can suffocate on such items in the crib.
7. If you hang a mobile, be sure it is securely attached to the side rails. Hang it high and out of reach of the baby and remove it when they are able to get up on their hands and knees or reach 5 months, whichever comes first.
8. Crib gyms are not recommended, as infants and toddlers may injure themselves falling forward onto the gym or pulling it down on top of themselves.
9. To prevent the most serious of falls and to keep children from getting caught in window or drapery cords and strangling, don't place a crib —or any other child's bed—near a window. The Consumer Product Safety Commission recommends using cordless window coverings if possible.
10. Keep baby monitor cords at least 3 feet away from the crib and do not place any item with a cord near the crib or under the crib mattress.

CHANGING TABLES. Changing tables make dressing and diapering easier, but falls from such a height can be serious. Don't trust vigilance alone to prevent falls; you should also consider the following recommendations.

1. Choose a sturdy, stable changing table with a 2-inch (5 cm) guardrail on four sides.
2. The top of the changing table pad should be concave, with the middle slightly lower than the sides.
3. Buckle the safety strap, but don't depend on it alone to keep your child secure. Always keep a hand on your baby. Never leave a child unattended on a dressing table, even for a moment, even if they are strapped.

4. Keep diapering supplies within reach—but not your child's reach—so you don't have to leave your baby's side. Baby powder can get in your child's lungs and cause damage, so instead of powder use a diaper cream.
5. If you use disposable diapers, store them out of your child's reach and cover them with clothing when they wear them. Children can suffocate if they swallow torn-off pieces of the plastic liner.



BUNK BEDS. Although some children love them, bunk beds pose several serious dangers. The child on the top bunk can fall out, and the child on the lower bunk can be injured if the top collapses. The bunk beds might be improperly constructed or assembled, resulting in dangerous structural flaws. Or a mattress that doesn't properly fit could entrap your child. If, despite these warnings, you choose to use bunk beds, take the following precautions.

1. Don't allow a child under 6 to sleep in the top bunk. They won't have the coordination needed to climb safely or to keep from falling out.
2. Place the beds in a corner of the room so that there are walls on two sides. This provides extra support and blocks two sides from possible falls.

3. Don't place beds beside a window. This will help prevent children from falling out of the window or being strangled by window or drapery cords. The Consumer Product Safety Commission (CPSC) recommends using cordless window coverings if possible.
4. The top mattress should fit snugly and not possibly slip over the edge of the frame. If there's a gap, your child might get trapped and suffocate.
5. Attach a ladder to the top bunk bed. Use a nightlight so that your child can see the ladder.
6. Install a guardrail on the top bunk. The gap between the side rail and guardrail should be no more than 3½ inches (8¾ cm). Be sure your child can't roll under the guardrail when the mattress on the top bunk is compressed by the weight of their body. If their head gets stuck under the guardrail, they may suffocate or be strangled. You may need a thicker mattress to prevent this.
7. Check the supports under the upper mattress. Wires or slats should run directly under the mattress and be fastened in place at both ends. A mattress supported only by the frame of the bed or unsecured slats could come crashing down.
8. If you separate bunks into two individual beds, remove all dowels or connectors.
9. To prevent falls and collapse of the bed, don't allow children to jump or roughhouse on either bunk.
10. Choose bunk beds with a label stating they comply with ASTM Standard F1427 to ensure they are designed and constructed to be as safe as possible.

KITCHEN

The kitchen can be a very dangerous environment for young children. While your infant or toddler is with you in the kitchen, use a high chair or play yard. Your child should be within your sight, and if using a high chair they should be securely strapped in. Keep a toy box or drawer with safe play items in the kitchen to amuse them. Eliminate the most serious dangers by taking the following precautions.

1. Store strong cleaners, lye, furniture polish, dishwasher soap (especially detergent packets), and other dangerous products in a high cabinet, locked and out of sight. Detergent packets pose a special risk for young children, who mistake them for candy; buy powdered or liquid detergent if at all possible. Lye is similarly dangerous and few households use it these days; it's better simply not to have it in the home. If you must store items under the sink, an automatically fastening child safety lock should be used (most hardware, baby supply, and department stores have them). Never transfer dangerous substances, recreational drugs, or illicit substances into containers that look as if they might hold food, as this may tempt a child to taste them.
2. In the kitchen, keep knives, forks, scissors, and other sharp instruments in a latched drawer separate from "safe" kitchen utensils. Store sharp cutting appliances such as food processors out of reach and/or in a locked cupboard.
3. Unplug appliances when not in use. Don't allow electrical cords to dangle where your child can reach and tug on them, possibly pulling a heavy appliance down on themselves.
4. Always turn pot handles toward the back of the stove so that your child can't reach up and grab them. Whenever you have to walk with hot liquid—coffee, soup—know where your child is so that you don't trip over them. Do not try to carry your child at the same time!
5. When shopping for an oven, choose one that's well insulated to protect your child from the heat if they touch the oven door. Never leave the oven door open.
6. If you have a stove, turn the dials firmly to the off position. If they're easy to remove, do so when you aren't cooking so that your child can't turn the stove on. If they cannot be removed easily, use child-resistant knob covers and block access to the stove as much as possible.
7. Keep matches and lighters out of reach and out of sight.
8. Don't warm baby bottles in a microwave oven. The liquid heats unevenly, and there may be pockets of milk hot enough to scald your

baby. Also, overheated baby bottles have exploded when removed from the microwave.

9. If the microwave is within your child's reach, stay nearby when it is on and never permit your child to open the microwave or remove food or liquids that have finished heating.
10. Keep a fire extinguisher in your kitchen, and on every floor of your home, in a place you'll remember.
11. Do not use small refrigerator magnets your baby could choke on or swallow.

LAUNDRY ROOM

Children love to help with laundry, but because this room contains several potential hazards, they should never be allowed into the laundry room without adult supervision.

1. Keep detergent, fabric softener, and other products in their original containers. Keep the containers closed tightly and store them in a high, locked cabinet.
2. Single-use detergent packets are highly concentrated and toxic. The packets can burst open if bitten or squeezed by a child, and the contents can shoot down the child's throat or into their eyes and cause breathing or stomach problems, coma, and even death. Detergent packets are often brightly colored and resemble candy or gummy treats. It is best to use traditional liquid or powder detergent products instead of concentrated packets until your child is at least 6 years old. If you do use detergent packets, the container must be sealed after each use and stored out of sight and reach in a locked cabinet.
3. Clean the dryer lint trap after each use to prevent fires.

BATHROOM

The simplest way to avoid bathroom injuries is to make this room inaccessible unless your child is with an adult. This may mean installing a latch on the door at adult height or a top lock. Also, be sure any lock can be unlocked from the outside, in case your child locks themselves inside.

Prevent bathroom injuries with the following suggestions.

1. Children can drown in only a few inches of water. **Never leave a young child alone in the bath, even for a moment.** Practice touch supervision by staying within arm's reach of your child anytime they are in or near water, such as a bathtub or swimming pool. If you must leave the bathroom, wrap your child in a towel and take them with you. Bath seats and rings are strongly *not* recommended and will not prevent drowning if the infant is left unattended. Babies can slip out of the seat and be trapped underwater. Do not rely on a bath seat or ring to keep your baby safe, even for a moment. Never leave water in the bathtub when not in use.
2. Install no-slip strips on the bottom of the bathtub. Put a cushioned cover over the water faucet to prevent hurtful bumps on the head.
3. Get in the habit of closing the toilet lid and use a toilet lid lock. A curious toddler playing in the water can lose their balance, fall in, and drown. A toddler's head is disproportionately heavy, and they may not be able to lift it out of the water.
4. To prevent scalding, the hottest temperature at the faucet should be no more than 120 degrees Fahrenheit (48.9 degrees Celsius). In many cases, you can adjust your water heater. If you're unsure how to set your water heater's temperature, check with the manufacturer. When your child is old enough to turn the faucets, teach them to start the cold water before the hot.
5. All medicine containers should have safety caps. However, remember these caps are child-*resistant,* not childproof. Store all medicines, recreational drugs, illicit substances, and cosmetics high and out of sight and reach in a locked cabinet. Don't keep toothpaste, soaps, shampoos, and other frequently used items in the same cabinet as medicines. Instead, store all medications, recreational drugs, or illicit substances in a hard-to-reach cabinet equipped with a safety latch or lock. Get rid of old or unused medications. Refer to the package insert or label for directions on safe ways to dispose of medications. If the label does not provide instructions on safe disposal, look for take-back programs in your community, often sponsored by your local

hospital, law enforcement, or waste management facility. For more information on safe medication use, storage, and disposal, visit HealthyChildren.org.

6. If you use electrical appliances in the bathroom, particularly hair dryers and razors, unplug and store them in a cabinet with a safety lock when not in use. All bathroom wall sockets should be GFCI outlets, which automatically shut off when in contact with water, to lessen the likelihood of electrical injury if an appliance falls into the sink or bathwater. It's even better to use appliances in another room where there is no water. Ask an electrician to check your bathroom electrical outlets and install GFCI safety outlets if needed.

GARAGE AND BASEMENT

Garages and basements are places where potentially lethal tools and chemicals are stored. Keep doors locked, with self-closing doors, and make both areas strictly off-limits. To minimize the risk when children do gain access to the garage and basement:

1. Keep paints, varnishes, thinners, pesticides, and fertilizers in a locked cabinet or locker. Always keep these substances in their original, labeled containers.
2. Store tools in a safe locked area out of reach. This includes sharp items like saw blades. Be sure power tools are unplugged and locked in a cabinet when not in use.
3. Do not allow your child to play near the garage or driveway where cars may be coming and going. Children have been killed when playing in the driveway when someone, often a family member, unintentionally backed over them. Most vehicles have large blind spots where a child cannot be seen even if the driver is watching the mirrors carefully. Even backup cameras are no match for small, fast-moving children.
4. If you have an automatic garage door opener, be sure your child is nowhere near the door before it's opened or closed. Keep the opener out of reach and sight. Make sure the automatic reversing mechanism is properly adjusted to avoid crushing a child as the door is closing.

5. Never leave a car running in the garage, as dangerous carbon monoxide gas can collect quickly in a partly enclosed space.
6. If, for some reason, you must store an unused refrigerator or freezer, remove the door so that a child cannot become trapped if they crawl inside.
7. Do not allow your child to ride on a riding lawnmower, as children can fall off and be injured by the blades. Do not mow while a child is playing on the lawn, since lawnmowers can send rocks and other dangerous projectiles flying at high speeds.

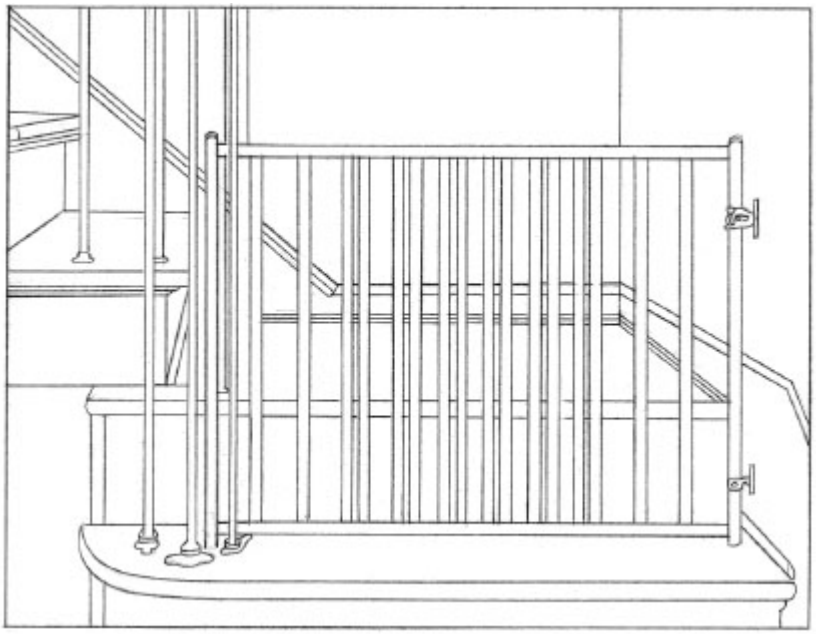
ALL ROOMS

Certain safety rules and preventive actions apply to every room. The following safeguards against commonplace household dangers will protect not only your small child, but your entire family as well.

1. To prevent injuries from fire and carbon monoxide, install smoke and carbon monoxide detectors throughout your home, at least one on every level and inside and outside bedrooms. Check them monthly to be sure they are working. It is best to use smoke detectors with long-life batteries, but if these are not available, change the batteries annually on a date you will remember. Smoke and carbon monoxide detectors should be replaced after ten years of use; many states have passed laws requiring newly installed detectors to use ten-year batteries. If possible, install networked smoke detectors so that when one alarms they all alarm. Develop a fire escape plan and practice it so that you'll be prepared if an emergency does occur.
2. To prevent electrocution injuries, put non-choking-hazard safety plugs or covers in all unused electrical outlets so that your child can't stick their finger or a toy into the holes. If your child won't stay away from outlets, block access to them with furniture. Keep electrical cords out of reach and sight.
3. To prevent slipping, carpet your stairs where possible. Be sure the carpet is firmly tacked down at the edges. When your child is just learning to crawl and walk, install safety gates at both the top and bottom of stairs. Avoid accordion-style gates, which can trap an arm

or neck, and instead use gates firmly mounted to the home's wall studs.

4. Certain houseplants may be harmful. The Poison Help line (1-800-222-1222) or the National Capital Poison Center (poison.org/articles/plant) has a list or description of plants to avoid. You may want to forgo houseplants for a while, or, at the very least, keep houseplants out of reach.



Safe, horizontal-type gate with slats 2⅜ inches (6 cm) apart

5. To prevent a choking injury, check floors constantly for small objects a child might swallow, such as coins, buttons, beads, pins, and screws. The best way to check is to get down at your child's level and see what's there. This is particularly important if someone in the household has a hobby involving small items, or if there are older children who have small items.
6. Button batteries can cause life-threatening risks when swallowed. These batteries are found in many common household and personal electronic products, such as small remote controls, calculators, thermometers, digital scales, key fobs, musical greeting cards, cameras, garage door openers, flameless candles, watches, toys, flashing holiday jewelry or decorations, tracking devices, and hearing

aids. If they are ingested and become stuck, the battery can cause serious damage to the esophagus in as little as two hours, and severe injuries may result in death. If placed inside the nose or ear canal, they can also cause serious tissue injury and should be removed by a medical professional as quickly as possible. If you own any electronic devices that feature compartments that house a battery, be sure to check them often to ensure they are secure. It is important to always keep devices that are button-battery-controlled and any type of battery out of reach or locked away, especially for children ages 5 and under. If you know or suspect your child may have swallowed a battery, review the following steps:

- Age 12 months or older: Give your child 2 teaspoons of honey every 10 minutes (make sure you know there is no allergy). Then go straight to the emergency department.
- If under 12 months of age, do *not* give any honey and go immediately to the emergency department.
- Do not induce vomiting.
- Do not have your child eat or drink anything.
- Call the 24/7 National Battery Ingestion Hotline (1-800-498-8666).

7. Children can suffer head injuries and cuts or injuries to their teeth when they fall while running. If you have hardwood floors, don't let your child run around in socks, which make slippery floors even more dangerous.
8. The Consumer Product Safety Commission recommends using cordless window coverings in all homes with children to prevent children from becoming strangled by cords. If your window products are not cordless, attach cords for window blinds and drapes to floor mounts that hold them taut, or wrap cords around wall brackets to keep them out of reach. Use safety stop devices on the cords. Cords with loops should be cut and equipped with safety tassels.
9. Pay attention to doors between rooms. Glass doors are particularly dangerous because a child may run into them. Fasten them open if possible. Swinging doors can knock a small child down, and folding

doors can pinch little fingers. If you have either, consider removing them until your child is old enough to understand how they work.

10. Sharp edges of furniture can injure a running or falling child. Check your home for furniture with hard edges and sharp corners that could injure your child (coffee tables are a particular hazard). If possible, remove dangerous furniture from traffic areas, particularly when your child is learning to walk. You also can buy cushioned corner and edge protectors that can be applied to furniture.
11. To prevent crush injuries from furniture, test the stability of large pieces of furniture, such as floor lamps, bookshelves, and television stands. Put floor lamps behind other furniture and anchor bookcases, dressers, and TV stands to the wall. Deaths and injuries occur when children climb onto, fall against, or pull themselves up on large pieces of furniture. Secure televisions to the wall or to a low, stable stand designed to hold them; children have died from being crushed by a falling television.
12. Keep computers out of reach so that your child cannot pull them over onto themselves. Cords should be out of sight and reach.
13. To prevent fall injuries from windows, open windows from the top if possible. If you must open them from the bottom, install operable window guards only an adult or older child can open. A screen is not strong enough to prevent a fall. Never put chairs, sofas, low tables, or anything else a child might climb on in front of a window. Doing so gives them access to the window and creates an opportunity for a serious fall.
14. To prevent suffocation injuries, never leave plastic bags lying around the house, and don't store children's clothes or toys in them, as children can suffocate inside them. Dry-cleaning bags are particularly dangerous. Knot them before you throw them away so that it's impossible for your child to crawl into them or pull them over their head. Even a small torn-off piece can become a potential choking hazard.
15. Think about the potential hazard of anything you put into the trash. Any trash container used for potentially dangerous items—spoiled

food, discarded razor blades, batteries—should have a child-resistant cover or be kept out of reach.

16. To prevent burns, check your heat sources. Fireplaces, woodstoves, and kerosene heaters should be screened so that your child can't get near them. Gas fireplaces with glass doors get extremely hot, stay very hot long after the fireplace is turned off, and can cause severe burns when touched. Check electric baseboard heaters, radiators, and even vents from hot-air furnaces to see how hot they get when the heat is on. They, too, may need to be screened.
17. If firearms are kept in the house, layers of barriers to prevent unauthorized access are essential to decrease the risk of intentional (e.g., suicide or homicide) or unintentional shootings. For safety, store the firearm unloaded, lock away the firearm, and store ammunition separately in a locked place. In other homes where your child spends time, it is also important to ask how firearms are stored. (Also see *Where We Stand* below.)
18. Alcohol can be very toxic to a young child. Keep all alcoholic beverages in a locked cabinet and empty any unfinished drinks immediately.

WHERE WE STAND

Firearms increase the risk of injury, both intentional and unintentional, in the home. Safety options include storing firearms away safely or removing from the home and storing in another location (e.g., shooting range, firearms store).

Baby Equipment

The Consumer Product Safety Commission takes an active role in setting safety standards to ensure the safety of equipment manufactured for children and infants. The Consumer Product Safety Improvement Act of 2008 started a process of strengthening safety standards for many durable juvenile products, so you must pay special attention to the safety of furniture

made before then. The following guidelines will help you select the safest possible baby equipment, whether used or new, and utilize it properly.

HIGH CHAIRS

Falls are the most serious danger associated with high chairs. To minimize the risk of your child falling:

1. Select a chair with a wide base, so it can't tip over.
2. If the chair folds, make sure the locking device is secure each time you set it up.
3. Strap your child in with the shoulder, waist, and crotch safety straps whenever they sit in the chair. Never allow them to stand in the high chair.
4. Don't place the high chair near a counter or table; your child may be able to push hard enough against these surfaces to tip the chair over. Never place the chair within reach of a hot or dangerous object.
5. Never leave a young child unattended in a high chair, and don't allow older children to climb or play on it, as this could cause it to tip over.
6. A high chair that hooks onto a table is *not* a substitute for a more solid one. But if you plan to use such a model when you eat out or travel, look for one that locks onto the table. Be sure the table is heavy enough to support your child's weight without tipping. Also, check to see whether their feet can touch a table support. If they can push against it, they may be able to dislodge the seat from the table.
7. Check that all caps or plugs on chair tubing are firmly attached and cannot be pulled off; these could be choking hazards.



INFANT SEATS AND BOUNCERS

Infant seats and bouncers should be labeled to meet CPSC safety standard F2167. Use care in selecting an infant seat. Check the weight guidelines provided by the manufacturer, and don't use the seat after your baby has outgrown it. Here are some other safety guidelines to follow:

1. Do not put the seat above floor level. The most serious injuries associated with infant seats occur when a baby falls from a high surface, such as a table, countertop, or chair. Even small infants can jiggle a seat or carrier off a surface and fall, suffering head trauma and other injuries. To keep an active, squirming baby from tipping the seat over, place it on a carpeted area near you and away from sharp-edged furniture. Infant seats also may tip over when placed on soft surfaces, such as beds or upholstered furniture; these are not safe places for infant seats.
2. Never leave a baby unattended in an infant seat.

3. Never use an infant seat as a substitute for a car safety seat. Infant seats are designed only for propping a baby up so that they can see, play, or be fed more easily.
4. Always buckle the safety strap and harness.
5. Choose a seat with an outside frame that allows the infant to sit deep inside. Be sure the base is wide, to prevent tipping over.
6. Look at the bottom of the infant seat to ensure that it's covered with a non-skid material.
7. Parents should remove the infant from the seat before moving the seat to avoid falling or other injuries to the baby.
8. Never place a baby in an infant seat or a car safety seat on the roof or back of a car, even for a moment.
9. Infants should never sleep in a sitting device. If your baby falls asleep in a car safety seat (while the car is not in motion) or bouncer, move them to a crib, bassinet, or portable play yard right away.

PLAY YARDS

Most parents depend on play yards (sometimes called playpens) as a safe place to put a baby when parents aren't available to watch them every moment. Yet play yards, too, can be dangerous under certain circumstances. To prevent mishaps:

1. Choose a play yard with a label stating it meets ASTM F406, a safety standard that will ensure it is designed and built to prevent injuries. This standard is mandatory for all new play yards.
2. Do not add a supplemental mattress to the play yard. These are a suffocation hazard. Your baby will be comfortable using just the mattress that came with the play yard. If your baby sleeps in the play yard, follow safe sleep practices: Remove pillows, blankets, and stuffed toys and put your baby on their back.
3. Never leave the side of a mesh play yard lowered. An infant who rolls into the pocket created by the slack mesh can become trapped and suffocate.

4. Do not tie toys to the sides or across the top of a play yard, as a baby or toddler can become entangled.
5. If your play yard has a raised changing table, always remove the changing table when your child is in the play yard so that they cannot become entrapped or strangled in the space between the changing table and the side rail.
6. When your child can pull themselves to a standing position, remove any boxes or large toys in the play yard they could use to climb out.
7. Teething children may gnaw on the top rails. Check them periodically for tears and holes in the fabric. If the tears are small, repair them with heavy-duty cloth tape; if more extensive, contact the manufacturer to find out how to repair.
8. Be sure a play yard's mesh is free of tears, holes, or loose threads and that the openings are less than ¼ inch (0.6 cm) across, so your child cannot get caught in it. The mesh should be securely attached to the top rail and floor plate. If staples are used, they should not be missing, loose, or exposed. Slats on wooden play yards should be no more than 2⅜ inches (6 cm) apart, so your child's head cannot become trapped between them.
9. Circular enclosures made from accordion-style fences are extremely dangerous. Children can get their heads caught in the diamond-shaped openings and the V-shaped border at the top of the gate. Never use such an enclosure, either indoors or out.

WALKERS

The American Academy of Pediatrics does not recommend the use of mobile infant walkers. Children can fall down stairs, leading to head injuries. If the walker runs into a piece of furniture like a table or bookshelf, objects may fall off it and injure the child. Walkers do not help a child learn to walk, and they can delay normal motor development. A stationary walker or activity center is a better choice. These do not have wheels, but seats that rotate and bounce. You may also consider a sturdy wagon or a kiddie push car. The toy should have a bar they can push, and it should be weighted so that it won't tip over when they pull themselves up on it.

PACIFIERS

Pacifiers will not harm your baby. In fact, there is evidence that pacifiers may help reduce the risk of sudden infant death syndrome (SIDS) when your infant is being placed for sleep. However, for maximum safety, use the following tips when using a pacifier:

1. Do not use the top and nipple from a baby bottle as a pacifier, even if you tape them together. If the baby sucks hard, the nipple may pop out of the ring and choke them.
2. Purchase pacifiers that cannot possibly come apart. If you are in doubt, ask your pediatrician for a recommendation.
3. The shield between the nipple and the ring should be at least 1½ inches (3.8 cm) across, so the infant cannot take the entire pacifier into their mouth. Also, the shield should be made of firm plastic or silicone with ventilation holes.
4. Never tie a pacifier to your child's crib or around your child's neck or hand. This is very dangerous and could cause serious injury or even death.
5. Pacifiers deteriorate over time. Inspect them periodically to see whether the material is discolored or torn. If so, replace them.
6. Follow the recommended age range on the pacifier, as older children can sometimes fit smaller newborn-size pacifiers in their mouths and choke.

TOY BOXES AND TOY CHESTS

A toy box can be dangerous for two reasons: A child could become trapped inside, or a hinged lid could fall on your child's head or body while they are searching for a toy. If possible, store toys on open shelves your child can get to easily. If you must use a toy box:

1. Look for one with no top, a lightweight removable lid, or sliding doors or panels. However, little fingers can easily be injured under lids and between sliding doors and panels.
2. If you use a toy box with a hinged lid, be sure it has a lid support that holds the lid open at any angle. If your toy box didn't come with such

a support, install one yourself—or remove the lid.

3. Look for a toy box with rounded or padded edges and corners, or add the padding yourself.
4. Children occasionally get trapped inside toy boxes. Your box should have ventilation holes or a gap between the lid and the box. Don't block the holes by pushing the box tight against a wall. The lid should not latch.

TOYS

Most toy manufacturers want to produce safe toys, but they cannot always anticipate the way a child might use—or abuse—their products. In 2021, there were an estimated 206,000 toy-related injuries treated in US emergency rooms. Of these, 37 percent (76,220) involved children under age 5. If your child is injured by an unsafe product or you would like to report a product-related injury, visit saferproducts.gov. The Consumer Product Safety Commission keeps a record of complaints and initiates recalls of dangerous toys, clothing, jewelry, and other household products. Your report may protect not only your child, but others as well.

When selecting or using toys, always observe the following safety guidelines:

1. Match toys to your child's age and abilities. Follow the manufacturer's guidelines on the packaging.
2. Rattles—probably your child's first toy—should be at least 1⅝ inches (4 cm) across. An infant's mouth and throat are very flexible, and a smaller rattle could cause choking. Rattles should have no detachable parts.
3. Toys should be constructed of sturdy materials that won't break or shatter when a child throws or bangs them.
4. Check squeeze toys to ensure the squeaker can't become detached.
5. Before giving your child a stuffed animal or a doll, make sure the eyes and other parts are firmly attached; check them periodically. Remove all ribbons. If a doll comes packaged with accessories, don't allow your

child to suck on a doll pacifier or any other accessory small enough to be swallowed.

6. Swallowing or inhaling small toy parts is a serious danger to young children. Inspect toys carefully for small parts that could fit in your child's mouth and throat. Look for toys labeled for children 3 and under, because they must have no small parts likely to be swallowed or inhaled.
7. Toys with small magnets are especially dangerous. If more than one magnet is swallowed, the magnets can attract each other in the child's body and cause intestinal blockages, perforations, and even death. Keep toys with small magnets away from children. High-powered magnets are extremely dangerous when more than one is swallowed; keep all high-powered magnets out of sight and reach of children.
8. Toys with small parts purchased for older children should be stored out of reach of younger ones. Impress on your older child the importance of picking up all the pieces from such toys when they're finished playing. You should check that there are no items dangerous for your baby left out. Consider restricting the use of these toys to a small area or places inaccessible to the baby.
9. Don't let a child play with balloons; they may inhale a balloon if they try to blow it up. If a balloon pops, pick up and discard all the pieces. Mylar balloons are a safer choice than latex.
10. To prevent both burns and electrical shocks, don't give young children (under age 10) a toy that must be plugged into an electrical outlet. Instead, buy battery-operated toys. Be sure that the battery cover is securely fastened in an enclosure that requires a screwdriver or other tool to open, in order to prevent a loose battery from becoming a choking hazard. All newer battery-powered toys meet this guideline, but check older toys, and do not use them if the batteries can be accessed without a screwdriver. If a toy uses round button-cell batteries, cover old batteries with tape and discard them immediately in a secure trash can, and keep replacement batteries in their package in a high, locked cabinet out of sight and reach. Check toys' battery compartments periodically to ensure the screws have not loosened.

11. Ensure that teething children do not have access to electrical cords, which they might bite through, risking electrical burns.
12. Carefully inspect toys with mechanical parts for springs, gears, or hinges that could trap a child's fingers, hair, or clothing.
13. Register any applicable toys with the manufacturer in order to be informed of any recalls.
14. To prevent cuts, check toys to ensure they don't have sharp edges or pointed pieces. Avoid toys with parts made of glass or rigid plastic that could crack or shatter.
15. Don't allow your child to play with very noisy toys, including squeeze toys with unexpectedly loud squeakers. Noise levels at or above 100 decibels can damage hearing.
16. Projectile toys such as dart guns or slingshots are not suitable for children. They can easily cause eye injuries. Never give your child a toy that fires anything except water.

HOW TO REPORT UNSAFE PRODUCTS

If you become aware of an unsafe product used by children—or if your child suffers an injury related to a particular product—report it to the Consumer Product Safety Commission (CPSC) at saferproducts.gov. Your report is important for helping the CPSC identify hazardous products requiring further investigation or a potential recall.

Safety Outside the Home

Even if you create the perfect environment inside your home, your child will spend a lot of time outside, where surroundings are less controllable. Obviously, your personal supervision will remain the most valuable protection, but even a well-supervised child is exposed to many hazards. The following information will show how to eliminate many of these hazards and reduce the risk your child will be injured.

CAR SAFETY SEATS

Each year an average of 3,460 children between the ages of 1 and 19 are killed in car crashes. Many deaths can be prevented if the children are

properly restrained in a car safety seat when riding in a motor vehicle. Contrary to what some believe, a parent's lap is the most dangerous place for a child to ride. In a car crash or even a sudden stop or swerve, you wouldn't be able to hold on to your child, and your body would crush theirs as you were thrown against the dashboard and windshield. Not even the strongest adult can keep hold of a child while experiencing the massive forces of a crash. The single most important way to keep your child safe in the car is to buy, install, and use an approved car safety seat, appropriate for the age and size of your child, every time they ride in the car. Children should ride in the rear seat until they turn 13 years old in order to prevent brain or spine injuries from front seat airbags.

Car safety seats are required by law in all fifty states, the District of Columbia, and US territories. Unfortunately, studies consistently show that many parents do not use them properly. The most common mistakes include facing car safety seats in the wrong direction (facing forward too soon), not keeping your child in a car safety seat long enough, placing rear-facing seats in front of an airbag, failing to strap or fasten the child into the car safety seat, failing to securely fasten the child's car safety seat to the vehicle seat, not adequately tightening the straps, not using a booster seat for older children, and letting a child ride in the front seat. Also, some parents don't use the car safety seat on short trips. In fact, most fatal crashes occur within 5 miles (8 km) of home and at speeds of less than 25 miles (40 km) per hour. For all these reasons, children continue to be at risk. It's not enough to have a car safety seat—you must use it correctly, every time, in the backseat.



Rear-facing-only car safety seat

CHOOSING A CAR SAFETY SEAT

Here are guidelines to select a car safety seat.

1. The American Academy of Pediatrics annually publishes a list of car safety seats available, "Car Safety Seats: Product Listing," which can be found online at HealthyChildren.org/carseatlist.
2. No one seat is "safest" or "best." The "best" car safety seat is one that fits your child's size and weight and can be installed correctly in your car and used correctly on every trip.
3. Price does not always make a difference. Higher prices can mean added features that may or may not make the seat easier to use.
4. When you find a seat you like, try it out. Put your child in the seat and adjust the harnesses and buckles. Make sure it fits in your car and that the harnesses are easy to adjust when the seat is in your car. Some big-box stores will allow you to take a loaner seat out to your car to see how it fits.
5. If your baby is born preterm, they should be observed in their car safety seat by hospital staff before leaving the hospital to ensure that the semi-reclined position does not cause low heart rate, low oxygen, or other breathing problems. If the pediatrician advises you that your baby needs to lie flat during travel, use a crash-tested car bed. If

possible, an adult should ride in the backseat next to your baby to watch them closely.

6. Children with certain conditions may need other restraint systems. Discuss this with your pediatrician. (More information about safe transportation of children with special healthcare needs is available from the Automotive Safety Program by phone at 1-800-543-6227 or on their website at prevent injury.org.)
7. Do not use a car safety seat that is too old. The label has the date of manufacture. Many manufacturers recommend seats be used for only six years. Check the instruction manual for the expiration date; this may also be found on a label on the seat or stamped into the plastic shell. Over time, and with exposure to heat and cold, the car safety seat parts can become weakened. It is important *not* to use a car safety seat past the manufacturer's expiration date.
8. If a car safety seat was in a moderate or severe crash, it may have been weakened and should *not* be used, even if it looks fine. Seats that were in minor crashes may still be safe to use. A crash is considered minor if the vehicle can be driven away from the crash, the door closest to the car safety seat was not damaged, no one in the vehicle was injured, the airbags did not go off, and you can't see any damage to the car safety seat. Some manufacturers still recommend replacing a seat after even a minor crash. Check the instruction manual or call the car safety seat manufacturer if you have questions about your seat. Only use a seat if you know its full history.
9. It is best to use a new car safety seat. If you choose a used car safety seat, be absolutely sure it has never been in any crash, all the labels and instructions are present, and it has not been recalled.
10. Do not use a car safety seat missing a label with the date of manufacture and seat name or model number. Without these, you cannot check for recalls.
11. Do not use a car safety seat with missing instructions. You need them to know how to use the car safety seat. Do not rely on the former owner's directions. Get a copy of the instruction manual from the manufacturer or download a copy from the manufacturer's website before you use the seat.

12. Do not use a car safety seat that has cracks in the frame of the seat or is missing parts.
13. Register your car safety seat with the manufacturer so that you can be notified promptly in the event of a recall. Newly purchased seats will have a registration card attached, or you can register the seat on the manufacturer's website or by calling its customer service department.
14. You can find out if your car safety seat has been recalled by calling the manufacturer or the US Department of Transportation's Vehicle Safety Hotline at 1-888-327-4236 from 8 A.M. to 8 P.M. ET, Monday through Friday. This information is also available on the National Highway Traffic Safety Administration website: nhtsa.gov/recalls. If the seat has been recalled, follow instructions to fix it or get the necessary parts.



Forward-facing car safety seat



Belt-positioning booster seat

TYPES OF CAR SAFETY SEATS

Infants/Toddlers

All infants and toddlers should ride in a rear-facing car safety seat as long as possible, or until they reach the highest weight or height allowed by the car safety seat manufacturer. They should be positioned in the backseat. This is the safest way to ride. Nearly all convertible car safety seats have rear-facing weight and height limits that allow most children to ride rear-facing well past the second birthday.

Toddlers/Preschoolers

Children who have outgrown the rear-facing weight or height limit for their car safety seat should use a forward-facing car safety seat with a five-point harness positioned in the backseat of the vehicle. Children should use a car safety seat for as long as possible, up to the highest weight or height allowed by their car safety seat's manufacturer.

Travel Vests

A travel vest may be an option, especially if your car or a taxicab has only lap belts. Travel vests are designed for children between 20 and 168 pounds and are an alternative to traditional forward-facing seats. They are useful in a

vehicle with lap-only seatbelts in the rear or for children whose weight exceeds that allowed by traditional car safety seats. These vests may require the use of a top tether.

INSTALLING A CAR SAFETY SEAT

1. Read your vehicle owner's manual for important information on how to install the car safety seat correctly in your vehicle.
2. To prevent head and spine injuries from the deployment of an airbag in the event of a crash, the safest place for all children to ride is in the backseat. Avoid driving more children than can be buckled safely in the backseat.
3. Never place a child in a rear-facing car safety seat in the front seat of a vehicle with a passenger airbag. All new cars have airbags. When used with seatbelts, airbags work very well to protect older children and adults. However, airbags are very dangerous when used with rear-facing car safety seats. If your car has a passenger airbag, children in rear-facing seats *must* ride in the backseat. Even in a low-speed crash, the airbag can inflate, strike the car safety seat, and cause serious brain injury and death. Toddlers who ride in forward-facing car safety seats are also at risk from airbag injuries. Remember, *all* children younger than 13 are safest in the backseat.

   If you have a pickup truck without a backseat or with a backseat that is too small for a properly installed car safety seat, it may be possible in some cases to install a car safety seat in the front seat. Keep in mind, though, that a rear-facing car safety seat can *never* be installed in a seating position with an active front airbag. Do not rely on the vehicle sensor to disable the airbag; only use that seating position if the airbag can be deactivated with a key. Installing a car safety seat in a pickup truck, even in the backseat if there is one, can be more complicated than installing in other vehicles, so read the owner's manuals for both the pickup truck and the car safety seat and follow the instructions carefully.
4. Car safety seats can be installed using either the vehicle seatbelts or LATCH (Lower Anchors and Tethers for Children). LATCH is a

system of lower anchors located in the seat bight (where the vehicle cushions meet) and tether anchors located on the shelf behind the seat (in most sedans) or on the floor, ceiling, or back of the seat (in most minivans, SUVs, and hatchbacks). The systems are equally safe, but in some cases, it may be easier to install a seat tightly using LATCH. You should use the seatbelt *or* LATCH, but not both, unless the car safety seat manual specifically allows using both at the same time.

5. Place the seat facing the correct direction for the size and age of your child. Route the seatbelt or LATCH strap through the correct path on the car safety seat (check your instructions to make sure) and pull it tight. Before each trip, check to make sure the car safety seat is installed tightly enough by pulling on the car safety seat where the seatbelt or LATCH strap passes through. It should not move more than an inch side to side or toward the front of the car.
6. If your infant's head flops forward, the seat may not be reclined enough. Recline the seat to the correct angle according to the manufacturer's instructions; there may be different recline settings for very young infants and for older babies. Your seat may have a recline indicator to help determine whether the angle is correct and a built-in adjuster for this purpose. If not, you may wedge firm padding, such as a rolled towel, under the seat's front base.
7. If the seatbelt buckle lies just at the point where the belt bends around the car safety seat, it may be impossible to make the belt tight enough. If you cannot get the belt tight, try another position in the car or consider using LATCH if it is available.
8. If you install a car safety seat using the vehicle seatbelt instead of LATCH, the seatbelt must be locked tightly in place. In many vehicles, you can lock the seatbelt by pulling the shoulder belt all the way out, then feeding it back into the retractor. In many cases, it may be easier to use (or the car safety seat manufacturer may advise using) a built-in lock-off that comes with the car safety seat to lock the seatbelt. Read your car owner's manual and car safety seat instructions to determine the best way to lock the seatbelt.
9. In rare situations, a lap-only belt may need a special, heavy-duty locking clip, available from the vehicle manufacturer. Check your car

owner's manual for more information.

10. Before using LATCH, check the car safety seat and vehicle instructions for information, including the weight limits for the lower anchors and attachments and which seating positions can be used for LATCH installation. Check the vehicle instruction manual to ensure you don't attach the tether to a cargo tie-down or other attachment point not designed as a tether anchor.
11. Tethers should always be used with forward-facing car safety seats. Most anchors are located on the rear window ledge, the back of the vehicle seat, or the floor or ceiling of the vehicle. Tethers give extra protection by keeping the car safety seat from being thrown forward in a crash. All new cars, minivans, and light trucks are required to have tether anchors for securing the tops of car safety seats. If your vehicle was manufactured before September 2000, it may be possible to have a tether anchor installed by a dealer, often at no cost.
12. For specific information about installing your car safety seat, consult a certified child passenger safety (CPS) technician. A list of certified CPS technicians is available by state or ZIP code at cert.safekids.org (click on "Find a Tech"). A list of inspection stations staffed by certified CPS technicians is also available online at nhtsa.gov/equipment/car-seats-and-booster-seats. In addition, the information can be accessed by telephone on the Department of Transportation's Vehicle Safety Hotline at 1-888-327-4236, from 8 A.M. to 8 P.M. ET, Monday through Friday.



USING THE CAR SAFETY SEAT

1. A car safety seat protects your child only if they are buckled securely *every* time they ride—no exceptions, beginning with your baby's first ride home from the hospital. Help your child form a lifelong habit of buckling up by *always* using your seatbelt. If you have two cars, buy two seats or transfer the seat to the car in which your child will be traveling. Remember never to place a rear-facing car safety seat in the front seat if there is an airbag. The safest place for all children to ride is in the back.
2. Read and follow the car safety seat manufacturer's instructions, and always keep them with the car safety seat. If you lose the instructions, call or write the manufacturer for a replacement. In many cases, you can download the instructions from the manufacturer's website.
3. Most children go through a stage when they protest whenever you put them in the car safety seat. Explain firmly that you cannot drive until

everyone is buckled. Then back up your words with action.

4. Use the correct harness slots for the child. When riding rear-facing, the harness straps should be at or below your child's shoulder level. When riding forward-facing, they should be at or above the shoulders. Some seats do not have slots, but instead use a sliding mechanism to move the harness straps up and down. Read the instructions to see how and where to adjust the harness strap height.
5. The harness straps should be snug against your child's body. Dress your baby in clothes that allow the straps to go between their legs. Keep the straps snug so that they hold your child securely; if you can pinch a fold of webbing between your fingers, they are too loose. Be certain the straps lie flat and are not twisted.
6. If needed to keep your newborn from slouching, pad the sides of the seat and behind the crotch strap with rolled-up diapers or receiving blankets. Do not use add-on products behind the baby or between the baby and the harness straps; these can cause the straps to not restrain the baby properly in a crash. Some seats for newborns include an insert to improve the harness fit; these are okay to use, but never use any add-on products that did not come with your car safety seat or are not specifically allowed by the manufacturer's instructions.
7. In cold weather, dress your baby in thinner layers rather than thickly padded clothes, and tuck blankets around your baby *after* adjusting the harness straps snugly. Do not use bunting products that have a layer that goes underneath your baby.
8. In hot weather, drape a towel over the seat when the car is in the sun. Before putting your child in the seat, test the fabrics and metal buckle with your hand to ensure they aren't hot.
9. No matter how short your errand is, **never leave an infant or child alone in a car**. They can get overheated or too cold very quickly, even if the temperature outside seems mild, or they may become frightened and panicky when they realize they're alone. Children left alone in cars in hot weather can die from hyperthermia (overheating) in less than ten minutes. Older children may be tempted to play with things like cigarette lighters, power windows, or the gear shift, which could cause serious injury or death. Any parent, no matter how loving and

attentive, can forget a child in the car. Take steps to prevent this by incorporating visual reminders or check-ins into your routine:

- Put something you need at your destination, like your purse or briefcase or a shoe, in the backseat, where you must open the back door to retrieve it.
- Put a large stuffed toy in the car safety seat when your child is not in the car, and when your child rides with you, move the toy into the front seat where you will see it.
- Ask your childcare provider to call if your child does not arrive when expected.
- Be especially vigilant when the usual routine is changed; the risk of forgetting a child is higher during such disruptions.
- Lock your car and set the parking brake when not in use so that children cannot get inside. Overheating deaths have occurred when children got into cars to play. If a child is missing, check the pool or other body of water first, and then check the car, including the trunk.

10. Always use your seatbelt. In addition to setting a good example, you'll reduce your own risk of injury or death in a crash by 60 percent.
11. Children will outgrow their booster seats when they are older, often 8 to 12 years of age. They can use the seatbelt alone when it fits properly over strong bones, meaning that the lap belt fits low and snug across the thighs, the shoulder belt lies across the middle of the chest, and they can sit all the way back on the vehicle seat with knees bent over the edge without slouching and can stay in that position for the whole ride.
12. Never let your infant sleep in a car safety seat outside of the car. It is fine to sleep in the car safety seat while riding in the car, but when you reach your destination, move your baby to a crib, bassinet, or portable play yard to finish napping.
13. Never place your infant in a car safety seat with unbuckled or partially buckled straps, as there is a risk of strangulation.

AIRBAG SAFETY

An airbag can save your life. However, airbags and young children do not mix. The following information will help keep you and your children safe. (This information is worth repeating.)

- The safest place to ride for all infants and children under 13 years is in the backseat. When front seat airbags deploy, they can injure children's brains or spines.
- Never put a rear-facing car safety seat in the front seat of a car with an airbag. Your child can suffer a serious injury or death from the impact of the airbag against the back of the car safety seat. (See pages 401–3 of this chapter for information on pickup trucks and car safety seats.)
- Infants and toddlers should ride in a rear-facing car safety seat until they reach the height or weight limit set by the manufacturer. Nearly all convertible car safety seats have weight and height limits that allow most children to ride rear-facing well past the second birthday. Rear-facing is the safest way to ride. It is best to ride that way as long as possible.
- All children should be properly secured in car safety seats or booster seats correct for their age and size.
- Side airbags improve safety for adults in side impact crashes. When children ride next to side airbags, it is essential they be restrained in the proper position. Read your car safety seat manual for guidance on placing the seat next to a side airbag and refer to your vehicle owner's manual for recommendations that apply to your vehicle.

KEEPING YOUR CHILD HAPPY AND SAFE ON THE ROAD

As hard as you may try to enforce car safety seat and seatbelt use, your child may resist these constraints as they get older. Here are some tips to keep them occupied and content—and safe—while the car is in motion.

BIRTH TO 9 MONTHS

- Ensure your newborn's comfort by padding the sides of their car safety seat with receiving blankets if necessary to prevent slouching. Padding should only be added outside the harness straps, *never* under your baby or between your baby and the harness straps.
- If needed, place a small rolled-up cloth diaper or receiving blanket between the crotch strap and your baby to prevent their lower body from sliding too far forward.

- If your infant's head flops forward, double-check whether the seat has been reclined enough. Follow the manufacturer's instructions on how to achieve the proper recline angle.

9 MONTHS TO 24 MONTHS

- Children this age love to climb and may want desperately to get out of the car safety seat. If this describes your child, remind yourself this is only a phase. As mentioned, insist in a calm but stern voice that they stay in their seat whenever the car is on the road. Let them know the car cannot move unless everyone is buckled in, then follow through if they try to escape their seat. Keep the harness straps snug and the harness clip at chest level to make it more difficult for them to escape.
- Entertain your toddler by talking or singing with them as you drive. However, never do this to the point where it distracts you from paying attention to driving.

24 MONTHS TO 36 MONTHS

- Make driving a learning experience by talking about what your child sees out the window, as long as this doesn't distract from driving.
- Encourage your child to buckle their toy animals or dolls into a seatbelt and talk about how safe the toy is being buckled in.

PRESCHOOLERS

- Talk about safety often, and praise your child whenever they voluntarily buckle in.
- Encourage your child to accept the car safety seat or booster seat by suggesting make-believe roles, such as astronaut, pilot, or race-car driver.
- Explain why the car safety seat is important: "If we have to stop suddenly, the straps keep you from bumping your head."
- Show them books and pictures with safety messages.
- Always wear your seatbelt, and make sure everyone else in the car does, too.
- Have all passengers wear their seatbelts correctly at all times to provide the best protection.

KIDS AROUND CARS

From a young age, teach children not to walk or play in the street or driveway. Young children are not safe around streets and should not play near them. While they have the skills to get to roads and streets, they do not have the ability to recognize that streets and cars are dangerous. Children move quickly and impulsively. They are curious. Yet they have difficulty seeing cars in their peripheral vision, localizing sounds, and understanding traffic and the meaning of signs and signals. They cannot judge speed and vehicle distance. Add in drivers who may be multitasking and not looking out for young children playing near the street, and a disaster could be in the making. If children are near streets, hands-on supervision is necessary for

quick intervention if your child darts into the street to get a ball or to run after an older child.

WHERE WE STAND

All fifty states require children to ride in car safety seats. The American Academy of Pediatrics urges that all newborns discharged from hospitals be brought home in rear-facing car safety seats. The AAP has established car safety seat guidelines for low-birth-weight infants, which include having them ride in a rear-facing seat and supporting them with ample padding around the sides, outside the harness system. A convertible car safety seat is recommended as a child gets older.

Infants and young children must always ride in car safety seats—preferably in the backseat. Never use a rear-facing car safety seat in the front seat of a vehicle equipped with a passenger-side airbag. An infant or child should never ride in an adult's arms. Children age 12 and younger should ride in the rear seat.

Older children should use booster seats until the vehicle safety belt fits well, meaning the shoulder belt crosses the middle of the child's chest, the lap belt is low and snug across the thighs, the child can sit all the way back on the vehicle seat with knees bent at the edge, and the child is able to sit this way the entire ride. This position helps avoid injuries to the neck and internal organs from the seatbelt in case of a crash.

To avoid injuries from vehicle back-overs, driveways, alleyways, and any adjacent unfenced front yards should not be used as play areas. Parents should remember the large blind spots behind cars (especially in bigger vehicles like SUVs and minivans) and the need to walk completely around the car before getting in and starting the engine. Never assume that having a backup camera is adequate to prevent backing over a fast-moving small child. Adults should make a point of knowing where the children are before putting a vehicle in reverse.

BABY CARRIERS: BACKPACKS, FRONT PACKS, AND SLINGS

Back and front carriers for infants are very popular. For your baby's—and your own—comfort and safety, follow these guidelines when purchasing and using baby carriers:

1. Infants born prematurely or with respiratory problems should not be placed in backpacks or other upright devices, as the positioning in these devices may make it harder for them to breathe.

2. Some sling carriers may curl your baby's body into a C-shape, which greatly increases the risk of breathing problems. If you use a sling, your baby's neck should be straight and their chin not pressed into their chest, and make sure you can always see their face.
3. In any type of carrier, check frequently to ensure that your baby's mouth and nose are not blocked by fabric or your body and that airflow is not restricted. The CPSC warns about the suffocation hazard to infants, particularly those younger than 4 months, carried in infant sling carriers. When infant slings are used for carrying, it is important to ensure that the infant's head is up and above the fabric, the face is visible, and the nose and mouth are clear of obstructions.
4. Take your baby with you when you shop for the carrier so that you can match it to their size. Make sure the carrier supports their back and the leg holes are small enough that they can't possibly slip through. Look for sturdy material.
5. If you buy a backpack, the frame should be padded, so your baby won't be hurt if they bump against it. A sunshade is also a good idea to shield your baby from the sun.
6. Check the pack periodically for rips and tears in the seams and fasteners.
7. When using a baby carrier, bend at the knees, not the waist, if you need to pick something up. Otherwise, the baby may tip out of the carrier, and you may hurt your back.
8. Babies over 5 months old may become restless in the carrier, so continue to use the restraining straps. Some children will brace their feet against the frame or against your body, changing their weight distribution. You should be certain your child is seated properly before you walk.
9. Do not cook or handle hot foods or liquids while using a baby carrier, even if the baby is behind you on your back.

STROLLERS

Look for safety features and take the following precautions:

1. If you string toys across your stroller, fasten them securely so that they can't fall on the baby. Remove such toys as soon as the baby can sit or rise on all fours.
2. Strollers should have easy-to-operate brakes. Use the brake whenever stopped, and ensure your child can't reach the release lever. A brake that locks two wheels rather than just one provides an extra measure of safety.
3. Select a stroller with a wide base, to avoid tipping.
4. Children's fingers can become caught in the folding hinges of the stroller. Keep your child at a safe distance when opening and closing it. Securely lock open the stroller before putting your child in. Check that your baby's fingers cannot reach the stroller wheels.
5. Don't hang bags or other items from the handles of your stroller—they can make it tip backward. If the stroller has a basket for carrying things, be sure it is low and near the rear wheels.
6. The stroller should have a five-point harness (with straps over both shoulders and hips, and between the legs) that should be used whenever your child goes for a ride. For infants, use rolled-up baby blankets on either side of the seat if necessary to prevent slouching.
7. Never leave your child unattended in a stroller. If they fall asleep in their stroller, make sure you can always see them.
8. If you purchase a side-by-side twin stroller, the footrest should extend all the way across both sitting areas. A child's foot can become trapped between separate footrests.
9. There are also strollers that allow an older child to sit or stand in the rear. Be mindful of weight guidelines and especially careful that the child in the back doesn't become overly active and tip the stroller.



SHOPPING CART SAFETY

More than 20,000 children are treated in emergency departments for shopping-cart-related injuries each year. The most frequent kinds of injuries are contusions, abrasions, and lacerations, and most injuries are to the head or neck. Shopping-cart-related injuries can be serious enough to require hospitalization, often because of head injuries and serious fractures. Some deaths have even occurred.

Shopping carts are often unstable; it may take as little as 16 pounds (7.26 kg) of force on the handle to tip a cart. The design of shopping carts makes them tip over easily when a child is in the cart or in a car safety seat snapped onto the cart near the handle. The seats attached to the top of shopping carts or built into them won't prevent a child from falling out if they aren't properly restrained; these seats also won't prevent the cart from tipping over even if the child is restrained.

If possible, seek an alternative to placing your child in a shopping cart; consider using a stroller or baby carrier instead. If you must use a shopping

cart, make sure your child is restrained at all times. Never allow them to stand in the cart, be transported in the basket, or ride on the outside. Do not snap an infant car safety seat onto the built-in cart seat, as this can make the cart even more unstable. If one is available, use a shopping cart designed to carry children in a seat lower to the ground. Never leave a child alone in a shopping cart, even for a moment.

BICYCLES AND TRICYCLES

If you like to ride a bicycle, you'll probably consider getting a child carrier that attaches to the back of the bike. You should be aware that even with the best carrier and safety helmet, your child is at risk for serious injury. This can occur when you lose control of the bike, or if you should happen to strike or be struck by another vehicle. It is wiser to wait and enjoy bicycling together when your child is old enough to ride on their own. (Further information about child carriers can be found later in this section.)

As your child outgrows babyhood, they will want a tricycle of their own, and when they get one, they'll be exposed to a number of hazards. A child on a tricycle is low to the ground and can't be seen by motorists who are backing up. Nevertheless, riding trikes and bikes is almost an essential part of growing up. Here are some safety suggestions to help reduce the risk to your child:

1. Don't buy a tricycle until your child is physically able. Most children are ready around age 3.
2. Buy a tricycle built low to the ground with big wheels. This type is safer because it is less likely to tip over.
3. Obtain a properly fitting bicycle helmet and teach your child to use it every time they ride. The chin strap should fit snugly under their chin, and the helmet should not have excessive movement over their forehead when strapped properly. Your child should always wear closed-toe shoes to protect their toes and feet when on a tricycle or bike.
4. Tricycles should be used only in protected places. Don't allow your child to ride near automobiles, driveways, or swimming pools.

5. Do not push your child to ride a two-wheel bicycle before they are ready. Choose a bicycle that is small enough for them to put both feet on the ground comfortably, and start with training wheels if needed. Consider a bike with no pedals to help your child develop balance and muscle coordination. To protect your child from injury, they should wear an approved and appropriately fitting bicycle helmet (meeting Consumer Product Safety Commission standards, certified on the label).
6. If you're considering having your child ride as a passenger in a rear-mounted seat on an adult's bike, keep in mind that not only will they make the bike unstable, but they will also increase braking time and raise the risk of serious injury to both of you. If you must carry your child on a bike, never put them in a seat on the back of your bicycle until they're at least 1 year old. A much better choice is for your child to ride in a bicycle-towed child trailer, although trailers should not be used on roadways, as they are low and may not be seen by motorists. Children old enough (12 months to 4 years) to sit well unsupported and whose necks are strong enough to support a lightweight helmet may be carried in a rear-mounted seat, although it is not the preferred choice. *Never* carry infants in backpacks or front packs on a bike.
7. A rear-mounted seat must:
   - Be securely attached over the rear wheel
   - Have spoke guards to prevent feet and hands from being caught in the wheels
   - Have a high back and a sturdy shoulder harness and lap belt to support a sleeping child
8. A young passenger should always wear a lightweight bike helmet certified for young children, to prevent or minimize head injury.
9. The child must be strapped into the bike seat with a sturdy harness.
10. Never ride with a child on the front handlebars or place a seat there.

PLAYGROUNDS

Whether it's a backyard swing set or a more elaborate apparatus in a park, there are many positive things about playground equipment. This equipment

encourages children to test and expand their physical abilities. However, there are inevitable dangers. The risks are minimized when equipment is well designed and children are taught basic playground manners. Use the following guidelines in selecting playground equipment and sites:

1. Children under 5 should play on equipment separate from older children.
2. To prevent or mitigate injuries from falls from playground equipment, make sure there is well-maintained sand, wood chips, or rubberized matting of proper depth under swings, seesaws, and jungle gyms. On concrete or asphalt, a fall can cause serious injury to the head—even from just a few inches high.
3. Wooden structures should be made from all-weather wood, which is less likely to splinter. Examine the surfaces periodically to be sure they are smooth. Metal structures can get extremely hot in warmer months, so take a moment to check the temperature of metal equipment yourself before allowing your children on it.
4. Conduct a periodic inspection of equipment, looking especially for loose joints, open chains that could come loose, and rusted cotter pins. Be sure there are no open or S-shaped hooks or protruding pieces that could hook a child's clothing. On metal equipment, check for rusted or exposed bolts as well as sharp edges and points. At home, cover them with protective rubber. In a public playground, report the hazard to the appropriate authorities.
5. Be sure swings are made of soft and flexible material. Insist your child sit in the middle of the seat, holding on with both hands. Don't allow two children to share the same swing. Teach your child never to walk directly in front of or behind a swing while it is being used by another child. Avoid equipment in which the swings hang from overhead climbing bars.



6. Your child should always wear closed-toe shoes, as surfaces can become hot enough to cause serious burns to bare feet.
7. Be sure children on slides use the ladder instead of climbing up the sliding surface. Don't permit pushing and shoving on the ladder, and have children go up one at a time. Teach your child to leave the bottom of the slide as soon as they reach it. If a slide has been sitting in the sun, check the sliding surface to see if it's too hot to use.
8. Don't allow children under 4 to use climbing equipment taller than they are (e.g., jungle gyms) without close supervision.
9. Between the ages of 3 and 5, your child should use a seesaw only with other children of comparable age and weight. Children under 3 don't have the arm and leg coordination to use the equipment.
10. Although trampolines often are considered fun for children, about 100,000 people per year are injured on them, including backyard models. Childhood injuries have included broken bones, head injuries, neck and spinal cord injuries, sprains, and bruises. Parental supervision and protective netting aren't adequate to prevent these injuries. Between 2013 and 2017 there were approximately 96,500 trampoline-related injuries each year, resulting in about 1,120 hospitalizations annually. Children 5 years and younger have a greater

risk of injury compared with older children. The American Academy of Pediatrics strongly discourages the use of trampolines for recreational use, whether at home, a friend's house, a playground, or a routine gym class. Older children should use trampolines only in training programs for competitive sports such as gymnastics or diving, and only when supervised by a professional trained in trampoline safety.

If you do choose to have a home trampoline, take the following precautions:

- Place the trampoline on a level surface free from surrounding hazards.
- Inspect the protective padding and the net enclosure often. Replace any damaged parts. (About 20 percent of trampoline injuries are related to direct contact with the springs and frame.)
- Allow only one person on the trampoline at a time. (Most trampoline injuries occur when there are multiple jumpers, particularly younger ones.)
- Do not permit users to do somersaults or flips.
- An adult should supervise any child while they're on the trampoline and enforce the rules.
- Check your homeowner's insurance policy to make certain you are covered for trampoline-related claims. If not, a rider to the policy may be needed.

YOUR BACKYARD

Your backyard can be a safe play area for your child if you eliminate potential hazards.

1. If you don't have a fenced yard, teach your child the boundaries where they should play. They may not always follow your guidelines, so watch them very closely. Always have a responsible person supervise outdoor play, as young children may wander off or get injured. (See a description of trampoline safety on page 413.)

2. Check your yard for dangerous plants and teach your child never to pick and eat anything from a plant, no matter how good it looks, without your permission. Among preschoolers, plants are a leading cause of poisoning. If you are unsure about the plants in your yard, call the Poison Help line (1-800-222-1222) and request a list of poisonous plants common to your area. You can also see an extensive list of poisonous plants, with photos of each, at poison.org/articles/plant. If you have poisonous plants, either replace them or securely fence and lock that area of the yard.
3. If you use pesticides or herbicides on your lawn or garden, use only organic-approved products, and read and follow the instructions carefully. Don't allow children to play on a treated lawn for at least forty-eight hours.
4. Don't use a power mower to cut the lawn when young children are around. Mowers may throw sticks or stones with enough force to injure children. Never allow your child on a riding mower even when you are driving. It is safest to keep young children indoors while the lawn is being mowed.
5. When you cook food outdoors, screen the grill so that your child cannot touch it, and explain that it is hot like the stove in the kitchen. Store propane grills so that your child cannot reach the knobs. Be sure charcoal is cold before dumping it.
6. Never allow your child to play unattended near traffic or in the street, and do not allow them to cross the street by themselves, even to a waiting school bus.

WATER SAFETY

Water is one of the most dangerous hazards your child will encounter. Young children can drown in only a few inches of water, even if they've had swimming instruction. All children should learn to swim, but parents should know swimming instruction and skills do not provide "drownproofing" for children of any age. Evidence now shows that children ages 1 to 4 may be less likely to drown if they have had formal swimming instruction with a focus on water survival. Even so, because the studies are small, and because they don't define what type of lessons work best, the

American Academy of Pediatrics recommends swim lessons as a layer of protection against drowning that can begin for many children starting at age 1. A parent's decision to enroll young children in swim lessons should be based on the child's frequency of exposure to water, their emotional development, their physical abilities, and certain health concerns related to pool water infections and pool chemicals. The following can be helpful when considering swimming lessons:

1. You may be lulled into being less cautious because you think your child can swim, and children themselves may be emboldened to enter water without supervision.

WHERE WE STAND

The American Academy of Pediatrics feels strongly that parents should never—even for a moment—leave children alone near open bodies of water (lakes, swimming pools), nor near water in homes (bathtubs, spas). For backyard pools, rigid, motorized pool covers are not a substitute for four-sided fencing, since pool covers are unlikely to be used appropriately and consistently. Parents should learn CPR and keep a telephone and emergency equipment (e.g., life preservers) at poolside. Parents should stay within arm's length of young children whenever they are swimming and avoid distractions such as mobile phones.

2. Young children repeatedly immersed in water may swallow so much that they develop water intoxication. This can result in convulsions, shock, and even death.
3. Children age 4 and older can learn swimming skills more quickly than at a younger age, particularly as their motor development reaches the 5-year-old level. All children should be taught to swim once they are developmentally ready.
4. Safety training does not result in a significant increase in poolside safety skills of young children.
5. Parents who have not learned to swim should learn as well, so they can better protect their children in and around water.

Children under age 1 may participate in swimming programs with a parent as a fun, recreational activity, but because there is no evidence that programs intended to prevent drowning in infants less than 1 year are effective or safe, they should *not* be given this type of swim lessons.

When selecting a swimming program, choose a class that adheres to guidelines established by the national YMCA. Remember, even a child who knows how to swim needs to be watched constantly. Whenever your child is near water (e.g., swimming pools, ponds, beach, etc.), follow these safety rules.

1. Be aware of small bodies of water your child might encounter, such as fishponds, ditches, fountains, rain barrels, watering cans—even a 5-gallon bucket used for car washing. Empty water containers when done using them. Children are drawn to water and need constant supervision to ensure they don't fall in. Remember that bacterial and chemical contamination can render any body of water unsafe, so check advisories before allowing your child to swim anywhere.
2. Children who are swimming—even in a shallow toddler's pool—always should be watched by an adult, preferably one who knows CPR. (See Choking/CPR, page 756.) The adult should provide touch supervision, remaining within arm's reach, whenever young children and those without swimming skills are in or around water. Empty and put away inflatable pools after each play session.
3. Enforce safety rules: No running near the pool and no pushing others underwater.
4. Don't allow your child to use inflatable toys or mattresses to keep them afloat. These toys may deflate suddenly, or your child may slip off them into water that is too deep.
5. Be sure the deep and shallow ends of any pool are clearly marked. Never allow your child to dive into the shallow end.
6. If you have a home swimming pool, it should be completely surrounded with at least a 4-foot-high (1.2 m) four-sided fence that is not attached to the house. It should have a self-closing, self-latching gate that opens away from the pool. Check the gate frequently to ensure that it is in good working order. Keep the gate closed and

locked at all times. Be sure your child cannot manipulate the lock or climb the fence. No opening under the fence or between uprights should be more than 4 inches (10 cm) wide. Keep toys out of the pool area when not in use so that children are not tempted to get through the fence.

7. If your pool has a cover, remove it completely before swimming. Also, never allow your child to walk on the pool cover; water may have accumulated on it, making it as dangerous as the pool itself. Your child also could fall through and become trapped underneath. Do not use a pool cover in place of a four-sided fence because it is unlikely to be used appropriately and consistently.
8. Keep a safety ring with a rope beside the pool at all times. If possible, always have a phone at hand in the pool area, and keep emergency numbers in your contacts list.
9. Spas and hot tubs are dangerous for young children, who can easily drown or become overheated. Don't allow young children to use these facilities unless the temperature is turned down to 98 degrees Fahrenheit (36.6 degrees Celsius) and you are within arm's reach at all times. Even then, limit soaks to no more than fifteen minutes.
10. Your child should always wear a life jacket or "boat coat" when swimming or riding in boats. A life jacket fits properly if you can't lift it off over your child's head after being fastened in. For the child under age 5, particularly the non-swimmer, it also should have a flotation collar to keep the head upright and the face out of the water.
11. Adults should not drink alcohol or use sedating medications when swimming or boating. It presents a danger for them as well as children they might be supervising. Adult supervisors should know CPR and how to swim.
12. Eliminate distractions while children are in the water. Talking on the phone, working on the computer, and other tasks need to wait until children are out of and away from water. Consider assigning a "water watcher" whose sole responsibility is to keep close watch on children in or near the water, and rotate the responsibility frequently.

SAFETY AROUND ANIMALS

Children are more likely than adults to be bitten by domesticated animals, including your family pet. This is particularly true when a new baby is brought home. At such times, the pet's response should be observed carefully, and it should not be left alone with the infant. After a two-or three-week get-acquainted period, the animal may become used to the baby. However, it is always wise to be cautious when the animal is around, regardless of how much your pet seems to enjoy the relationship.

If you are getting a companion pet for your child, wait until they are mature enough to handle and care for the animal—usually around age 5 or 6. Younger children have difficulty distinguishing an animal from a toy, so they may inadvertently provoke a bite through teasing or mistreatment. Remember that you have ultimate responsibility for your child's safety around any animal, so take the following precautions:

1. Look for a pet with a gentle disposition. An older animal is often a good choice, because a puppy or kitten may bite out of sheer friskiness. Avoid older pets raised in homes without children, however.
2. Treat your pet humanely so that it will enjoy human company. Don't tie a dog on a short rope or chain. Extreme confinement may make it anxious and aggressive.
3. Never leave a young child alone with an animal. Many bites occur during periods of playful roughhousing because the child doesn't realize the animal is overexcited.
4. Teach your child not to put their face close to an animal.
5. Don't allow your child to tease your pet by pulling its tail or taking away a toy or a bone. Make sure they don't disturb the animal when it's sleeping or eating.
6. Have all pets—both dogs and cats—immunized against rabies.
7. Obey local ordinances about licensing and leashing your pet. Be sure your pet is always under your control.
8. Find out which neighbors have dogs, so your child can meet animals they're likely to encounter. Teach your child how to greet a dog: After asking the owner for permission, the child should stand still while the

dog sniffs him; then they can slowly extend their hand to pet the animal.

9. Warn your child to stay away from yards with seemingly high-strung or unfriendly dogs. Teach older children the signs of an unsafe dog: rigid body, stiff tail at "half mast," hysterical barking, crouched position, staring expression.
10. Instruct your child to stand still if approached or chased by a strange dog. Tell them not to run, ride their bicycle, kick, or make threatening gestures. Your child should face the dog and back away slowly until out of reach, while avoiding eye contact, which dogs find challenging.
11. Wild animals can carry serious diseases that may be transmitted to humans. You (and family pets) need to avoid contact with rodents and other wild animals (raccoons, skunks, foxes) that can carry diseases ranging from hantavirus to plague, toxoplasmosis to rabies. To avoid wild animal bites, notify the health department or animal control whenever you see an animal that seems sick or injured, or one acting strangely. Don't try to catch the animal or pick it up. Teach your child to avoid all undomesticated animals.

In the Community and Neighborhood

Many parents worry about keeping their child safe in and around the neighborhood. Fortunately, child abductions are rare, although they understandably get plenty of media attention when they occur. Most abductions occur when children are taken by non-custodial parents, although a smaller number of abductions by strangers do take place each year.

Here are some suggestions to help keep your child safe:

- When shopping with your child, always keep an eye on them. They can move quickly in and out of sight in an instant. You might encourage your child to hold on to your hand whenever you're out.
- When choosing a preschool, ask about safety issues. Make sure a policy exists where your child is picked up only by a parent or another designated person.

- Although your child should always be supervised by a trusted adult, it is still important to teach them to never get into a car or go along with someone unfamiliar. If a stranger tells them something like "There's a lost puppy in my car; come into the car for a minute and see if you know it," they should emphatically say no. In fact, they should run away as fast as possible from dangers like this and yell very loudly, and find a trusted adult in any situation where they feel threatened.
- When hiring babysitters, always check references and/or ask for recommendations from friends and family members.
- For more information, contact the National Center for Missing & Exploited Children (1-800-843-5678; missingkids.com).

When planning ways to keep your child safe, remember they are constantly changing. Strategies that protect them from danger when they're 1 year old may no longer be adequate as they grow and become stronger, more curious, and more confident. Review your family's home and habits often to ensure your safeguards remain appropriate for your child's age, and balance supervision with opportunities for them to learn and play independently.

Part Two

CHAPTER 19

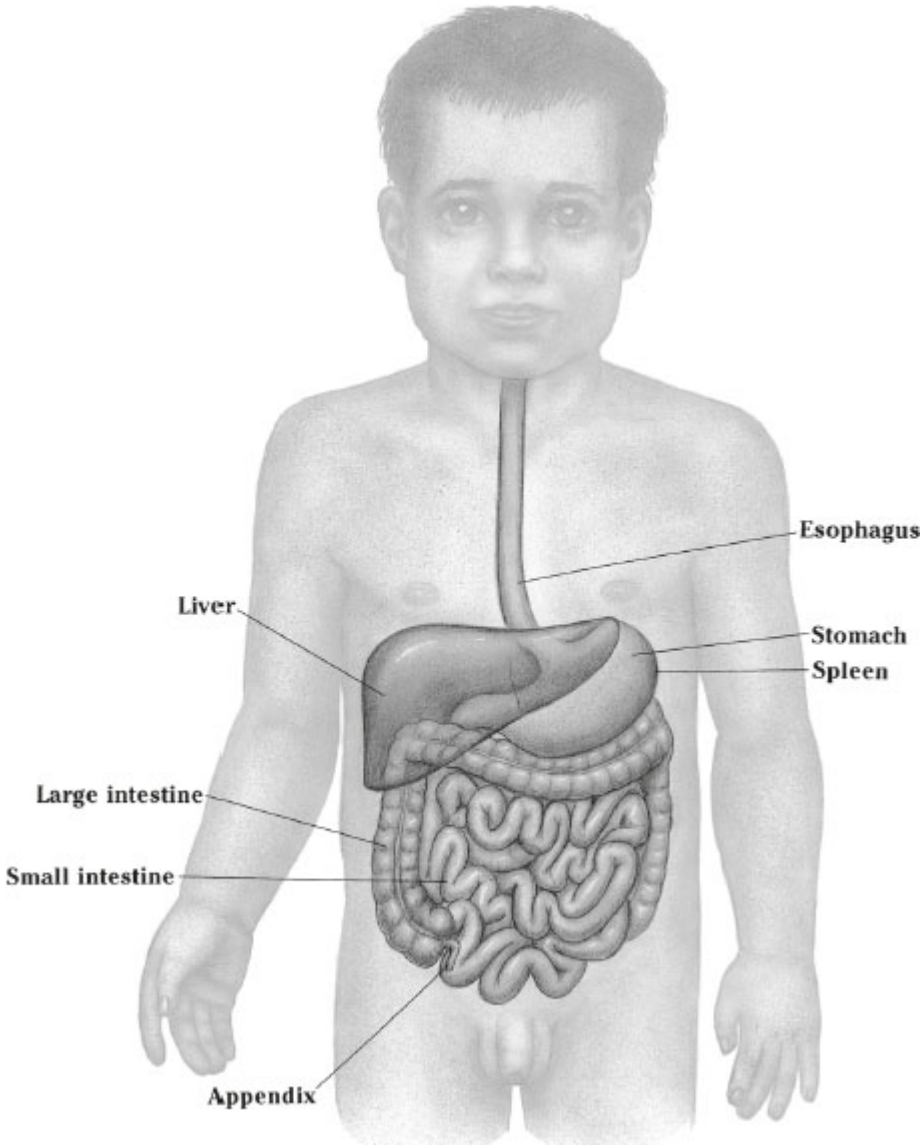
Abdominal/Gastrointestinal Tract

Abdominal Pain

Children of all ages experience abdominal pain occasionally, but the causes of such pain in infants tend to be quite different from what they are in older children. Children of different age groups also react to pain differently. An older child may rub their abdomen and tell you they're having a "bellyache" or "tummyache," while a very young infant will show their distress by crying and pulling up their legs. Vomiting or excessive burping also may accompany crying in babies with abdominal pain.

Fortunately, most stomachaches disappear on their own and are not serious. However, if your child's complaints continue or worsen over a period of three to five hours, or if they have a fever, severe sore throat, or extreme and sustained change in appetite or energy level, you should notify your pediatrician immediately. These symptoms may indicate a more serious disorder.

In this section, you'll find descriptions of problems that lead to abdominal pain in children, from colic to intestinal infections. Also, because some causes of abdominal pain occur predominantly in older children rather than infants, a separate portion is devoted to those disorders (like constipation). You'll be referred to other sections of this chapter as well as other chapters in the book for more detailed descriptions of some of these disorders.



Abdominal/gastrointestinal tract

ABDOMINAL PAIN IN INFANTS

COLIC usually occurs in infants between the ages of 10 days and 3 months of age and typically improves after three months, resolving by 1 year of age at the latest. While no one knows exactly what causes it, colic certainly looks like abdominal discomfort. The discomfort often is more severe in the late afternoon and early evening, and may be accompanied by inconsolable crying, pulling up of the legs, frequent passage of gas, and general irritability. You can try a variety of approaches to colic, which might include rocking your baby, walking with them in a baby carrier, swaddling them in a blanket,

or giving them a pacifier. Some probiotic supplements have shown promise in easing colic symptoms, but so far, no medication or supplement has proven it can help colic symptoms. (For more information about colic, see page 108 in Chapter 5, *Your Baby's First Month.*)

INTUSSUSCEPTION is a rare condition that may cause abdominal pain in young infants. Intussusception is the most common abdominal emergency in children under age 2. This problem occurs when one part of the intestine slides inside another and becomes trapped, creating a blockage that causes severe pain. The child will intermittently and abruptly cry and pull their legs toward their stomach. This will be followed by periods without stomach pain and often without any distress. These children also may vomit and have dark, mucus-filled, bloody stools that often look like currant jelly. The pain is frequently severe, with periods of screaming followed by periods of quiet or even periods of lethargy.

It is important to recognize this cause of abdominal pain and to talk to your pediatrician immediately. They will want to see your child and perhaps order an ultrasound or an X-ray called an air contrast or barium enema. Sometimes doing this test not only enables the diagnosis but also unblocks the intestine. If the enema does not unblock the intestine, an emergency operation may be necessary to correct the problem.

VIRAL OR BACTERIAL INFECTIONS of the intestine (gastroenteritis) are usually associated with diarrhea and/or vomiting. On-and-off abdominal pain is often also present. Most cases are viral, require only hydration and supportive care, and will resolve on their own within several days to a week; the pain itself generally lasts one or two days and then disappears. One exception is an infection caused by the *Giardia lamblia* parasite. This infestation may produce periodic recurrent pain not localized to any one part of the abdomen. The pain may persist for weeks or months and can lead to a marked loss of appetite and weight. Treatment with appropriate medication can cure this parasitic infection and the abdominal pain that accompanies it. (For more information, see *Diarrhea,* page 435, and *Vomiting,* page 451.)

ABDOMINAL PAIN IN OLDER CHILDREN

APPENDICITIS is rare in children under age 3 and uncommon under the age of 5. When it does occur, the first sign is often a complaint of constant stomachache in the center of the abdomen, and later the pain moves down and over to the lower right side. (See *Appendicitis,* page 427, for more detailed information.) Children with appendicitis typically stop eating and won't want to eat their favorite food if offered. They may prefer to lie very still, as moving may make the pain worse. An easy home test to check if it might be appendicitis is to see if they can jump up and down. If bouncing or jumping is easy, it is less likely to be appendicitis.

CONSTIPATION often is blamed for abdominal pain, and while it's rarely a problem in younger infants, it's a common cause of pain in older children, especially when pain is in the lower or central part of the abdomen. When a child's diet lacks plenty of fluids, fresh fruits and vegetables, and whole grains rich in fiber, stooling problems are more likely to occur. (For more information, talk to your pediatrician, and see *Constipation* on page 429.)

EMOTIONAL UPSET in school-age children sometimes causes recurrent abdominal pain that has no other obvious cause. Although this pain rarely occurs before age 5, it can happen to a younger child who is under unusual stress or who has experienced a traumatic life event. The first clue is pain that tends to come and go over a period of more than a week, often associated with activity that is stressful or unpleasant. In addition, there are no other associated findings or complaints (fever, vomiting, diarrhea, coughing, lethargy or weakness, urinary tract symptoms, sore throat, or flu-like symptoms). There also may be a family history of this type of illness. Finally, your child probably will act either quieter or noisier than usual and have trouble expressing their thoughts or feelings. If this type of behavior occurs with your child, find out if there's something troubling them at home or school or with siblings, relatives, or friends. Have they recently lost a close friend or a pet? Has there been a death of a family member, or the divorce or separation of their parents? Have they entered foster care or moved in with extended family?

Your pediatrician can suggest ways to help your child talk about their stressors or changes in their life. They may recommend maintaining routines, spending quiet time together when your child can talk about their feelings, and informing teachers and other caretakers about the issues at hand. The AAP offers a variety of resources to help children deal with stressful situations. If you need additional assistance, the pediatrician may refer you to a child therapist, psychologist, or psychiatrist.

LEAD POISONING most often occurs in toddlers living in an older house or attending daycare in an older building (built before the mid-1970s) where lead-based paint has been used. Children in this age group may eat small chips of paint. The lead is then stored in their bodies and can create many serious health problems. Parents also should be aware of toys, dishes, decorations, or other products with unacceptable lead content. (Recalls are posted on the US Consumer Product Safety Commission website at cpsc.gov.) Symptoms of lead poisoning include not only abdominal pain, but also constipation, irritability (the child is fussy, crying, difficult to satisfy), lethargy (they are sleepy, don't want to play, have a poor appetite), and seizures. If your child is exposed to lead paint, has eaten paint chips, has been exposed to toys with cracking, peeling, or chipping paint, and has any of the above symptoms, call your pediatrician. They can order a blood test for lead and advise you as to what else needs to be done. For all children, it is a good idea to be tested for lead as early as 9 to 12 months of age, as often there are no symptoms, especially in young infants. (See *Lead Poisoning,* page 592.)

MILK ALLERGY is a reaction to the protein in milk, usually in younger infants, and can produce cramping abdominal pain, often accompanied by vomiting, diarrhea, blood in the stool, and skin rash.

RENAL COLIC is severe pain related to the kidney. It is usually caused by some type of clog or blockage preventing proper urine drainage from the kidney, where urine is produced, down to the bladder. Usually renal colic causes back, side, and/or lower abdominal pain. The pain is usually severe and can cause nausea and vomiting. It could be caused by a structural abnormality

your child was born with or by other causes, like kidney stones. If renal colic is suspected, a renal ultrasound can be performed to see if there is evidence that the kidney is not draining properly (called hydronephrosis). For more information, see *Hydronephrosis* and *Kidney Stones* in Chapter 31.

STREP THROAT is a throat infection caused by bacteria called streptococci, or strep. It occurs frequently in children over 2 years of age. The symptoms and signs include a sore throat, fever, a sandpaper-like rash, and sometimes abdominal pain. Children can also get perianal strep, which is a strep infection around their anus. This can cause pain, constipation (because they don't want to stool), and abdominal pain as well. Your pediatrician can examine your child for either type of infection and may swab your child's throat or anus to check for the bacteria. If the results are positive for strep, your child will need to be treated with an antibiotic. (See *Sore Throat [Strep Throat, Tonsillitis],* page 552.)

TESTICULAR TORSION can occur in boys of all ages. This is a rare but serious event where the testicle twists and cuts off its own blood supply. Even though this condition usually causes testicular pain, younger boys may complain of abdominal pain first. You may notice swelling or firmness in the scrotum on one side or both with this. If testicular torsion is suspected, your child should be seen in the emergency department immediately. For more information, see *Testicular Torsion* in Chapter 31.

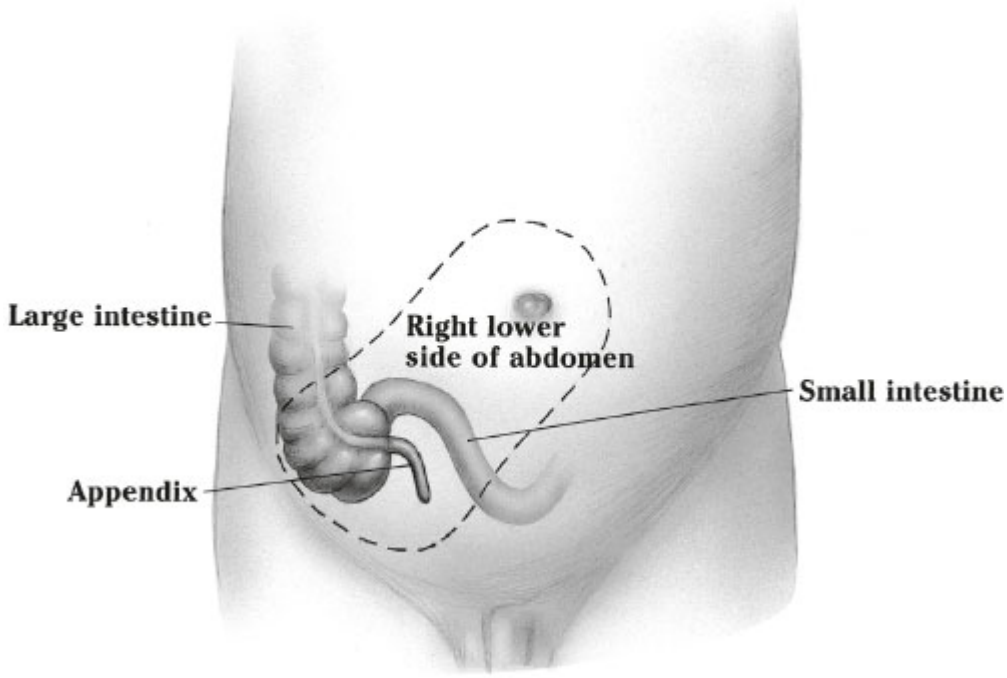
URINARY TRACT INFECTIONS (UTIS) are much more common in 1- to 5-year-old girls than in younger children. UTIs may produce pain in the lower abdomen (the bladder area) but are also usually associated with pain and burning when urinating. Children with UTIs typically urinate small volumes and more frequently, have blood in their urine or have urinary accidents, and may or may not have a fever. If your child complains of these symptoms, take them to the pediatrician, who will examine them and check their urine. Both a urinalysis and urine culture should be obtained to confirm a UTI. If an infection is present, an antibiotic will be prescribed, which will eliminate both the infection and the abdominal pain. (See *Urinary Tract Infections,* page 650.)

Appendicitis

The appendix is a narrow, finger-shaped, hollow structure attached to the large intestine. The appendix may serve a function in maintaining gut health, but it can also cause serious problems when it becomes inflamed. Because of its location, this can happen quite easily; for instance, a piece of food or stool can get trapped inside, causing the appendix to swell and become inflamed and infected. This is called appendicitis. It is most common in children over the age of 6 but can occur in younger children. Once infected, the child must be hospitalized. Treatment commonly includes antibiotics, IV fluids, and often surgery. If surgery is needed, the appendix will be removed. Otherwise, it may burst, allowing the infection to spread within the abdomen. Since this problem is potentially life-threatening if left untreated, it's important to know the symptoms of appendicitis so that you can tell your pediatrician at the first sign of trouble. In typical order of appearance, the symptoms are:

1. *Abdominal pain.* This usually is the first complaint the child will have. With infants it may present as crying and the inability to get comfortable in any position. Almost always, the pain is felt first around the belly button (periumbilical), and then may intensify in the lower right side. Sometimes, if the appendix is not located in the usual position, the discomfort may occur elsewhere in the abdomen or in the back, or there may be urinary symptoms, such as increased frequency or burning. Even when the appendix lies in its normal position and the pain is in the right lower abdomen, it may irritate one of the muscles that leads toward the leg, causing the child to limp or walk bent over.
2. *Vomiting.* After several hours of pain, vomiting may occur. It is important to remember that a stomachache usually comes before the vomiting with appendicitis, not after vomiting. Abdominal pain that follows vomiting is very commonly seen in viral stomach infections such as gastroenteritis.
3. *Loss of appetite.* The absence of hunger occurs shortly after the onset of the pain.

4. *Fever.* Fever can vary but is often around 101 or 102 degrees Fahrenheit (approximately 38 or 39 degrees Celsius). If the appendix ruptures (breaks open), fever can be higher.



Unfortunately, the symptoms associated with appendicitis sometimes may be hidden by a viral or bacterial infection that preceded it. Diarrhea, nausea, vomiting, and fever may appear before the typical pain of appendicitis, making the diagnosis much more difficult.

Also, your child's discomfort may suddenly vanish, thus persuading you that all is well. Unfortunately, this disappearance of pain also could mean that the appendix has just burst or ruptured. Although the pain may leave for several hours, this is exactly when appendicitis becomes dangerous. The infection will spread to the rest of the abdomen, causing your child to become much more ill, develop a higher fever, and require hospitalization for surgery and intravenous antibiotics.

TREATMENT

Detecting the signs of appendicitis is not always easy, particularly with children under the age of 3, who cannot tell you where it hurts or that the pain is moving to the right side. This is why it's better to act sooner rather than later if you have any suspicion that your child's pain or discomfort seems different, more severe than usual, or out of the ordinary. While most children with abdominal pain don't have appendicitis, only a physician should diagnose this serious problem. If the abdominal pain persists for more than an hour or two, and if your child also has nausea, vomiting, loss of appetite, and fever, notify your pediatrician immediately. If the doctor is not certain that the problem is appendicitis, they may decide to observe your child closely for several hours, either in or out of the hospital. During this time, they will perform additional tests or examinations to see if more conclusive signs develop. If there is a strong probability of appendicitis, the child will be hospitalized, further studies will be done, and any necessary treatment will be administered, which may include IV fluids, antibiotics, or surgery.

Celiac Disease

Celiac disease is a problem that causes malabsorption—that is, a failure of the bowels to absorb nutrients. It tends to run in families and is caused by an abnormal immune reaction to gluten (the protein found in wheat, rye, and barley—and sometimes oats, which can be contaminated with gluten) that takes place in the intestine and stimulates the body's immune system to attack and damage the lining of the intestine, preventing nutrients from being absorbed into the system. As a result, food simply passes through the intestines, only partially digested. The result may be crampy abdominal pain, foul-smelling stools, diarrhea, weight loss, irritability, and a continuous feeling of being sick. It can also cause constipation or diarrhea, skin rashes, poor dental enamel, and growth concerns. In many cases, however, there may be no symptoms at all with celiac disease.

TREATMENT

Once your pediatrician suspects celiac disease, they'll order certain blood tests that can be used to screen for it. However, to make a definitive

diagnosis, your pediatrician will refer your child to a pediatric gastroenterologist. This specialist will do a small-bowel biopsy, which entails using an endoscope inserted down the throat to remove a very tiny piece of the intestine for laboratory examination.

If the intestinal lining turns out to be damaged in a way that is suggestive of celiac disease, the doctor will recommend feeding your child a gluten-free diet. This means staying away from wheat, rye, barley, and contaminated oat products. Your pediatrician or gastroenterologist will give you a complete list of foods to avoid, but you also need to carefully check the labels of any foods you purchase, since wheat flour is a hidden ingredient in many items. Because rice and rice products do not contain gluten, they'll probably become a major part of your child's diet. The number of gluten-free products in the grocery stores continues to increase, and some restaurants even have gluten-free menus. Consultation with a dietitian is recommended, as the diet is very strict and must be followed exactly.

Some parents ask if they can just try a gluten-free diet without doing diagnostic testing. This is not recommended for several reasons. First, as stated before, the gluten-free diet in celiac disease is very strict. Few families can adhere rigidly enough to the diet without confidence that the diagnosis is correct. Second, it may take months for symptoms to completely resolve in a patient with celiac disease on a gluten-free diet. Finally, the gluten-free diet will cause both the serum and tissue markers of celiac disease to disappear, making it impossible to diagnose the disease accurately without putting your child back on a gluten-containing diet for several months.

Incidentally, your child may not be able to tolerate the sugar in milk (lactose) for as long as several months after the initial diagnosis is made. In this case, you may be advised to eliminate milk temporarily, as well as gluten products, from their diet. During this time, they might be given milk treated with enzymes to eliminate the lactose (such as lactose-free milk). Extra vitamins and minerals also might be necessary.

If your child does have celiac disease, they must remain on a gluten-free diet for their entire life, completely avoiding wheat, rye, barley, and contaminated oat products. Luckily, this is easier to do now than it was years ago due to the many gluten-free products and recipes available.

(See also *Diarrhea,* page 435; *Malabsorption,* page 449; *Anemia,* page 665.)

Constipation

Bowel patterns vary in children just as they do in adults. Because of this, it is sometimes difficult to tell if your child is truly constipated. One child may go two or three days without a bowel movement and still not be constipated, while another might have relatively frequent bowel movements but have difficulty passing the stool. Or a child's constipation may go unnoticed if they pass a small stool each day, while a buildup of stool develops in their colon. In general, it is best to watch for the following signals if you suspect constipation:

- In a newborn, firm stools less than once a day, though this can be normal in some exclusively breastfed infants (some breastfed babies will stool only once a week)
- In an older child, stools that are hard and compact, with three or four days between bowel movements
- At any age, stools that are large, hard, and dry ("rabbit pellets") and associated with painful bowel movements (see *Is My Child Constipated?,* below)
- Episodes of abdominal pain relieved after having a large bowel movement
- Blood in or on the outside of the stools
- Soiling between bowel movements

Constipation can occur for several possible reasons, including: inadequate fluid intake, not enough dietary fiber, withholding stool, and poor muscle coordination of the pelvic muscles (if the muscles at the end of the large intestine tighten, preventing the stool from passing normally), and, less likely, from celiac or thyroid disease. The longer the stool remains there, the firmer and drier it becomes, making it even more difficult to pass without discomfort. Then, because the bowel movement is painful, your child may actively try to hold it in, making the problem still worse.

The tendency toward constipation seems to run in families. It may start in infancy and remain as a lifetime pattern, becoming worse if the child does not establish regular bowel habits or withholds stool. Stool retention occurs most commonly between the ages of 2 and 5, at a time when the child is coming to terms with independence, control, and toilet training. Older children may resist having bowel movements away from home because they don't want to use an unfamiliar toilet. This, too, can cause constipation or make it worse.

If your child does withhold, they may produce such large stools that their rectum stretches. Then they may no longer feel the urge to defecate until the stool is too big to be passed without the help of an enema, a laxative, or another treatment. When the rectum stretches, it can also cause problems with urination like urinary leakage, pain with urination, or the inability to pass urine, because the rectum sits near the bladder. In some of these cases, soiling occurs when liquid waste leaks around the solid stool. This looks like diarrhea or soiling on the child's underpants or diaper. In these severe cases, the rectum must be emptied under a physician's supervision, and the child must be retrained to establish normal bowel patterns. Consulting a pediatric gastroenterologist may be necessary.

IS MY CHILD CONSTIPATED?

The following descriptions of stool consistency can help you gauge whether your child is constipated:

Type 1: Painful, very thick, dense, heavy rocks/pebbles/pellets, hard to push out
Type 2: Hard to push out initially, clumped-together pebbles
Type 3: Soft and easy to push out in log shapes
Type 4: Super-soft, semi-solid, comes out easily and/or explosively
Type 5: Liquid, runs out, hard to control

Source: Used with permission from Tanya Altmann, *Baby & Toddler Basics* (Itasca, IL: American Academy of Pediatrics, 2023).

TREATMENT

Mild or occasional episodes of constipation may be helped by the following suggestions.

Constipation due to breast milk is unusual, unless your supply has decreased or your baby is also eating solid food, but if your breastfed infant is constipated, it is probably due to a reason other than diet. Consult your doctor before substituting formula for breast milk. (Keep in mind that the American Academy of Pediatrics recommends breastfeeding and avoiding cow's milk for the first 12 months after birth.)

For infants, ask your pediatrician about giving small amounts of water or prune juice. In addition, for infants older than 6 months, fruits (especially prunes and pears) can often help resolve constipation.

For a toddler or older child who is eating solid foods and has problems with constipation, you may need to add high-fiber foods to their daily diet. These include prunes, apricots, plums, raisins, high-fiber vegetables (peas, beans, broccoli), and whole-grain cereals and bread products. At the same time, cut back on junk food and on cereals or breads that are not high in fiber. Increasing the daily water intake also may help.

In more severe cases, your pediatrician—alone or in consultation with a pediatric gastroenterologist—may prescribe a stool softener, stimulant laxative, or enema. Follow such prescriptions exactly. Although some newer softeners are sold over the counter and are simpler to use than these products used to be, never give your child a stool-loosening medication without first consulting with your child's doctor.

For all children, having their feet flat on the floor or on a stepstool or other flat surface while on the toilet is ideal to promote ease of pushing stool out. This way, they can use their abdominal muscles to push, rather than to help them balance on the toilet. If your child is constipated and relearning to go to the bathroom normally, it may be helpful to have them sit on the toilet ten minutes after a meal, without distraction, for five minutes or so, to reacquaint them with the feeling of needing to push poop out.

PREVENTION

Parents should become familiar with their children's normal bowel patterns and the typical size and consistency of their stools. Doing this is helpful in determining when constipation occurs and how severe the problem is. If the child does not have regular bowel movements each day or two, or is uncomfortable when they are passed, they may need help in developing

proper bowel habits. This may be done by providing a proper diet and establishing a regular bowel routine.

In a child who is not yet toilet trained, the best way to guard against constipation is to provide a high-fiber diet. Increase the fiber as they get older. A child should eat at a minimum their age plus five in grams of fiber. For example, a 3-year-old should eat at least 8 grams of fiber per day. To help reach that target, choose grains (cereals, crackers, breads, tortillas, pastas) that have at least 3 grams of fiber per serving. Make sure your child is getting five servings of fruits and vegetables each day. Read product labels for fiber content before choosing which items to serve your family.

Once the child is mature enough to be toilet trained, urge them to sit on the toilet every day, preferably after a meal. A book, puzzle, or toy can occupy them during this time so that they feel relaxed. Encourage them to stay on the toilet until they have a bowel movement, or for about five to ten minutes. Praise them if they are successful; if they are not, encourage them with positive statements. Eventually they should be able to use the toilet themselves without parental guidance.

If the combination of a high-fiber diet, increases in fluid in the diet, and a daily toilet routine does not result in regular bowel movements, the child may consciously be withholding stool. In this case, you should consult your pediatrician, who may suggest an individualized approach to resolve the problem (every child's condition is unique). Your doctor can supervise the use of stool softeners, laxatives, or suppositories should they be necessary. Occasionally stool withholding becomes so severe that both the child and the family become upset by the symptoms and many of each day's interactions focus on bowel movements. Programs have been devised to deal effectively with this problem.

Usually, the withholding begins around the time of toilet training. The child is reluctant to move their bowels on the toilet and withholds. The next bowel movement is painful. The child associates pain with bowel movements and now withholds stool because of this. The situation can progress to an all-consuming fear. When such severe symptoms develop, the rectum must be cleansed with enemas, or medications including laxatives and stool softeners need to be given orally. In some cases, rectal suppositories are also used. Following this, a stool softener is given on a

regular basis in amounts large enough to prevent the child from voluntarily withholding stool. Because the bowel movements are now no longer painful, the child will start to go on the toilet without fear. This treatment may go on for several months while the laxative is slowly withdrawn. Regular toileting and a diet high in fiber and fluids are also part of the routine.

Diabetes Mellitus

Type 1 diabetes occurs when specialized cells of the pancreas (a gland located behind the stomach) do not produce adequate amounts of the hormone insulin. Insulin enables the body to process the nutrients (proteins, fat, and carbohydrates) to make body tissues, promote growth, produce energy, and store energy. These nutrients are broken down into glucose, a type of sugar used by the cells of the body as a source of energy. Glucose is fuel for the body to use. Insulin is needed to transport glucose from the bloodstream into the cells, providing cells with the energy they depend on; insulin maintains blood sugar levels within a tight range.

People with type 1 diabetes have a reduced supply of insulin or none at all. Therefore, when a person with type 1 diabetes eats, their blood glucose levels rise (hyperglycemia) and their body does not produce normal amounts of insulin to combat the rise in glucose. Without insulin, the nutrients in the food cannot be used by the cells but remain in the bloodstream. When cells don't receive the energy source they need, they act as if they are starving, and the liver in turn is prompted to make sugar from the body stores of protein and fat, which also cannot be used without insulin. This leads to weight loss and weakness because muscle and fat are being broken down and the body is not getting the energy it needs.

Normally the kidneys remove glucose from waste water (urine) before it is excreted from the body. In patients with diabetes, however, the kidneys become overwhelmed, and excess glucose leaks into the urine, bringing more water with it. This is why people who have diabetes urinate more frequently and can become very thirsty as they try to replace the fluid loss. Without insulin, the body tries to get energy from stored fat. The fat is broken down to certain kinds of acids that are converted to ketones, which also are excreted in the urine.

Currently, there is no way to prevent type 1 diabetes. There is a genetic predisposition to developing type 1 diabetes, but only about 30 percent of children with type 1 diabetes have any close relatives with the disease. The destruction of the cells that make insulin results from a process in which the body's immune system views these cells as foreign invaders and mounts an immune response against them. This autoimmune process starts months to years before the first symptoms of diabetes show up. The trigger for this process is unknown, although in rare cases certain viruses or other environmental factors have been implicated. Although clinical research trials are exploring these links, currently there is no known way to prevent the autoimmune response.

In *type 2 diabetes,* the body does not use insulin properly (known as insulin resistance) nor produce enough insulin to make up for the extra insulin it needs. Type 2 diabetes was once considered a disease that only adults had to worry about (indeed, the condition was once called "adult-onset diabetes"). Today, type 2 diabetes in young children and adolescents is closely associated with obesity and is increasing in children as rates of obesity grow. Among children diagnosed with type 2 diabetes, 85 out of 100 have obesity, and in the United States almost none have normal weight. Children who have overweight, are less active, have less opportunity to eat fresh foods, and have a family history of diabetes are at the greatest risk of developing type 2 diabetes. Children in minoritized groups also have a higher incidence of type 2 diabetes. According to the American Diabetes Association, an estimated 2 million children have pre-diabetes, which is a collection of risk factors that often leads to type 2 diabetes.

Type 1 diabetes can appear at any age, although it most commonly appears in school-age children. Unfortunately, the diagnosis often is delayed in infants and toddlers until the child is very sick, because the symptoms may be attributed to other illnesses. Type 2 diabetes more commonly appears in older children and teens. It is important to notify your pediatrician immediately if your child displays any of the following warning signs and symptoms of diabetes:

- Increased or frequent urination. A toilet-trained child may start bed-wetting, or a baby in diapers will need more frequent changes.

- Increased thirst (due to the increased or frequent urination)
- Weight loss with either increased appetite and food intake or marked persistent loss of appetite (more common in younger children)
- Dehydration (see page 438 for signs)
- Unexplained tiredness or fatigue
- Persistent vomiting, particularly if it is accompanied by weakness or drowsiness
- Blurred vision
- Breath that smells like overripe fruit or nail polish remover

If your child goes to the doctor with any suspicious symptoms, be sure that a urine or blood test is done to determine whether their glucose levels are too high. This simple test will provide a clue to diabetes and prevent your child from becoming more ill.

TREATMENT

When blood tests confirm diabetes, treatment begins immediately. A child with type 1 diabetes requires insulin injections, whereas an oral medication is sometimes effective for type 2 diabetes. When the child does not require intravenous fluids to correct dehydration and vomiting, many specialists do not recommend hospitalization, but provide outpatient family diabetes education and care with frequent office visits.

A healthcare team that specializes in diabetes will teach the entire family how to manage diabetes. Members of the healthcare team include a physician (usually with advanced training in the care of youth with diabetes), a nurse educator, a dietitian, and a social worker, who all work together to educate the family. With type 1 diabetes you'll learn how to test blood glucose levels from a drop of blood from a finger stick and how to give insulin injections. You will learn about food, planning meals and snacks, healthy sleep, and activity and exercise. Your team will help determine how many insulin injections your child may need to control their blood sugars and successfully manage their diabetes. Eventually, your child will likely transition to receiving insulin by means of a portable pump and glucose monitoring by a continuous wearable glucose monitor; this is more

flexible than the standard injections and frequent finger pokes to test blood glucose. Newer pumps that deliver insulin and also measure blood glucose are under development. Parents should learn as much as possible about the care and management of their child's diabetes.

Having children participate as much as possible in their diabetes management gives them some measure of control. For example, a child under age 3 might choose which finger to stick for blood sugar tests or choose which place to use for the insulin injection, then gradually learn how to do their own blood glucose testing and insulin shots (or insulin pump care) as they get older.

Childcare and school personnel need to know about your child's diabetes, their insulin and testing schedule, and their snack needs. They need to be able to recognize and treat hypoglycemia (low blood sugar). They also need to know how to test blood sugar levels and have guidelines for giving insulin and testing for urine ketones. They should always have the parent's emergency phone number on hand. Most diabetes education teams have a school packet and will help you communicate with school or daycare personnel. To learn more about type 1 diabetes, contact the Juvenile Diabetes Research Foundation (jdrf.org; 1-800-533-2873) and the American Diabetes Association (diabetes.org; 1-800-342-2383).

Diarrhea

Normally your child's bowel movements will vary in number, color, and consistency, depending on their age and diet. Breastfed newborns may have up to twelve small bowel movements a day, but by the second or third month, they may have some days without passing any stool. By age 2, most children will have only one or two large bowel movements a day, but your child can have several smaller ones and still be normal, especially if their diet includes juices or fiber-containing foods, such as prunes or bran.

An occasional loose stool is not cause for alarm. If, however, your child's bowel pattern suddenly changes to loose, watery stools that occur more frequently than usual, they have diarrhea.

Diarrhea often occurs when the inner lining of the intestine is injured. The stools become loose because the intestine does not properly digest or

absorb the nutrients from the foods that your child eats and drinks. Also, the injured lining tends to leak fluid. Minerals and salt are lost along with the fluid. This loss can be made even worse if your child is fed food or beverages that contain large amounts of sugar, such as fruit juice or sweetened beverages, since unabsorbed sugar draws even more water into the intestine, increasing the diarrhea.

CAUSES OF DIARRHEA

In young children, the intestinal damage that produces diarrhea is caused most often by viruses such as norovirus and rotavirus. Such viruses are easily transmitted from person to person, so it is very important that your family practices excellent handwashing if a member of the house has a diarrheal illness. Diarrhea caused by bacteria and parasitic infections has decreased in frequency as a result of improvements in public health such as clean drinking water and proper disposal of sewage. Other causes of diarrhea are:

- Food poisoning (from things such as mushrooms, shellfish, or contaminated food)
- Side effects of antibiotics and other oral medications
- Food or milk allergy
- Drinking excessive amounts of fruit juice
- Overflow constipation (when loose stool leaks around an area of constipation)

When a child has diarrhea, the body may lose too much salt and water, leading to dehydration. This can be prevented by replenishing losses due to the diarrhea with adequate amounts of fluid and salt, as described under *Treatment* (page 436).

The medical term for intestinal inflammation is "enteritis." When the problem is accompanied by or preceded by vomiting, as it often is, there is usually some small-intestine inflammation as well, and the condition is called "gastroenteritis."

The causes of diarrhea are described in the box *Causes of Diarrhea* (page 435) and include viral or bacterial infections of the intestine. Children with viral diarrheal illnesses often have symptoms such as vomiting, fever, and irritability. (See *Vomiting,* page 451; Chapter 30, *Fever*.) Their stools tend to be more greenish yellow in color and have a significant amount of water with them. (If they occur very frequently, they may not have any solid stool at all.) If the stools appear red or blackish, they might contain blood; this

bleeding may arise from the injured lining of the intestine or, more likely, simply may be due to irritation of the rectum by frequent, loose bowel movements. In any event, if you notice blood or any other unusual stool color, you should notify your pediatrician.

A rotavirus vaccine is now given routinely to infants starting at 2 months of age. This is a liquid vaccine that is given by mouth in your pediatrician's office. Infants are given the vaccine in a two-or three-dose regimen (depending on the formulation) at 2 months, 4 months, and (if the three-dose regimen is used) 6 months of age. It is very good at preventing diarrhea and vomiting caused by rotavirus. Almost all babies who get rotavirus vaccine will be protected from severe rotavirus diarrhea. However, this vaccine will not prevent diarrhea or vomiting caused by other infections.

TREATMENT

There are no effective medications for treating viral intestinal infections, which cause most cases of diarrhea in infants. The most important treatment of a young child with vomiting or diarrhea is to keep them adequately hydrated with breast milk, formula, electrolyte solution, or other fluids recommended by your pediatrician. Prescription medications should be used only to treat certain types of bacterial or parasitic intestinal infections, which are much less common in the United States and other developed nations. When such infections are suspected, your pediatrician will ask for stool specimens to be tested in the laboratory; other tests also may be done.

Some studies indicate that probiotics may be beneficial for certain causes of infectious diarrhea and may shorten the duration if started early and given daily. These dietary supplements are believed to help with the digestive process, as well as allergies and vaginal infections, and preventing some illnesses. Other studies, however, have shown no benefit, and confusion remains about what dose and which organisms might help. (See *Probiotics and Prebiotics,* page 441.)

Over-the-counter antidiarrheal medications are not recommended for children. They often worsen the intestinal injury and cause the fluid and salt to remain within the intestine instead of being absorbed. With these medications, your child can become dehydrated without your being aware of

it, because the diarrhea appears to stop. Always consult your pediatrician before giving your child any medication for diarrhea.

MILD DIARRHEA

If your child has a small amount of diarrhea but is not dehydrated (see the box on page 438 for signs of dehydration), does not have a high fever, and is active and hungry, you may not need to change their diet.

If your child has mild diarrhea and is vomiting, substitute a commercially available electrolyte solution for their normal diet. Your pediatrician will recommend that these solutions be given in small amounts frequently, to maintain normal body water and salt levels, until the vomiting has stopped. In most cases, they're needed for only one to two days. Once the vomiting has subsided, gradually restart the normal diet.

SIGNIFICANT DIARRHEA

If your child has a watery bowel movement every one to two hours, or more frequently, and/or has signs of dehydration (see the box on page 438), consult their pediatrician. They may advise you to avoid liquids that are high in sugar (Jell-O, soft drinks, full-strength fruit juices, or artificially sweetened beverages), high in salt (packaged broth), or very low in salt (water and tea). If you are breastfeeding, they will probably have you continue, but in other cases they may recommend only prepared electrolyte solutions, which contain the ideal balance of salt and minerals. (See the table *Estimated Amount of Fluid Children Should Drink Daily* on page 439.)

Remember, if your child has diarrhea, keeping them hydrated is very important. If they show any signs of dehydration (such as decreased wet diapers, no tears, sunken eyes, or sunken fontanelle [soft spot]), call your pediatrician right away and withhold all foods and milk beverages until they give you further instructions. Also contact your doctor if your child looks sick and the symptoms aren't improving with time. *Take your child to the pediatrician or nearest emergency department immediately if you think they are moderately to severely dehydrated.* In the meantime, give your child a commercially prepared electrolyte solution.

For moderate or severe dehydration, hospitalization is sometimes necessary so that your child can be rehydrated intravenously. In milder

cases, all that may be necessary is to give your child an electrolyte replacement solution according to your pediatrician's directions. The table on page 439 indicates the approximate amount of this solution to be used.

Exclusively breastfed babies are less likely to develop severe diarrhea. If a breastfed infant does develop diarrhea, generally you can continue breastfeeding, giving additional electrolyte solution if your doctor feels this is necessary. Many breastfed babies can continue to stay hydrated with frequent breastfeeding alone.

Once diarrhea is decreasing and your child wants to eat, you can gradually expand the diet with a goal of returning to their usual diet as they can tolerate. Sometimes cow's milk ingestion worsens diarrhea, so in children over age 1 your pediatrician may recommend holding off on cow's milk or may advise giving lactose-free formula or milk for a period of time.

It is not necessary to withhold food for longer than twenty-four hours, as your child will need some normal nutrition to start to regain lost strength. After you have started giving them food again, their stools may remain loose, but that does not necessarily mean that things are not going well. Look for increased activity, better appetite, more frequent urination, and the disappearance of any of the signs of dehydration. When you see these, you will know your child is getting better.

SIGNS AND SYMPTOMS OF DEHYDRATION (LOSS OF SIGNIFICANT AMOUNTS OF BODY WATER)

The most important part of treating diarrhea is to prevent your child from becoming dehydrated. Be alert for the following warning signs of dehydration, and notify the pediatrician immediately if any of them develop.

MILD TO MODERATE DEHYDRATION

- Plays less than usual
- Urinates less frequently (for infants, fewer than six wet diapers per day)
- Parched, dry mouth
- Fewer tears when crying
- Sunken soft spot of the head in an infant or toddler
- Stools will be loose if dehydration is caused by diarrhea; if dehydration is due to other fluid loss (vomiting, lack of fluid intake), there will be decreased bowel movements

SEVERE DEHYDRATION (IN ADDITION TO THE SYMPTOMS AND SIGNALS ALREADY LISTED)

- Very fussy
- Excessively sleepy
- Sunken eyes
- Cool, discolored hands and feet
- Wrinkled skin
- Urinates only one to two times per day

Diarrhea that lasts longer than two weeks (chronic diarrhea) may signify a more serious type of intestinal problem. When diarrhea persists this long, your pediatrician may want to do further tests to determine the cause and to make sure your child is not becoming malnourished. If malnutrition is becoming a problem, the pediatrician may recommend a special diet or special type of formula.

If your child drinks too much fluid, especially too much juice or sweetened beverages, a condition commonly referred to as toddler's diarrhea could develop. This causes ongoing loose stools but shouldn't affect appetite or growth or cause dehydration. Although toddler's diarrhea is not a dangerous condition, the pediatrician may suggest that you limit the amounts of fruit juice and sweetened fluids your child drinks. Ideally, toddlers and children would drink mainly milk and water.

When diarrhea occurs in combination with other symptoms, it could mean that there is a more serious medical problem. Notify your pediatrician immediately if the diarrhea is accompanied by any of the following:

- Fever that lasts longer than twenty-four to forty-eight hours
- Bloody stools
- Vomiting that lasts more than twelve to twenty-four hours
- Vomited material that is green-colored, blood-tinged, or like coffee grounds in appearance
- A distended (swollen-appearing) abdomen
- Refusal to eat or drink
- Severe abdominal pain
- Rash or jaundice (yellow color of skin and eyes)

- Signs of dehydration such as no urination for six to twelve hours

If your child has another medical condition or is taking medication routinely, it is best to tell your pediatrician about any diarrheal illness that lasts more than twenty-four hours without improvement, or anything else that really worries you.

PREVENTION

The following guidelines will help lessen the chances that your child will get diarrhea.

1. Most forms of infectious diarrhea are transmitted by direct hand-to-mouth contact following exposure to contaminated fecal (stool) material. This happens most often in children who are not toilet trained. Promote handwashing after using the toilet or changing diapers and before handling food, as well as other sanitary measures, in your household and in your child's daycare center or preschool.

ESTIMATED AMOUNT OF FLUID CHILDREN SHOULD DRINK DAILY (DEPENDING ON BODY WEIGHT)

1 pound = 0.45 kilograms
1 ounce = 30 milliliters

Body Weight (in pounds)	Minimum Daily Fluid Requirements (in ounces)*	Electrolyte Solution* Requirements for Mild Diarrhea (in ounces for 24 hours)
6–7	10	16
11	15	23
22	25	40
26	28	44
33	32	51
40	38	61

* Note: This is the smallest amount of fluid that a normal child requires. Most children drink more than this.

2. Do not give your child raw (unpasteurized) milk or foods that may be contaminated. (See *Food Poisoning and Food Contamination,* on this

page.)

3. Avoid unnecessary medications, especially antibiotics.
4. If your child needs to take antibiotics, consider the use of probiotics to potentially prevent antibiotic-associated diarrhea.
5. If possible, breastfeed your child through the first year after birth at a minimum and through age 2 or longer if desired.
6. Make juice and sweet beverages an occasional treat, not a daily source of fluids.
7. Make sure your child has received the rotavirus vaccine, as it protects against the most common cause of diarrhea and vomiting in infants and young children.

(See also *Abdominal Pain,* page 423; *Celiac Disease,* page 428; *Malabsorption,* page 449; *Rotavirus,* page 685; and *Vomiting,* page 451.)

Food Poisoning and Food Contamination

Food poisoning occurs after eating food contaminated by bacteria. The symptoms of food poisoning are basically the same as those of a stomach virus: abdominal cramps, nausea, vomiting, diarrhea, and sometimes fever. But if your child and other people who have eaten the same food all have the same symptoms, the problem is more likely to be food poisoning than a stomach virus. The bacteria that cause food poisoning cannot be seen, smelled, or tasted, so your child won't know when they are eating them. Some sources of food poisoning include eggs, contaminated fish and meat products, and improperly canned foods. Many mushrooms and plants that are poisonous can cause gastrointestinal symptoms. Young children may not care for most of these foods and so will eat very little of them. However, it still is very important to be aware of the risk. If your child has unusual gastrointestinal symptoms and there is any chance they might have eaten contaminated or poisonous foods, call your pediatrician.

BOTULISM

This is the deadly food poisoning caused by *Clostridium botulinum*. Although these bacteria normally can be found in soil and water, illness

from them is extremely rare because they need very special conditions in order to multiply and produce poison. *C. botulinum* grows best without oxygen and in certain chemical conditions, which explains why improperly canned food may be contaminated and low-acid vegetables such as green beans, corn, beets, and peas are most often involved. Honey also can be contaminated and can cause severe illness, particularly in children under 1 year of age. This is the reason **honey should never be given to an infant under the age of 1 year.**

Botulism attacks the nervous system and causes double vision, droopy eyelids, decreased muscle tone, and difficulty in swallowing and breathing. It also can cause vomiting, diarrhea, and abdominal pain. The symptoms develop within eighteen to thirty-six hours and can last weeks to months. Without treatment, botulism can cause death. Even with treatment, it can cause nerve damage.

PROBIOTICS AND PREBIOTICS

Probiotics are types of "good" bacteria. These living organisms inhabit the intestines and may have beneficial health effects, although the evidence is not yet conclusive. Some studies have shown that foods or infant formula containing probiotics can prevent or even treat diarrhea in children, whether this condition is chronic, acute, or associated with the use of antibiotics. Other studies have found a correlation in children between taking daily probiotics and experiencing fewer illnesses and therefore fewer missed days of school. Some research has shown that giving specific probiotics to newborns can help colonize the gut with beneficial bacteria and actually decrease harmful bacteria later in life. Many studies are currently under way, and ongoing research will provide more guidance on the role of probiotics in newborns and children, such as which ones may help and how much to give your child. Currently there is no standard recommendation to use these products routinely, but if your child has diarrhea or other gastrointestinal issues, talk to your doctor about the use of these organisms.

Probiotics are available in many forms. Many infant formulas are now supplemented with prebiotics and probiotics. Some dairy products such as live active cultured yogurt and kefir contain them, too. So do some miso and tempeh products and soy beverages. Probiotic supplements (powders, capsules, and liquids) are sold in health food stores. Pediatricians are still debating the most appropriate use of these commercial probiotics—for example, what are the best organisms and dosages, how frequently should they be taken, and should they be used at all for preventing or managing certain health conditions?

Foods containing probiotics appear to be safe for most children, although they can cause mild bloating or gas in some cases. If probiotic supplements have been exposed to heat or moisture, the living "good" bacteria may be killed, and thus the products will become useless. For now, if you're interested in trying probiotics, talk to your pediatrician first. (For more information about probiotics, see page 65.)

Some doctors recommend that rather than giving your child *pro*biotics, you should consider using *pre*biotics instead. While probiotics are living bacteria, prebiotics are non-digestible food components —special carbohydrates naturally found in breast milk and other complex sugars and fiber—that promote the growth of beneficial bacteria that are already present in the intestines, thus increasing the number of these good bacteria while also suppressing the growth of unhealthy strains. Breast milk is a good source of prebiotics, as are foods like bran, legumes, barley, certain vegetables such as asparagus, spinach, and onions, and fruits such as berries and bananas.

CAMPYLOBACTER

One form of infectious food poisoning is caused by the bacteria *Campylobacter,* which a child may ingest when they eat raw or undercooked chicken, or when they drink unpasteurized milk or contaminated water. This infection typically leads to symptoms such as watery (and sometimes bloody) diarrhea, cramps, and fever about two to five days after the germs are consumed in food.

To diagnose a *Campylobacter* infection, your doctor will have a stool specimen analyzed in the laboratory. Fortunately, most cases of this infection run their course without any formal treatment, other than making sure that your child drinks plenty of fluids to replace the fluids lost from diarrhea. When symptoms are severe, however, your pediatrician may prescribe antibiotics. In most cases, your child will be back to normal in about two to five days.

CLOSTRIDIUM PERFRINGENS

Clostridium perfringens is a bacterium frequently found in soil, sewage, and the intestines of humans and animals. It usually is transferred by the food handler to the food itself, where it multiplies and produces its toxin. *C. perfringens* often is found in school cafeterias because it thrives in food that is served in quantity and left out for long periods at room temperature or on a steam table. The foods most often involved are cooked beef, poultry, gravy, fish, casseroles, stews, and bean burritos. The symptoms of this type of poisoning, such as vomiting and diarrhea, start eight to twenty-four hours after eating the contaminated food, and can last from one to several days.

CRYPTOSPORIDIOSIS

Cryptosporidiosis is a parasitic infection, usually caught from swimming or drinking water, that causes watery diarrhea, low-grade fever, and abdominal pain. Common sources include public pools and water drinking fountains. This infection can occur in anyone, but it is of special concern in children who do not have a normal immune system.

E. COLI

Escherichia coli is a group of bacteria that normally live in the intestines of children and adults. A few strains of these bacteria can cause food-related illnesses. Undercooked ground beef is a common source of *E. coli,* although raw produce and contaminated water have caused some outbreaks.

Symptoms of an infection typically include diarrhea (which can range from mild to severe and can be bloody) to abdominal pain, and in some cases nausea and vomiting. Some *E. coli* outbreaks have been quite severe and have even caused deaths in rare instances. The optimal treatment for an *E. coli*–related illness is rest and fluids (to counteract dehydration). But if symptoms are more severe, you should have a discussion with your pediatrician.

SALMONELLA

Salmonella bacteria (there are many types) are another major cause of food poisoning in the United States. The most commonly contaminated foods are raw meat (including chicken), raw or undercooked eggs, unpasteurized milk, and vegetables. Fortunately, salmonella is killed when the food is cooked thoroughly. For vegetables, make sure they are washed thoroughly. Salmonella is also found on some pets, like turtles, other reptiles, and chickens. Your child should always wash their hands after handling one of these pets. Symptoms caused by salmonella poisoning start six to forty-eight hours after eating, may last two to seven days, and may include vomiting and diarrhea, though rarely bloody diarrhea. Although a salmonella infection is usually self-limiting, it can be severe, so if your child appears sick and has a high fever, call your doctor. Children with sickle cell disease or other problems with their spleen will need antibiotics if they have this infection.

SHIGELLOSIS

Shigella infections, or shigellosis, are intestinal infections caused by one of many types of shigella bacteria. These bacteria can be transmitted through contaminated food and drinking water, as well as via poor hygiene (in childcare centers, for example). The organisms invade the lining of the intestine and can lead to symptoms such as bloody diarrhea, fever, and cramps.

Shigellosis and its symptoms usually subside after about five to seven days. In the meantime, your child should consume extra fluids and (if your pediatrician recommends it) a rehydrating solution. In severe cases, your doctor may prescribe antibiotics, which can shorten the duration and intensity of the infection. Shigella is one of the few bacterial causes of gastroenteritis that is usually treated with antibiotics. Also, infants and toddlers should not be at daycare until treated or until the infection is completely resolved.

STAPHYLOCOCCUS AUREUS (STAPH)

Staph contamination is one of the leading causes of food poisoning. These bacteria ordinarily cause skin infections, such as pimples or boils, and are transferred when foods are handled by an infected person. When food is left at a specific temperature (100 degrees Fahrenheit [37.8 degrees Celsius])—generally one that is lower than the temperature needed to keep food hot—the staph bacteria multiply and produce a poison (toxin) that ordinary cooking will not destroy. The symptoms begin one to six hours after eating the contaminated food, and the discomfort usually lasts about one day.

TREATMENT

In most cases of food-borne illnesses, all that's necessary is to limit your child's eating and drinking for a while. The problem will then usually resolve itself. Infants can tolerate three to four hours without food or liquids; older children, six to eight. If your child is still vomiting or their diarrhea has not decreased significantly during this time, call your pediatrician.

Also notify the doctor if your child:

- Shows signs of dehydration (see the box *Signs and Symptoms of Dehydration,* page 438)
- Has bloody diarrhea
- Has continuous diarrhea with a large volume of water in the stool, or diarrhea alternating with constipation
- May have been poisoned by mushrooms
- Suddenly becomes weak, numb, confused, or restless, and feels a tingling sensation, acts drunkenly, or has hallucinations or difficulty breathing

Tell the doctor the symptoms your child is having, what foods they have eaten recently, and where those foods were obtained. The treatment your pediatrician gives will depend on your child's condition and the type of food poisoning. If they are dehydrated, fluid replacement will be prescribed. Sometimes antibiotics are helpful for specific bacteria. Antihistamines help if the illness is due to an allergic reaction to a food, toxin, or seasoning, although if the reaction or symptoms are severe, call your doctor, as other medications, such as epinephrine, may be required. If your child has botulism, they will require hospitalization and treatment in the intensive care unit.

PREVENTION

Most food-borne illness is preventable if you observe the following guidelines.

Cleanliness

- *Be especially careful when preparing raw meats and poultry.* Wash your hands, and all surfaces that have come in contact with the raw meat and poultry, with hot, sudsy water before continuing your preparation.
- *Always wash your hands* before preparing meals and after going to the bathroom or changing your child's diaper.
- *If you have open cuts or sores* on your hands, wear gloves while preparing food.
- *Do not prepare food when you are sick,* particularly if you have nausea, vomiting, abdominal cramps, or diarrhea.

Food Selection, Preparation, and Serving

- Carefully examine any canned food (especially home-canned goods) for signs of bacterial contamination. Look for milky liquid surrounding vegetables (it should be clear), cracked jars, loose lids, and swollen cans or lids. Don't use canned or jarred goods showing any of these signs. Do not even taste them. Throw them away so that nobody else will eat them. (Wrap them first in plastic and then in a heavy paper bag.)
- Buy all meats and seafood from reputable suppliers.
- Do not use raw (unpasteurized) milk or cheese made from raw milk.
- Do not eat raw or undercooked meat.
- *Do not give honey to a baby under 1 year of age.*
- If your child turns away from a particular food or drink, smell or taste it yourself; you may find that it is spoiled and that it shouldn't be eaten.
- Do not let prepared foods (particularly starchy ones), cooked or cured meats, cheese, or anything with mayonnaise stay at room temperature for more than two hours.
- Do not interrupt the cooking of meat or poultry to finish the cooking later.
- Do not prepare food one day for the next unless it will be frozen or refrigerated right away. (Always put hot food right into the refrigerator. Do not wait for it to cool first.)
- Make sure all foods are cooked thoroughly. Use a meat thermometer for large items like roasts or turkeys and cut into other pieces of meat to check if they are done.
- When reheating meals, cover them and reheat them thoroughly.
- You also may want to visit usda.gov for more information. The department has several helpful pamphlets and newsletters, including topics such as cooking on a grill and preparing holiday turkeys.

Hepatitis

Hepatitis is an inflammation of the liver that, in children, is almost always caused by one of several viruses. In some children it may cause no symptoms, while in others it can provoke fever, jaundice (yellow skin), loss

of appetite, nausea, and vomiting. There are multiple forms of viral hepatitis. The most common forms include:

- *Hepatitis A.* Routine vaccination is recommended for all children at 1 year of age, with a booster dose six to twelve months later.
- *Hepatitis B.* Routine vaccination is now recommended for all infants at birth, with two booster doses given.
- *Hepatitis C.* Currently there is no vaccine, but effective treatment is available and curative for infected patients.

Most children in the United States are now vaccinated against hepatitis A, but the infection can be transmitted directly from person to person or through contamination of food or water (such as while swimming or eating in a restaurant or traveling). In a childcare or household setting, the infection can be spread when hands are not washed after having a bowel movement or after changing the diaper of an infected infant. Anyone who drinks water contaminated with infected human feces or who eats raw shellfish taken from polluted areas also may become infected. A child infected with hepatitis A virus may develop no symptoms or will become ill two to six weeks after the virus is transmitted. The illness usually disappears within one month after it begins.

Hepatitis B infection is transmitted during sexual activity, during childbirth, and via contact with infected blood, semen, or other body fluids. In young children, however, it can also be contracted through non-sexual, person-to-person contact, such as at daycare or school, which is why the hepatitis B vaccine is recommended for all young children.

Risk is greatest from contaminated needles, shared syringes, or drug paraphernalia, and sex partners of infected persons; babies may be exposed to the virus in utero. When a pregnant woman has acute or chronic hepatitis B, the infection may transmit to the newborn at the time of delivery. Therefore, all pregnant women should be tested for hepatitis B infection and all newborn babies should be vaccinated against hepatitis B.

Hepatitis C can be acquired by intravenous (IV) drug use, through contaminated needles or, less commonly, through needle injections, sexual contact with an infected person, and birth to a person infected with hepatitis

C. In the United States, the use of sterile disposable needles and the screening of all blood and blood products has essentially eliminated the risk of transmission of hepatitis B and C in hospitals and doctors' offices.

Infection with the hepatitis C virus commonly produces no symptoms, or only mild symptoms of fatigue and jaundice. In many cases, however, this form of hepatitis becomes chronic and can result in severe liver disease, liver failure, cancer of the liver, and even death later in life. There are antiviral medications available that can cure hepatitis C, and anyone at risk should be tested so that effective treatment may be offered.

SIGNS AND SYMPTOMS

A child could have hepatitis without anyone being aware of it, since many affected children have few, if any, symptoms. In some children the only signs of disease may be malaise and fatigue for several days. In others there will be a fever followed by jaundice (the sclera, or whites of the eyes, and the skin develop a noticeable yellowish color). This jaundice is due to an abnormal increase in bilirubin (a yellow pigment) in the blood, caused by liver inflammation.

With hepatitis B, fever is less likely to occur, although the child may suffer loss of appetite, nausea, vomiting, abdominal pain, and malaise, in addition to jaundice. In children, hepatitis C doesn't always have symptoms.

If you suspect that your child has jaundice, notify your pediatrician. Your child's doctor may order blood tests to determine if hepatitis is causing the problem or if it is due to another condition. You should contact your doctor anytime vomiting or abdominal pain persists beyond a few hours, if appetite loss, nausea, or malaise (a vague feeling of low energy or feeling sick) continues for more than a few days, or if your child becomes jaundiced. These may be indicators of hepatitis.

TREATMENT

In most settings, there is no specific treatment for hepatitis. As with most viral infections, the body's own defense mechanisms usually will overcome the infecting agent. Although you do not need to rigidly restrict the diet or activity of your child, you may need to make adjustments depending on their appetite and energy levels. Your doctor may recommend your child

avoid aspirin and ibuprofen (and other non-steroidal anti-inflammatory drugs), but acetaminophen can be used in children with chronic liver disease as long as aggressive hepatitis is not present and your pediatrician has agreed to its use. Also, children on certain medications for long-term illnesses should have their dosages carefully reviewed by the pediatrician to avoid the side effects that might result from the liver's inability to handle the usual medication load.

Medications are available to treat chronic hepatitis B and hepatitis C. If your child's hepatitis becomes a chronic condition, your pediatrician will refer you to a pediatric gastroenterologist or infectious disease specialist to help decide on appropriate management.

Most children with hepatitis do not need to be hospitalized. However, if loss of appetite or vomiting is interfering with your child's fluid intake and posing a risk of dehydration, your pediatrician may recommend that they be hospitalized. You should contact your doctor immediately if your child appears very lethargic, unresponsive, or delirious, as these may indicate that their illness is worsening and hospitalization is indicated.

There is no chronic infection following hepatitis A; in comparison, among unimmunized children, chronic hepatitis B occurs more frequently in infants than in older children and adults. A high percentage of infants who are born to mothers with acute or chronic hepatitis B become chronically infected if they are not properly immunized after birth. Children with chronic hepatitis B will need monitoring and medication management to reduce the lifetime risk of liver damage, cirrhosis, and liver cancer.

PREVENTION

All newborns should be immunized with the hepatitis B vaccine at birth; a second dose should be given at age 1 to 2 months. Two doses of hepatitis A vaccine are recommended for all children between their first and second birthdays (12 to 23 months of age), as well as older children and adolescents who have not yet been vaccinated. In addition, most international travelers, adults employed in certain high-risk occupations, and people with chronic liver disease, among other conditions, should ask their physician about receiving the hepatitis A vaccine. (See immunization schedules on page 746.)

Handwashing before eating and food preparation, as well as after using the toilet, is the most important preventive measure against hepatitis. Children should be taught as young as possible to wash their hands at these times. If your child is in childcare, check to be sure that members of the staff wash their hands after handling diapers and before feeding the children.

If you find out that your child has been exposed to a person with active hepatitis, immediately contact your pediatrician, who will determine if the exposure has placed your child at risk. If there's a risk that the infection might have been passed to your child, the doctor may recommend post-exposure measures such as an injection of gamma globulin or a hepatitis vaccine, depending on which hepatitis virus was involved.

Prior to foreign travel with your child, consult your physician to determine the risk of exposure to hepatitis in the countries you plan to visit and consider vaccination against hepatitis A and B if your family has not yet received it.

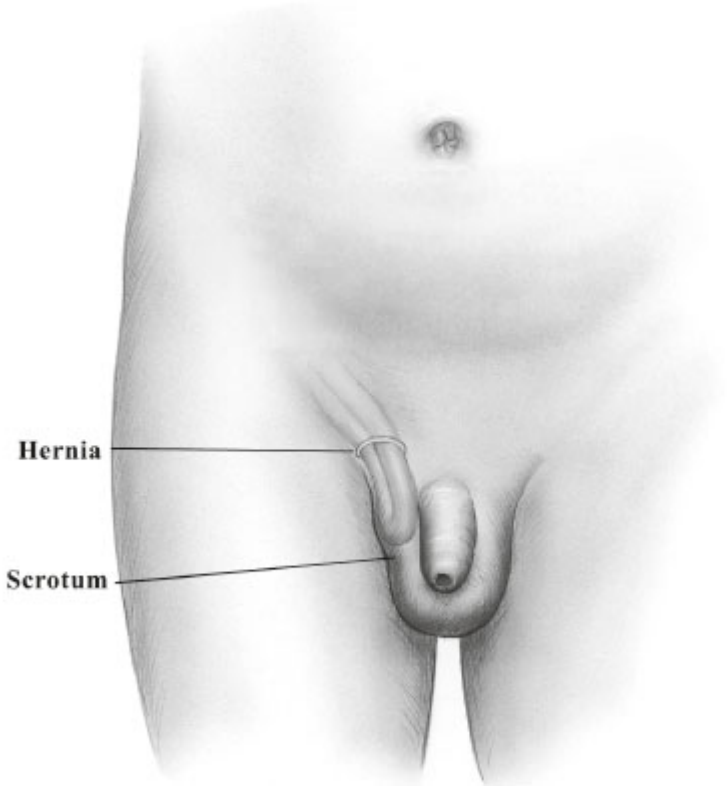
Inguinal Hernia

If you notice a small lump or bulge in your child's groin area or an enlargement of the scrotum, you may have discovered an inguinal hernia. This condition, which is present in up to 5 of every 100 children (most commonly in boys), occurs when an opening in the lower abdominal wall allows the child's intestine to squeeze through. This inguinal hernia may be confused with a more benign condition, a communicating hydrocele.

The testicles of the developing male fetus grow inside the abdominal cavity, moving down through a tube (the inguinal canal) into the scrotum as birth nears. When this movement takes place, the lining of the abdominal wall (peritoneum) is pulled along with the testes to form a sac connecting the testicle with the abdominal cavity. Normally this connection closes before or shortly after birth. Hernia is due to a failure of this normal protrusion from the abdominal cavity to close properly, leaving a space for a small portion of the bowel to later push through into the groin or scrotum.

Most hernias do not cause any discomfort, and you or the pediatrician will discover them only by seeing the bulge either in the groin or in the scrotum. Although this kind of hernia must be treated, it is not an

emergency condition. You should, however, notify your doctor, who may instruct you to have your child lie down and elevate their legs. Sometimes this will cause the bulge to disappear. However, your doctor will still want to examine the area as soon as possible.



In boys, an internal opening leading to the scrotum allows abdominal contents to slide downward. In girls, the hernia may simply appear as a bulge in the groin area.

Rarely, a piece of the intestine gets trapped in the hernia, causing swelling and pain. (If you touch the area, it will be tender.) Your child may have nausea and vomiting as well. This condition is called an incarcerated (trapped) hernia and *does* require immediate medical attention. Call your pediatrician immediately if you suspect an incarcerated hernia.

TREATMENT

Even if the hernia is not incarcerated, it still should be surgically repaired. The surgeon also may check the other side of the abdomen to see if the defect is present there, too, which is very common.

If the hernia is causing pain, it may indicate that a piece of intestine has become trapped or incarcerated. In that case, consult with your pediatrician immediately. They may try to move the trapped piece of intestine out of the sac. Even if this can be done, the hernia still needs to be surgically repaired soon thereafter. If the intestine remains trapped despite your doctor's efforts, emergency surgery must be performed to prevent permanent damage to the intestine.

Umbilical Hernia

Another common kind of hernia occurs at the umbilicus, or belly button. Weakness of the abdominal wall in that spot may allow part of the intestines to bulge forward, especially when your child strains, such as with laughing, coughing, or using the toilet. Umbilical hernias affect up to 20 percent of children, and unlike inguinal hernias they are generally harmless. You don't have to do anything for them, and folk remedies like belly bands and taping a coin over them will not help. For cosmetic reasons, your child's doctor may refer them to a pediatric surgeon if the hernia has not gone away on its own by age 4 or 5.

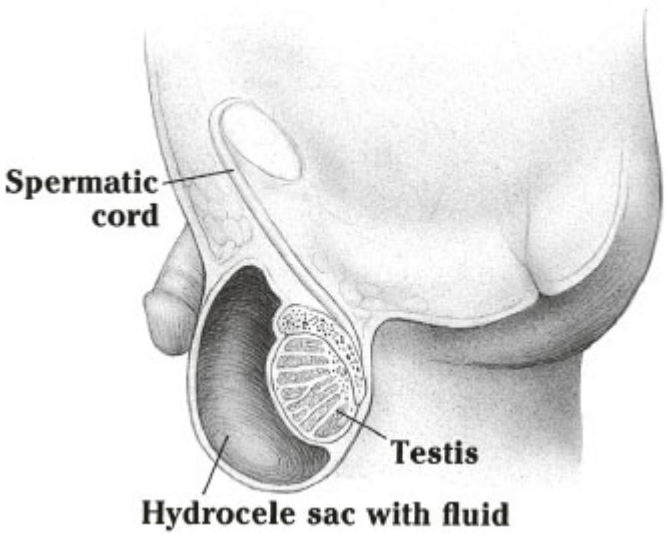
Communicating Hydrocele

If the opening between the abdominal cavity and the scrotum has not closed properly and completely, abdominal fluid can pass into and out of the sac around the testis, causing a changing fluid collection called a communicating hydrocele. Many newborns have this problem; however, it usually disappears within one year without any treatment. Although most common in newborns, hydroceles also can develop later in childhood, sometimes with a hernia.

If your child has a hydrocele, they probably will not complain or be bothered by it, but you or your child will notice that one side of the scrotum is swollen. In an infant or young child, this swelling increases with activity or crying but it will decrease when they are resting or lying down. Sometimes you will not be able to notice any change in size. Your pediatrician may make the final diagnosis by shining a bright light through

the scrotum, to show the fluid surrounding the testicle. Your doctor also may order an ultrasound examination of the scrotum if it is very swollen or hard.

If your baby is born with a hydrocele, your pediatrician will examine it at each regular checkup until around 1 year of age. During this time your child should not feel any discomfort in the scrotum or the surrounding area. But if it seems to be tender in this area or your child has unexplained discomfort in the scrotum with associated nausea or vomiting, call the doctor at once—these are signs that a piece of intestine may have entered the scrotal area along with abdominal fluid. (See *Inguinal Hernia,* page 447.) If this occurs and the intestine gets trapped in the scrotum, your child may require immediate surgery to release the trapped intestine and close the opening between the abdominal wall and the scrotum.



If the hydrocele persists beyond 1 year without causing pain, a simple surgical procedure may be recommended to correct the hydrocele and prevent hernia formation in the future. In this operation, the excess fluid is removed and the opening into the abdominal cavity closed.

Malabsorption

Sometimes children who eat a balanced diet suffer from malnutrition. The reason for this may be malabsorption, the body's inability to absorb

nutrients from the digestive system into the bloodstream.

Normally the digestive process converts nutrients from the diet into small units that pass through the wall of the intestine and into the bloodstream, where they are carried to other cells in the body. If the intestinal wall is damaged by an infection (from a virus, bacterium, or parasite) or an immune disorder (such as celiac or inflammatory bowel disease), its surface may change so that digested substances cannot pass through. When this happens, the nutrients will be eliminated through the stool.

Malabsorption commonly occurs in a normal child for a day or two during severe cases of stomach or intestinal virus. It rarely lasts much longer since the surface of the intestine heals quickly without significant damage. In these cases, malabsorption is no cause for concern. However, chronic malabsorption may develop, and if two or more of the following signs or symptoms persist, notify your pediatrician.

SIGNS AND SYMPTOMS

Possible signs and symptoms of chronic malabsorption can include the following:

- Persistent abdominal pain and vomiting
- Frequent, loose, bulky, foul-smelling stools
- Increased susceptibility to infection
- Weight loss with the loss of fat and muscle
- Increase in bruises
- Bone fractures
- Dry, scaly skin rashes
- Personality changes
- Slowing of growth and weight gain (may not be noticeable for several months)

TREATMENT

When a child suffers from malnutrition, malabsorption is just one of the possible causes. A child might be undernourished because they are not

getting enough of the right types of food, or because they have digestive problems that prevent their body from properly digesting food. A combination of these problems might also exist. Before prescribing a treatment, the pediatrician must determine the cause. This can be done in one or more of the following ways:

- You may be asked to list the amount and type of food your child eats.
- The pediatrician may collect and analyze stool samples. In healthy people, only a small amount of the fat or protein consumed each day is lost through the stool. If too much is found in the stool, it is an indication of malabsorption.
- Collection of sweat from the skin, called a sweat test, may be performed to see if cystic fibrosis (see page 493) is present.
- In some cases the pediatrician might request that a pediatric gastroenterologist obtain a biopsy from the wall of the small intestine and have it examined under the microscope for signs of infection, inflammation, or other injury.

Ordinarily, these tests are performed before any treatment is begun, although a seriously sick child might be hospitalized to receive special feedings while their problem is being evaluated.

Once the physician is sure the problem is malabsorption, they will try to identify a specific reason for its presence. When the reason is infection, the treatment usually will include antibiotics. If malabsorption occurs because the intestine is too active, certain medications may be used to counteract this, so that there's time for the nutrients to be absorbed.

Sometimes there's no clear cause for the problem. In this case, the diet may be changed to include foods or special nutritional formulas that are more easily tolerated and absorbed.

Vomiting

Because many common childhood illnesses can cause vomiting, you should expect your child to have this problem several times during these early years. Usually it ends quickly without treatment, but this doesn't make it any

easier for you to watch. That feeling of helplessness combined with the fear that something serious might be wrong and the desire to do something to make it better may make you feel tense and anxious. To help put your mind at ease, learn as much as you can about the causes of vomiting and what you can do to treat your child when it occurs.

First of all, there's a difference between real vomiting and just spitting up. Vomiting is the forceful throwing up of stomach contents through the mouth. Spitting up (most commonly seen in infants under 1 year of age) is the easy flow of stomach contents out of the mouth, frequently with a burp.

Vomiting occurs when the abdominal muscles and diaphragm contract vigorously while the stomach is relaxed. This reflex action is triggered by the "vomiting center" in the brain after it has been stimulated by any of the following:

- Nerves from the stomach and intestine when the gastrointestinal tract is either irritated or swollen by an infection or blockage
- Chemicals in the blood (e.g., drugs)
- Psychological stimuli from disturbing sights or smells
- Stimuli from the middle ear (as in vomiting caused by motion sickness)

The common causes of spitting up or vomiting vary according to age. During the first few months, for instance, most infants will spit up small amounts of formula or breast milk, usually within the first hour after being fed. It may occur less often if a child is burped frequently and if active play is limited right after meals. This spitting up tends to decrease as the baby becomes older, but it may persist in a mild form until 10 to 12 months of age. Spitting up is not serious and doesn't interfere with normal weight gain. (See *Spitting Up,* page 74.)

Occasional vomiting may occur during the first month. If it appears repeatedly or is unusually forceful, call your pediatrician. It may be just a mild feeding difficulty, but it also could be a sign of something more serious.

Around 2 weeks to 4 months of age, persistent forceful vomiting may be caused by a thickening of the muscle at the stomach exit. Known as hypertrophic pyloric stenosis, this thickening prevents food from passing into the intestines. It requires *immediate* medical attention. Surgery usually

is required to open the narrowed area. The important sign of this condition is forceful vomiting occurring approximately fifteen to thirty minutes or less after every feeding. Anytime you notice this, call your pediatrician as soon as possible.

GER (GASTROESOPHAGEAL REFLUX). Occasionally the spitting up in the first few weeks to months after birth gets worse instead of better—that is, even though it's not forceful, it occurs all the time. This happens when the muscles at the lower end of the esophagus become overly relaxed and allow the stomach contents to back up. This condition is known as gastroesophageal reflux, or GER. It is important to note that when an infant is growing typically and spitting up, this is most likely normal physiologic spitting up, and it does not require therapy or management. This is certainly not convenient or pleasant for a parent, but it's not bad for the baby. Common ways to treat GER include:

1. Avoid overfeeding or give smaller feeds more frequently.
2. Burp your baby frequently.
3. Leave your infant in a safe, quiet, upright position for at least thirty minutes following feeding.
4. Thicken the breast milk or formula with small amounts of baby cereal as directed by your pediatrician. Some newer formulas, labeled "anti-reflux," are designed with this thickening included.

If these steps are not successful, if your baby isn't gaining weight or growing typically, or if your child is upset by the spitting up or vomiting, your pediatrician may consider starting medication and/or refer you to a pediatric gastrointestinal (GI) specialist.

INFECTIOUS CAUSES. After the first few months after birth, the most common cause of vomiting is a stomach or intestinal infection. Viruses are by far the most frequent infecting agents, but occasionally bacteria and even parasites may be the cause. The infection also may produce fever, diarrhea, and sometimes nausea and abdominal pain. The infection is usually contagious;

if your child has it, chances are good that some of their playmates also will be affected.

Viruses are a leading cause of vomiting in infants and young children, with symptoms often progressing to diarrhea and fever. Rotavirus is one of the viral causes of gastroenteritis, but other types of viruses—such as noroviruses and adenoviruses—can cause it as well. Rotavirus has become much less frequent due to the availability of a vaccine that can prevent severe disease. (For more information about gastroenteritis, see page 424.)

Occasionally infections outside the gastrointestinal tract will cause vomiting. These include infections of the respiratory system (also see discussions of middle ear infections, page 542, and pneumonia, page 500), infections of the urinary tract (see page 650), meningitis (see page 658), and appendicitis (see page 427). Some of these conditions require immediate medical treatment, so be alert for the following trouble signs, whatever your child's age, and call your pediatrician if they occur:

- Blood or bile (a green-colored material) in the vomit, or the vomit appears to consist of coffee-ground-like material
- Severe abdominal pain
- Strenuous, repeated vomiting
- Swollen or enlarged abdomen
- Lethargy or severe irritability
- Convulsions
- Jaundice
- Signs or symptoms of dehydration (see *Signs and Symptoms of Dehydration* on page 438)
- Inability to drink adequate amounts of fluid
- Vomiting continuing beyond twenty-four hours

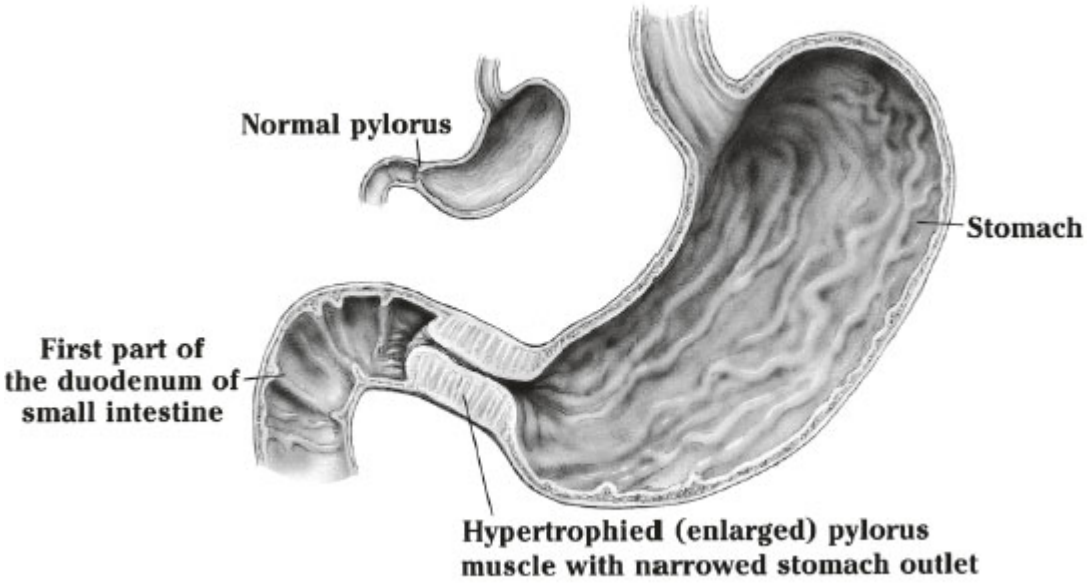
TREATMENT

Most cases are caused by a virus and will get better on their own and stop without specific medical treatment. You should never use over-the-counter or prescription remedies unless they've been specifically prescribed by your pediatrician for your child and for this particular illness.

When there is continued vomiting, you need to make certain that dehydration doesn't occur. Dehydration is a term used when the body loses so much water that it can no longer function efficiently (see *Signs and Symptoms of Dehydration,* page 438). If allowed to reach a severe degree, it can be serious and life-threatening. To prevent this from happening, make sure your child consumes enough extra fluids to restore what has been lost through throwing up. If they vomit these fluids, notify your pediatrician.

For the first twenty-four hours or so of any illness that causes vomiting, keep your child off solid foods, and encourage them to sip or drink small amounts of fluids such as electrolyte solution instead of eating. Liquids not only help to prevent dehydration, but also are less likely than solid foods to stimulate further vomiting.

Be sure to follow your pediatrician's guidelines for giving your child fluids. Your doctor will adhere to requirements like those described in the box on page 439 (*Estimated Amount of Fluid Children Should Drink Daily).*



In most cases, your child will just need to stay at home and receive a liquid diet for twelve to twenty-four hours. Your pediatrician usually won't prescribe a drug to treat the vomiting, but some doctors will prescribe anti-nausea medications to children.

If your child also has diarrhea (see page 435), ask your pediatrician for instructions on giving liquids and restoring solids to their diet.

If they can't retain any clear liquids or if the symptoms become more severe, notify your pediatrician. They will examine your child and may order blood and urine tests or imaging tests such as X-rays to make a diagnosis. Occasionally hospital care may be necessary.

Until your child feels better, remember to keep them hydrated, and call your pediatrician right away if they show signs of dehydration. If your child looks sick, if the symptoms aren't improving with time, or if your pediatrician suspects a bacterial infection, they may perform a culture of the stool and treat appropriately.

CHAPTER 20

Asthma and Allergies

Asthma

Asthma is a chronic disease of the breathing tubes that carry air to the lungs. In the last twenty years, there has been a major increase in the number of people with asthma, especially young children and those living in urban areas. In fact, asthma is now the most common chronic condition of childhood, affecting about 5 million children. We don't know what caused this increase, but some reasons or triggers for asthma or wheezing episodes include air pollution (including tobacco smoke early in life), exposure to allergens or not enough exposure to allergens, obesity, and respiratory illnesses.

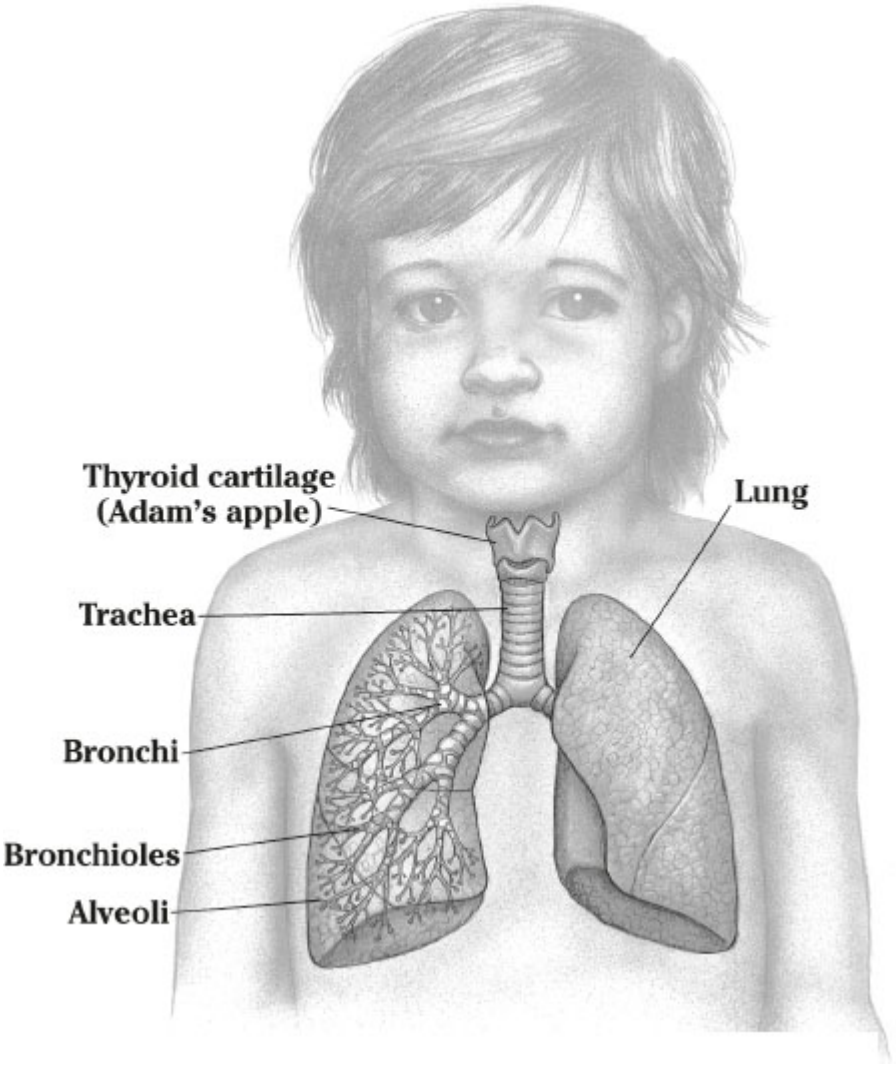
Asthma symptoms can be different for each person, but wheezing is a hallmark sign. Wheezing is the high-pitched sound heard on breathing out that occurs when the breathing tubes in the lungs are narrowed, typically due to inflammation. In asthma, wheezing occurs most often at night or in the early morning. Still, not everyone who wheezes has asthma. Other symptoms of asthma include cough, chest tightness or pressure, shortness of breath, and chest pain. Although no specific test can determine asthma, the diagnosis is often made after a child has had multiple wheezing attacks. Many times, in between attacks children do well, but since they often get colds (a common trigger for wheezing in children), the attacks can be as frequent as every month, particularly in toddlers or children less than 3 years of age who get sick often. If a child has no other allergies—meaning that they do not have eczema or food allergy—and neither parent has asthma, wheezing will likely decrease between 3 and 6 years of age once they outgrow catching frequent colds that often trigger the wheezing. If these children continue to have repeated wheezing attacks, they are diagnosed with asthma.

Every child is unique, and thus it is important to discuss your child's health with your primary physician or specialist. Asthma is such a variable disease that some infants and children may wheeze without much distress while others have such severe wheezing and breathing difficulty that it may create an emergency. In general, most asthma attacks or flare-ups are manageable at home if symptoms are recognized early and treatment initiated as directed by your doctor.

If there is a family history of asthma or allergy, a child who frequently wheezes is likely to continue wheezing for a number of years. However, asthma can also occur in children who are not allergic. It is generally not possible to cure asthma (a small percentage of childhood asthma cases are outgrown), but it *is* possible to control asthma symptoms. Proper treatment reduces wheezing and prevents future attacks. How you breathe starts with what you breathe. Irritants and allergens can cause asthma problems. Irritants are a problem for everyone. Allergens are a problem only if you are allergic to the allergen.

Tobacco smoke is one of the most important asthma triggers. Tobacco smoke exposure increases risk of wheezing from viral infections and decreases response to some of the most important medications used to control asthma. One of the most important things that a family can do to protect a child is to eliminate their exposure to tobacco smoke. Keeping the home and car smoke-free is an important start, but it is difficult to eliminate a child's exposure as long as close family members are smokers. The best thing a family member can do to protect the child would be to stop smoking. Free help with stopping is available from the National Smokers' Helpline at 1-800-QUIT-NOW.

Electronic cigarettes (also called vapes, Juuls, e-hookahs, and others) are very dangerous, especially to children with asthma. They are not safe to use around children. Their emissions expose children to nicotine as well as a number of irritating, inflammation-producing, and carcinogenic chemicals. Use of fireplaces and burning of incense also can trigger asthma. Other common irritant asthma triggers include strong-smelling household cleaners, insecticides (bug spray), other strong chemicals, paint, air fresheners, and perfumes.



Chest and lungs

Viral infections—even the common cold—can trigger asthma attacks, especially in young children. It is difficult to keep a child from catching a cold, but you can practice healthy habits by ensuring they get the flu shot (influenza vaccine) every fall and encouraging them to wash their hands frequently.

Allergens—irritants that your child is allergic to—also can trigger asthma. Since asthma is a breathing problem, the common allergens that trigger asthma are the ones that are breathed in. Food allergy would not cause asthma symptoms alone, as the food proteins that are absorbed travel to all parts of the body. Environmental allergy testing can help determine what your child is allergic to.

Common allergic triggers of asthma include:

- House dust mites (microscopic insects that live in house dust and feed on shed skin; pillows and bedding can also have high concentrations of house dust mites)
- Cockroaches
- Pet (animal) dander (the shed skin from animals with fur or feathers)
- Pollens (from trees, grasses, or weeds)
- Molds and mold spores (from either water damage in the home or decomposing plant material outside)

Other asthma triggers include:

- Stress and emotional upset—especially if the underlying asthma is not well controlled
- Sinus infections
- Outdoor air pollution
- Cold or hot air
- Certain medications (sensitivity to NSAIDs such as ibuprofen, aspirin, etc.)
- Exercise

SIGNS AND SYMPTOMS

When your child has an asthma flare-up (or "attack"), the major symptom will be a cough or wheeze that gets worse at night, with physical activity, or after contact with an irritant (e.g., cigarette smoke) or an allergen (e.g., animal dander, mold, dust mites, or cockroaches). As the attack progresses, the wheezing actually may decrease, as less air is able to move in and out. They also may experience shortness of breath, breathe fast, and have "retractions," when the chest and neck pull in while they work harder to take in air.

Many children with asthma have chronic symptoms, such as daily (or nightly) cough, cough whenever they exercise, or cough after exposure to pets, dust, or pollen. Your child's doctor will classify their asthma as mild

intermittent, mild persistent, moderate persistent, or severe based on how often they need medicine for wheezing, how often symptoms wake them up at night, and how much their breathing interferes with daily activities. Treatments are based on these classifications (see *Treatment* on page 457).

In some children, the physician may hear wheezing (especially when the child blows out hard) even without more obvious signs. Abnormalities may be detected by peak flow testing, pulmonary function testing (PFT), or functional exhaled nitric oxide (FeNO) testing in children old enough to cooperate with this breathing test.

WHEN TO CALL THE PEDIATRICIAN

Children with well-controlled asthma can participate in the same activities as other children, including play outdoors and exercise. Watch your child closely when they're outside or exercising, and if symptoms develop or worsen, talk to your pediatrician.

For a child with asthma, you should know the situations that require *immediate* medical attention. As a rule, call your pediatrician immediately or consider going to the emergency room if:

- Your child has *severe* trouble breathing and seems to be getting worse, especially if they are breathing rapidly and there is pulling in of the chest wall when they inhale and forceful grunting when they exhale.
- Your child's mouth or fingertips appear blue.
- Your child acts agitated, unusually sleepy, or confused.
- There is any chest pain with breathing.

You also should call your pediatrician without delay if:

- Your child has a fever and persistent coughing or wheezing that is not responding to treatment.
- Your child is vomiting repeatedly and cannot take oral medication or drink fluids.
- Your child has difficulty speaking or sleeping because of wheezing, coughing, or trouble breathing.

TREATMENT

Asthma always should be treated under your pediatrician's supervision. The goals of treatment are to:

1. Prevent asthma symptoms such as coughing, wheezing, chest tightness, and shortness of breath
2. Allow your child to run and play as hard as they want to
3. Prevent serious asthma attacks
4. Control your child's asthma with the smallest amount of medication possible

Preventing severe asthma problems starts by preventing mild asthma problems. Work with your child's doctor to develop an asthma action plan. Like a traffic light, an asthma action plan has green, yellow, and red zones and discusses what to do at each step, including which medications to give. The green zone plan is the action you take every day, even when your child is completely well, to keep your child well. The yellow zone plan is what actions you take when your child has mild asthma symptoms such as beginning to cough. The red zone plan is what actions you follow when your child experiences moderate or severe asthma problems such as fast and hard breathing or inability to speak in a full sentence due to shortness of breath. Work with your doctor to create a written asthma action plan for your child. Asthma action plans should be in a clearly visible and easily accessible place where you live, and a copy should be shared with your child's school, camp, etc.

With these goals in mind, your pediatrician will prescribe medication and may refer you to a specialist who can evaluate your child's asthma—a pediatric pulmonologist (breathing specialist) or allergist (allergy specialist). Your doctor also will help you plan your child's specific home treatment program. This will include learning how to use the medicines and treatments that are prescribed and developing a plan to avoid the irritants and allergens that may be causing your child to cough or wheeze.

The medication prescribed for your child will depend on the nature of the asthma. There are two main types of asthma drugs. One type opens the breathing tubes and relaxes the muscles causing obstruction. These quick-

relief or rescue medicines are called bronchodilators. The second type is controller or maintenance medications, which are used to treat the airway inflammation (swelling and mucus production).

- *Quick-relief or rescue medications are intended for short-term use.* If your child has an asthma attack, with coughing and/or wheezing, a rescue medication should be given. Medicines such as albuterol are a common choice. By relaxing the muscle squeezing down around the breathing tubes, these rescue medicines can relieve the tightness in your child's chest and ease their wheezing and feelings of breathlessness. They are prescribed on an as-needed basis. After your child uses a rescue inhaler, breathing will usually improve for a few hours. Rescue inhalers provide a few hours of symptom relief but are not meant to fix the underlying problem. The rescue medication can be given by an HFA-propelled inhaler (HFA = hydrofluoroalkanes)—also known as a puffer—or by nebulizer (see page 459).

  It is important to note that if there is no improvement or change after giving the rescue medicine, the child may need further evaluation, the asthma problems may be severe and need stronger medicine, or the problem may not be asthma but something else such as an infection or other lung problem. Should an attack become severe, your doctor may prescribe an additional medication, such as an oral corticosteroid (usually prednisone, prednisolone, or dexamethasone). Oral corticosteroids are powerful medicines that shrink the swelling and inflammation of the breathing tubes. Rescue medications such as albuterol should not be given more than every four hours outside of the healthcare setting. Let your pediatrician know if your child requires a rescue medication more often as they may need reevaluation.



- *Controller medications are intended to be used every day.* They are designed to control your child's asthma and reduce the number of days and nights that they have asthma symptoms. In general, controller medicines are appropriate for children who have symptoms two or more times a week, who awaken with symptoms more than twice a month, who require two or more oral steroid courses within a year, or who have been hospitalized due to asthma symptoms.
- *The most effective controller medication is an inhaled corticosteroid.* Inflammation of the breathing tubes typically leads to an asthma reaction. By controlling the inflammation and making the breathing tubes less sensitive, these medications help to prevent asthma symptoms and asthma attacks. Daily use can help to keep your child's breathing regular. There are several different types, but they all work by preventing inflammation in the airway. By making the airways less sensitive to allergens and irritants, these medicines can reduce the number and severity of asthma episodes. Inhaled corticosteroids are administered via inhaler. An inhaler requires using a plastic tube called a spacer or volume holding chamber, which is required to allow the particles to spread out and reach the small areas of the lungs. Without the spacer, most of the medication will travel to the back of the throat and be swallowed instead of inhaled. Not using a spacer can lead to thrush (a yeast infection in the

mouth) and, most importantly, ineffectiveness of the medication because it does not reach the lungs. Infants and small children use spacers with a mask (small or medium), which needs to be placed on the face with a good seal while the child takes several breaths. Older children can use spacers with a mouthpiece, which requires the child to slowly inhale and hold their breath for ten seconds. After taking an inhaled steroid, it is important for your child to rinse and spit or brush their teeth, as the medicine is important for the lungs but should not stay on the teeth or in the mouth. Another way for a child to receive certain medication is through a dry powder inhaler. These release the medicine without a propellant. Your child must rely on the force of their own inhalation to take in the medicine and get it into their lungs.

- *Combination rescue/controller medicines.* A newer class of inhalers combine both types of medicine, a long-acting rescue medicine and a controller, and can be used in children ages 4 and older both to prevent asthma attacks and to treat them. Your child's asthma action plan should make it clear how to use this type of inhaler if that's what their doctor chooses.



Spacers come in various shapes and sizes.

Another way to deliver the rescue medication is by nebulizer (sometimes called a breathing machine). The compressor connects by tubing to a device that is like a small cup into which the medication is placed. The compressor converts the liquid into a mist that is then breathed in. For small children a mask is used (see illustration on page 458) and needs to be on the face with a good seal. If there is not a good seal, most of the medication escapes into the air and never reaches the lungs.

It is ideal to give the medication when your child is not crying, as crying decreases the amount of medicine that can reach the lungs. This may not always be possible, but over time most children learn to accept the medication. Although the techniques are relatively equally effective, your child may be more cooperative with one over the other. It may appear that the rescue medication (e.g., albuterol) is more effective through a nebulizer, but nebulized doses of albuterol are typically much greater than two puffs delivered through an inhaler. Inhalers are much more portable than nebulizers, and they don't require a power supply, so learning to use an inhaler can help you and your child enjoy more activities outside the home.

Leukotriene receptor antagonists block the activity of chemicals (leukotrienes) that are associated with airway inflammation; they are available only in oral preparations (pill form, granule powder, and chewable tablet). They are not as strong as the inhaled corticosteroid medications, but they can be very helpful when used in combination with an inhaled corticosteroid. Anti-inflammatory medications, inhaled corticosteroids, and/or leukotriene receptor antagonists are recommended for all children with asthma who have persistent symptoms.

As prevention, all these medications work best when used regularly. They can't work as well if they are not taken consistently. Giving your child medicine when they feel well can be challenging; however, having a routine, such as giving the medicine before brushing the teeth, can make taking the medicine daily a lot easier.

Be sure to give medications according to your doctor's directions. *Do not stop medicines too soon,* give them less often than recommended, or switch to other drugs or treatments without first discussing the change with the doctor. For some children, several medicines may be prescribed at the same time to get the asthma controlled, and then the number of medications is

reduced once asthma symptoms are under control. If you do not understand why a particular treatment has been recommended, or how it should be given, ask for an explanation.

Asthma treatment should alleviate your child's symptoms so that asthma symptoms do not interfere with sleep, activity, or sports. If your child is not achieving the goals of treatment, the asthma action plan needs to be reevaluated. Maybe there is an asthma trigger that can be controlled or a problem with how your child takes their medicine, or perhaps your child needs more or different asthma medications. Sometimes when asthma medicines aren't helping it's a clue that your child has another condition that affects breathing. Your pediatrician will examine your child and check for problems that could be making their asthma worse and consider whether your child needs a referral to an asthma specialist.

PREVENTION

While you cannot eliminate allergens and other irritants, there are some things that can be done to reduce exposure and lower your child's chances of having asthma symptoms. For example, in your home you can:

- Cover your child's bed mattress and pillow with special allergen-proof encasings to reduce the number of dust mites.
- Use pillows or comforters that can be machine-washed.
- Wash sheets, blankets, throw rugs, and stuffed animals every week in hot water and a hot dryer to kill dust mites.
- Limit stuffed animals in your child's room.
- Keep pets out of your child's room if the child is allergic.
- Keep your child out of rooms while you're vacuuming and dusting.
- Consider investing in a special air filter (called a high-efficiency particulate air filter, or HEPA filter) to keep the air in your child's room clean.
- Maintain the humidity in your house below 50 percent when possible; dust mites and mold grow best in damp areas.
- Avoid perfumes, scented cleaning products, and other items with scents that could become irritants.

- Reduce mold in your house by repairing leaky plumbing.
- Keep your child away from cigarette, cigar, or pipe smoke, as well as smoke from a fireplace.
- Don't allow anyone to smoke in your home or car.

Eczema

Although many patients and practitioners use the terms "eczema" and "atopic dermatitis" interchangeably, "eczema" is a general term used to describe a group of skin conditions characterized by a red itchy rash. Atopic dermatitis and contact dermatitis are two of the most common types of eczemas in children. Acute eczema may appear as red skin that is dry and peeling or moist and oozing. When eczema is persistent, the skin tends to thicken, darken, and become scaly.

ATOPIC DERMATITIS

Atopic dermatitis is a long-lasting, itchy, inflammatory skin disease. Atopic dermatitis often occurs in infants and children in families with a history of atopic dermatitis, food allergies, asthma, and/or environmental allergies. It also affects adults. Although the cause of atopic dermatitis is not fully understood, there is a strong genetic component that leads to a structural abnormality in the skin barrier. This skin barrier abnormality leads to allergens being presented to the immune system through the skin, which leads to food allergies. Because atopic dermatitis is due to this primary skin barrier dysfunction, it is often the first condition to develop in many children who will go on to develop the other allergic conditions (the "atopic march").

Atopic dermatitis usually develops in three different phases. The infantile phase occurs between several weeks and 6 months of age, with itching, redness, and the appearance of small bumps on the cheeks, forehead, or scalp. The bumps may spread to the trunk and extremities as well. Although atopic dermatitis can be confused with other types of dermatitis, severe itching is typically a prominent feature. In many cases, the rash improves by 2 or 3 years of age.

In school-age children (between 4 and 10 years old), atopic dermatitis often affects the skin at the inner surfaces of the elbows and knees, and sometimes on the backs of the wrists and ankles. One common feature is red, scaly patches. There may be dry, scabby, and irritated areas due to excessive scratching. Over time, the skin becomes discolored and thicker. The third phase, characterized by itching and dry, scaly skin, begins at age 12 and may continue into adulthood. However, the presentation of atopic dermatitis varies between children and depends on age, ethnicity, skin pigmentation, and length of disease.

CONTACT DERMATITIS

Contact dermatitis can occur when the skin encounters an irritating substance or allergen. One form of this problem results from repeated contact with irritating substances such as citrus or other acidic foods, bubble baths, harsh soaps, fragrances, nickel, and wool or rough fabrics. One of the most common irritants is a child's own saliva. Constant drooling or licking the lips can cause an eczematous dermatitis of the lips and skin around the mouth and neck.

Another form of contact dermatitis develops after contact with substances the child is allergic to. The most common potential allergens are:

- Nickel in jewelry, glasses, braces, snaps on jeans or pants, belt buckles
- Flavorings or additives to toothpastes and mouthwashes
- Glues, dyes, or leather used in the manufacture of shoes
- Dyes used in clothing
- Plants, especially poison ivy, poison oak, and poison sumac (this rash usually appears within several hours after contact, or within one to three days with poison ivy)
- Medications such as antibiotic/antibacterial ointments

TREATMENT

If your child has a rash that looks like eczema, your pediatrician will need to examine it to make the correct diagnosis and prescribe the proper treatment. In some cases, they may arrange for consultation with a pediatric

dermatologist or allergist. Although there is no cure for eczema, it can be controlled and will often go away after several months or years. The most effective treatment is to prevent the skin from becoming dry and itchy and to avoid triggers that cause the condition to flare. To do this:

- Use skin moisturizers regularly and frequently to decrease the dryness and itchiness and improve the skin barrier. Ointments often work better than creams, which often work better than lotions.
- Give your child a short bath in lukewarm water. After a bath, rinse twice to remove any residual soap (which might be an irritant). Pat dry, then apply the moisturizing cream or ointment within three minutes of getting out of the bath to lock in the moisture.
- Avoid harsh or irritating clothing (wool or synthetic material). Avoid dyes and fragrances in soap and detergents.
- If there is extreme itching, use cool compresses on the area, followed by the application of prescribed medications.

There are many types of prescription creams and ointments available, so ask your pediatrician to prescribe one that they prefer to control inflammation and itching. These preparations often contain a form of steroid, which is the first line of treatment. These creams or ointments should be used under the direction of your child's doctor. There are important instructions to follow regarding the maximum amount of time you can use some creams and ointments, typically for a maximum of two weeks out of the month. It's important to continue to apply the medications for as long as your pediatrician recommends their use.

In addition to the skin preparations, your child also may take an antihistamine by mouth to help with sleep and to relieve the itching, and may need antibiotics if the skin becomes infected. If your child develops frequent infections, your pediatrician may suggest a very dilute bleach bath, usually made by adding ⅛ to ½ capful of bleach in a regular-size bathtub of water, or a wet wrap for flares on the extremities.

For moderate to severe atopic dermatitis not well controlled by topical therapies, there are new biologic therapies that can be very effective. Talk to

your doctor if you think your child has not responded to prescribed treatments.

Treatment of allergic contact dermatitis is similar, but the key is avoiding triggers. Although a little detective work will often help identify the trigger, your pediatric dermatologist or allergist may conduct a series of patch tests. These tests are done by placing small patches of allergens against your child's skin for forty-eight hours. If the skin reacts with redness and itching, that substance should be avoided.

Alert your pediatrician if any of the following occurs:

- Your child's rash is severe and is not responding to home treatment.
- There is any fever or evidence of infection (i.e., blisters, extensive redness, yellow crusts, pain, or oozing of fluid).

Food Allergy

While many foods can cause allergic reactions, true food allergies are less common than you might think. Food allergies are most likely to happen in infants and children, as well as in children with other allergies or whose family members have allergies. When food allergies do occur, they may be in response to any food that contains protein, although particular items are more likely to cause reactions (see the list below). While in many cases food allergies may reveal themselves with mild symptoms, they can be potentially life-threatening.

While any food can trigger a food allergy, several cause the vast majority of cases in children. Cow's milk is among them. Other common foods associated with allergies include:

- Eggs
- Peanuts and tree nuts (such as cashews, walnuts, etc.)
- Soy
- Wheat
- Fish (such as tuna, salmon, and cod) and crustacean shellfish (such as shrimp, crab, and lobster)

- Sesame seeds

If your child has a food allergy, their immune system responds in an exaggerated way to otherwise harmless proteins in foods. When this food is consumed, their immune system manufactures antibodies that attempt to fight off the offending food. In the process, substances called histamines and other chemicals are released that cause allergic symptoms.

Another condition, food intolerance or food sensitivity, occurs more often than true food allergies. Although the terms are often confused and sometimes used interchangeably, food intolerance does not involve the immune system. For example, a child with lactose intolerance (a condition of food sensitivity) is deficient in an enzyme required to digest milk sugar, leading to stomachaches, bloating, and diarrhea. Additionally, acidic foods (i.e., strawberries, tomatoes) can cause a rash to develop around the mouth, which is evidence of a sensitivity, not a food allergy.

SYMPTOMS

A true food allergy happens when the body reacts against proteins found in foods. The reaction usually happens shortly after a food is eaten. Food allergy reactions can vary from mild to severe and include:

- Skin problems (itchy skin rashes, hives, swelling)
- Stomach problems (nausea, vomiting, diarrhea)
- Breathing problems (sneezing, wheezing, throat tightness)
- Circulation problems (pale skin, light-headedness, loss of consciousness)

HOW ALLERGIES DEVELOP

When an allergy-prone child is exposed to an allergen, their immune system produces an antibody (called IgE) in a process called allergic sensitization. The IgE sticks to mast cells in the skin and the linings of the airways and gut. The next time they come in contact with allergens, these cells release chemicals (e.g., histamine and leukotrienes) that cause allergic symptoms. However, the presence of IgE in response to a certain food during blood testing is common and not always indicative of a true food allergy. Additionally, not all food allergies involve IgE; other parts of the immune system may also be involved.

The intensity of the allergic reaction can range from mild to severe. If your child is highly allergic, even trace amounts of the food may trigger a potentially dangerous allergic response called anaphylaxis. Anaphylaxis can develop without warning and can progress rapidly; it must be treated immediately with a prescribed emergency injectable medication (called epinephrine auto-injector), which should always be with a trained adult near your child. Symptoms of anaphylaxis include:

- Swelling or tingling of the lips, throat, and tongue
- Difficulty breathing
- Wheezing
- A sudden drop in blood pressure, which would make your child look pale, feel lethargic, or lose consciousness
- Turning blue
- Loss of consciousness
- The uvula (the little punching bag at the back of the throat) may deviate in one direction instead of hanging straight
- Two-system involvement (e.g., respiratory symptoms as previously mentioned plus GI symptoms like stomachache or vomiting or diarrhea or skin manifestation like hives)

(See the box *Anaphylactic Reactions: What You Should Do* on page 469.)

DIAGNOSIS AND MANAGEMENT

Because some food allergies can be serious, talk to your pediatrician if you suspect that your child has one. To help make the diagnosis, your pediatrician will review your concerns and may perform some tests or refer you to an allergist, who may recommend additional testing. The presence of a food allergy is usually obvious, like when a child gets hives and lip swelling after eating a walnut. Tests, including a skin prick test and blood tests, can provide more information.

- With the skin prick test (or scratch test), the doctor will prick the skin with drops of the suspicious food allergens on your child's back or

forearm. This can result in redness, swelling, and itching at the site, which the doctor will measure after twenty minutes.

- A blood test can measure antibodies to foods as well; these antibodies are called immunoglobulin E, or IgE. A sample of your child's blood will be drawn and sent to the laboratory for testing.

It is important that your doctor tests your child only for the specific foods that have caused potential reactions. General blood panels are rarely recommended. A positive skin or blood test alone is not sufficient to diagnose food allergy; only an oral food challenge can confirm a food allergy. Your doctor should discuss with you the specifics of your child's diet, including any of your concerns about reactions to particular foods, to know what tests to consider and how to interpret the results.

There is no treatment for food allergies at this time, although research is currently under way and there is hope that in your child's lifetime treatment may be available. Avoidance of what your child is allergic to is currently the only way to avoid food allergy symptoms, including a life-threatening reaction. However, with some foods such as milk, soy, wheat, and eggs, many children will outgrow their food allergy over time. Some children can tolerate certain forms of milk and egg, depending on how it is cooked or processed. Some children can eat baked food with milk and eggs, such as in a muffin, without symptoms of an allergic reaction. In such cases, your pediatrician or allergist may recommend continuing to feed your child a small amount of the food such as egg or milk regularly, as this might help your child outgrow their food allergy. In other cases, your pediatrician or allergist may recommend that you avoid the food your child is allergic to altogether and retest your child in the future to see if they are still allergic. Certain food allergies—like those to peanuts and fish—are less likely to be outgrown. Only 20 percent of children with peanut allergy outgrow it or develop a natural tolerance.

Even once you're successful in keeping allergenic foods out of your refrigerator and off your dining room table, it may be more difficult to keep your child away from those items when they are out of your care. As your child gets older you'll have to educate them, as well as their friends, grandparents, teachers, childcare workers, and other caregivers, about the

importance of avoiding specific foods that could trigger allergy symptoms. Every time you shop, read food labels and look for major allergens to which your child is allergic. Also, when your family is eating in restaurants or traveling, ask questions about the ingredients of menu items. While the waiter may be helpful, confirm the information by speaking with the chef.

As you make adjustments in your child's diet, talk to your pediatrician regularly about compensating for the missing foods and keeping their diet balanced. For example, if your child is allergic to milk, you will need to include other calcium-rich foods (like green leafy vegetables and calcium-fortified drinks) in their diet. If your infant is allergic to formula, refer to page 63 about choosing an elemental formula.

PREVENTION

Unless you yourself are allergic to a certain food, there is no need to avoid any foods while pregnant or breastfeeding. All infants are recommended to receive breast milk exclusively for the first 4 to 6 months, if possible. Introducing highly allergenic foods, especially peanut and egg protein, as early as 4 months of age or as soon as developmentally appropriate can prevent your child from developing allergies to those foods. Delayed introduction of solid foods has been shown to increase the risk of food allergy. Please talk to your pediatrician if you have concerns about food introduction.

Nasal Allergy/Allergic Rhinitis

If your child's nose starts to run and their eyes become itchy, red, and swollen, but there are no other symptoms of a cold or an infection, they may be having allergic rhinitis. This is a reaction to allergens in the environment. The most common environmental allergens are pollen, dust mites, mold, and animal dander. Like other allergies, this condition tends to run in families. The symptoms may not appear immediately, however. Seasonal respiratory allergies (e.g., to pollen) are quite uncommon in children under age 2 because infants must be exposed to a few pollen seasons to develop allergies.

It is sometimes difficult to tell the difference between a common cold and nasal allergy because many of the symptoms are the same. Here are some of the signs of a possible nasal allergy:

- Sneezing, sniffling, stuffiness; itchy and runny nose (usually clear discharge)
- Tearing; itchy, red, or swollen eyes
- A horizontal crease across the bridge of the nose from frequent wiping (nasal salute)
- Nosebleeds (see *Nosebleeds,* page 550)
- Dark rings under the eyes (allergic shiners)
- Mouth breathing because of nasal congestion
- Fatigue (mostly from not sleeping well at night)
- Frequent throat clearing or clucking (rubbing tongue against roof of mouth)

If your child has nasal allergies, potential complications include frequent sinus and ear infections (see *Middle Ear Infections,* page 542, and *Sinusitis,* page 547). If the allergy causes eye irritation and rubbing, they may be more susceptible to eye infections (see page 604). Since chronic allergies also can interfere with sleep, this may also affect school performance.

TREATMENT

Call your pediatrician if your child's nasal allergies start to interfere with sleep, school, or other activities. To prevent or treat allergy symptoms, the doctor can suggest treatment, including prescription and non-prescription antihistamines, nose sprays of various types (including saline), and other medications. In many cases, they will recommend an oral antihistamine; most are now available over the counter, including loratadine, fexofenadine, and cetirizine. For more severe or persistent allergy symptoms, your physician may recommend a prescription or over-the-counter steroid nasal spray that, when used daily, will help prevent nasal allergy symptoms. If your child's eyes are swollen, itchy, and red, your pediatrician may also recommend prescription or over-the-counter allergy eye drops.

COMMON HOUSEHOLD ALLERGENS

SOURCE

Pets (dogs, cats, guinea pigs, rabbits, and hamsters)

The best pets for allergenic families are fish and reptiles because they don't cause allergies. While some dog breeds are categorized as "hypoallergenic," in truth all dogs are equally likely to cause allergies, regardless of how much or little they shed.

Mold

Mold grows outdoors in cool, damp, dark places, such as in soil, grass, and dead leaves. Indoors, it's found in cluttered storage areas, recently flooded areas, basement areas, plumbing spaces, and areas with poor ventilation such as closets and attics, as well as pillows and blankets that haven't been aired out in a long time.

House Dust Mites

Many people are allergic to house dust mites, which are found in bedding (pillows, blankets, sheets, and mattresses), upholstery, furniture, and carpet. These mites, which are too small to be seen by the naked eye, thrive in humid environments (humidity greater than 50 percent).

WHAT TO DO

If your child is allergic to an animal, it's best not to have that animal in the house. If that isn't possible, keep the animal out of your child's bedroom. Have your child wash their hands and face after playing with a pet, and shower and wash their hair at night before bed so they don't sleep in pet dander. Also, run a HEPA filter in the child's bedroom to remove airborne allergens.

The key to controlling mold is to limit humidity. Avoid using vaporizers, humidifiers, and swamp coolers. A dehumidifier in a damp basement can be helpful. Throughout the house, replace any carpet that's been saturated by a big water spill, or dry it completely. You can destroy mold with several types of disinfectants, but be careful to store them in a safe place (locked in a high cabinet), away from curious toddlers.

The most important measures for reducing exposure to house dust mites should be focused on the bedroom. Put dust-mite-proof covers on mattresses and pillows, and wash sheets and blankets in hot water once a week to remove allergens and kill the mites. It's also helpful to keep the humidity in the home at less than 50 percent to control the growth of mites. If you're remodeling the bedroom, consider removing carpets from the room.

The best thing you can do for your allergic child is to remove the sources of allergens from your home, if possible.

Hives/Urticaria

Another allergic type of common rash that is characteristically very itchy, urticaria looks almost like a raised map of bumps, called hives. Hives are red, swollen bumps that tend to move around; individual lesions typically resolve within about twenty-four hours. When the rash remains in the same place for more than twenty-four hours, other diagnoses should be considered.

Among the most common causes of hives are:

- Response to an infection, most commonly a virus
- Foods (most commonly peanuts, tree nuts, egg whites, milk, shellfish, and sesame)
- Medications, either over-the-counter or prescription (such as ibuprofen and antibiotics)
- Bites or stings from bees or other insects

In at least half of cases of acute hives, it is not possible to identify the cause. An episode of acute hives can last up to six weeks before resolving. If hives persist longer than six weeks, they are considered chronic and may need further guidance by your pediatrician or allergist. Foods, medications, and venom stings are generally not responsible for chronic hives (those lasting more than six weeks).

TREATMENT

Non-sedating oral antihistamine medication should relieve or at least help reduce the itching and appearance of hives. These medications (e.g., loratadine, cetirizine, levocetirizine, fexofenadine) can be obtained without a prescription. You may need to use this type of medication regularly for several days or weeks. These medications are usually given once or twice a day. Applying cool compresses to the area of itching and swelling may help. When these medications aren't helping, your doctor may add medications called H2 blockers (e.g., ranitidine, famotidine, nizatidine, cimetidine) that are more commonly used to reduce stomach acid but are, in fact, another kind of antihistamine.

ANAPHYLACTIC REACTIONS: WHAT YOU SHOULD DO

An anaphylactic reaction is the most serious of allergic reactions and is always an emergency. It is potentially fatal and requires immediate medical attention. If symptoms such as swelling of the face or throat and wheezing occur, administer self-injectable epinephrine and then call 911 or go to the emergency room immediately. When used properly and promptly, self-injectable epinephrine can reverse most serious reactions and allow for time to get to an emergency room for further treatment. In most cases, it reduces symptoms rapidly, but if it doesn't, another injection should be given five minutes later.

To use an auto-injector, you'll press the device against your child's thigh and hold it there for ten seconds. Make sure to ask your doctor or nurse to give you precise instructions and demonstrate its use with a trainer. At the same time, your childcare center or preschool should have written instructions on how to recognize and react to a severe allergic reaction that may be life-threatening, and epinephrine should be available to care providers, along with a step-by-step guide and demonstration on how to administer it. Keep in mind that unused medication in these auto-injectors should be replaced at regular intervals, so check the expiration date and replace it as recommended by your doctor.

If your child has an anaphylactic reaction, see your pediatrician afterward, and find out exactly why the reaction happened and how to avoid another one. Your child should also wear a medical identification bracelet if they have had an anaphylactic episode in the past. This bracelet should give information about the allergies that your child has.

If your child is wheezing or having trouble swallowing, seek emergency treatment. The doctor usually will prescribe self-injectable epinephrine to stop the allergic response. Self-injectable epinephrine should be always available for such patients, including at home, in childcare, or at school, in case of such reactions in the future. (For more information, see the box *Anaphylactic Reactions: What You Should Do,* above.)

PREVENTION

Your doctor will try to determine what is causing the hives. For example, does it usually happen an hour after eating a specific food? Or after taking a specific medication? Does your child have any other illness symptoms? How quickly does it resolve? Does it start within one hour of eating and resolve quickly (food allergy) or last days to weeks (infection or unknown cause)? Consult your doctor for evaluation and management.

Insect Bites and Stings

Your child's reaction to a bite or sting will depend on their sensitivity to the insect's venom. While most children have only mild reactions, those who are allergic to certain insect venoms can have severe symptoms that require emergency treatment.

In general, bites are usually not a serious problem, but in some cases, stings may be. While it is true that most stings and bites (from honeybees, yellow jackets, hornets, wasps, and fire ants, for example) may cause pain and localized swelling, severe anaphylactic reactions are also possible. Delayed allergic reactions to being bitten by fleas, bedbugs, or mosquitoes are common, and although uncomfortable, they are not life-threatening.

TREATMENT

Although insect bites can be irritating, they usually begin to disappear by the next day and do not require a doctor's treatment. To relieve the itchiness that accompanies bites by mosquitoes, flies, fleas, and bedbugs, apply a cool compress and calamine lotion or a low-potency topical steroid on the affected areas. Use oral antihistamines to control itch.

If your child is stung by a wasp or bee, this can be more serious. If redness, pain, and itching is present at the site of the sting, this is a local reaction. Soak a cloth in cold water and press it over the area of the sting to reduce pain and swelling. Non-steroidal anti-inflammatory drugs (ibuprofen) may also be helpful. Call your pediatrician if symptoms persist or become difficult to control. Your child may be prescribed an oral steroid if the swelling is significant. If the reaction occurs in another area of the body (or all over the body), this is a systemic reaction and needs immediate medical attention. If there is throat swelling or trouble breathing, administer self-injectable epinephrine and call 911.

If your child disturbs a beehive or wasps' nest, get them away from it as quickly as possible. Any disturbance makes other bees and wasps more likely to sting as well. Keep your child's fingernails short and clean to minimize the risk of infection from scratching. If infection does occur, the bite will become redder, larger, and more swollen. In some cases, you may notice red streaks or yellowish fluid near the bite or your child may get a fever. Have your pediatrician examine any infected bite right away because it may need to be treated with antibiotics.

Call for medical help immediately if your child has any of these other symptoms after being bitten or stung:

- Sudden difficulty in breathing
- Weakness, collapse, or unconsciousness
- Hives or itching all over the body
- Extreme swelling near the eyes, lips, or penis that makes it difficult for the child to see, eat, or urinate

It is impossible to prevent all insect bites, but you can minimize the number your child receives by following these guidelines.

- Avoid areas where insects nest or congregate, such as garbage cans, stagnant pools of water, uncovered foods and sweets, and orchards and gardens where flowers are in bloom.
- When you know your child will be exposed to insects, dress them in long pants and a lightweight long-sleeved shirt as well as closed-toe shoes.
- Avoid dressing your child in clothing with bright colors or flowery prints, because they seem to attract insects.
- Don't use scented soaps, perfumes, or hair sprays on your child, because they also are inviting to insects.

INSECT BITES AND STINGS

Insect/Environment	Characteristics of Bite or Sting	Special Notes
MOSQUITOES		
Water (pools, lakes, birdbaths)	Stinging sensation followed by small, red, itchy mound with tiny puncture mark at center	Mosquitoes are attracted by bright colors, sweet scents, and sweat.
FLIES		
Wet areas with standing water or mud	Painful, itchy bumps; may turn into small blisters	Bites often disappear in a day but may last longer.
FLEAS		
Cracks in floor, rugs, pet fur	Multiple small bumps clustered together on	Fleas are most likely to be a problem in homes with pets.

	exposed areas, particularly arms, legs, face	
BEDBUGS		
Cracks of walls, floors, crevices of furniture, bedding	Itchy red bumps occasionally topped by a blister; usually 2–3 in a row (same as fleas but may affect covered areas)	Bedbugs are most likely to bite at night and are less active in cold weather.
FIRE ANTS		
Mounds in pastures, meadows, lawns, and parks in southern states	Painful, itchy bumps; may turn into small blisters	Fire ants usually attack intruders.
BEES AND WASPS		
Flowers, shrubs, picnic areas, beaches	Immediate pain and rapid swelling	A few children have severe reactions, such as difficulty breathing and hives/swelling all over the body.
TICKS		
Wooded areas, tall grass, and underbrush	May not be noticeable; hidden by hair or on skin	Don't remove ticks with matches, lighted cigarettes, or nail polish remover. Grasp the tick firmly with tweezers near the head; gently pull the tick straight out.

Insect repellents are generally available without a prescription, but they should be used sparingly on infants and young children (see page 717). The most common insect repellents are DEET (N,N-diethyl-meta-toluamide) and picaridin. DEET is a chemical that can be used with children 2 months of age and older. The AAP recommends that when used on children, repellents should contain *no more than 30 percent DEET*. The concentrations of DEET vary significantly from product to product—from less than 10 percent to over 30 percent—so read the label of any product you purchase. DEET's effectiveness peaks at a concentration of 30 percent, which is also *the maximum concentration currently recommended for children. It is recommended to use the lowest concentration that will last for the needed length of exposure.*

In children who consistently get itchy bumps after insect bites, topical treatment and oral antihistamines are of little help. For these children, wearing protective clothing, treating household pets for fleas, and applying insect repellent are the most effective ways to manage the situation. These repellents are effective in preventing bites by mosquitoes, ticks, fleas, chiggers, and biting flies, but they have virtually no effect on stinging insects such as bees, hornets, and wasps. (The table on page 471 summarizes information about common stinging or biting insects.)

CHAPTER 21

Behavior

Anger, Aggression, and Biting

There are many times when your child's behavior warms your heart. But there are other times when it probably drives you a little crazy. From temper tantrums to dancing around your living room, children express their feelings and needs, although not always in ways that you'd prefer.

Your child's behavior is partly innate; in a real sense, they were born to act this way. But there are a lot of other influences on their behavior in addition to their genetic makeup. For example, your own parenting style will affect your child's behavior. So will the role models that they encounter and may imitate. So will the media, from television to movies to the internet. Family circumstances are important, too, as are stresses and transitions, such as starting a new preschool or dealing with sickness. Even broader environmental contexts, like the neighborhood where your family lives and the places where a child goes outside to play, can influence behavior from an early age.

Your child's behavior doesn't happen in isolation. But no matter the underlying cause or the message that they try to communicate, this behavior will get your attention every day. Consequently, there will be issues you'll have to deal with. We all have feelings of anger and aggression, including your child. As a toddler or preschooler, your child may lack the self-control to express anger peacefully. Instead, they may naturally lash out, perhaps hitting or biting in frustration. These impulses are normal, healthy, and part of your child's expected behavior.

In a toddler (ages 15 to 30 months), expressive language skills (the speech and language your child produces) and the ability to articulate emotions such as happiness, anger, and sadness are not well developed.

From the child's perspective, these are the "terrific twos," because they are so excited about all of the new things they are developmentally able to do. It's as if they are saying, "Look at what I can do!" But one consequence of this is that your toddler can get frustrated at anyone or anything limiting their ability to do as they wish, even when they are not capable of it. This lack of independence often leads to immediate and intense frustration and loss of control, which may manifest as a temper tantrum or other behavioral episode. When this happens, your child needs you to take control and to help them develop judgment, self-discipline, and other tools to express their feelings in more acceptable and age-appropriate ways.

This is very hard for parents, since before the "terrific twos," infants and toddlers are more often cuddly, warm, interactive, and loving. Some parents will even think, "My child is like a monster and just out to get me!" But do not take their behaviors personally. Your toddler is simply overwhelmed. During this time, your overarching goal is to teach them how to regain control and to set limits so that they won't cause harm to themselves, to others, or to property. Importantly, however, the goal is not to punish them.

While many parents think that discipline and punishment are the same thing, they are not. Discipline means teaching self-control. If done effectively, you will rarely need to use punishment. Discipline is a way of teaching and a way of enhancing a good parent-child relationship. When you discipline, you should provide your child with praise along with instruction in a firm tone, with the intent of improving their behavior. By contrast, punishment is a negative, in which you're dispensing an unpleasant consequence when your child does or doesn't do something. Punishment is a part of discipline, but only a small part. Until age 3 and sometimes later, children simply don't understand the concept of punishment. Setting limits is a much better approach than punishment; most children will respond to clear, calm, and decisive limit-setting. Effective disciplinary strategies, appropriate to a child's age and development, teach children to regulate their own behaviors, keep them from harm, enhance cognitive, socio-emotional, and executive functioning skills, and reinforce the behavioral patterns taught by parents and caregivers.

A child's behavior or temper can change frequently and quickly and is easily affected by many things such as sleep, nutrition, and what is going on

around them. Keep in mind that while some temper tantrums (see page 486) and outbursts are completely normal in young children, anything that causes injury to the child or others should be discussed with your pediatrician.

Your child might go through a brief period of different or unusual behavior, particularly if they are worried, tired, or overstressed, but if it continues for more than a few weeks or is especially aggressive, consult your pediatrician. Parents of children with special healthcare needs may need additional assistance regarding discipline strategies. These strategies begin with an understanding of the child's physical, emotional, and cognitive capacities. In some cases, consultation with a developmental-behavioral pediatrician may be helpful.

WHAT YOU CAN DO

The best way to prevent behavior problems is to give your child a stable, secure home life with firm, loving discipline and full-time supervision during the toddler and preschool years. Choose people to care for your child who can be good role models and who agree to follow the rules you've outlined—both in terms of your expectations for your child and in terms of responding to misbehavior.

Children don't know the rules of the house until they're taught them, so that is one of your important parenting responsibilities. Toddlers are normally interested in touching and exploring, so if there are valuables you don't want them to handle, hide or remove them. Most rooms in your house should be safe for toddlers to explore (see *Safety Inside Your Home* in Chapter 18). If a room can't be made safe, consider gating it or securing the door.

For discipline to be most effective, it should take place on an ongoing basis, not just when your child misbehaves. In fact, discipline begins with parents smiling at their smiling baby, and it continues with praise and genuine affection for all positive and appropriate behaviors. Over time, if your child feels encouraged and respected, rather than demeaned and embarrassed, they are more likely to listen, learn, and change when necessary. It is always more effective to positively reinforce desired behaviors and to teach children alternative behaviors rather than to just say "Stop it or else." One strategy is to briefly ignore minor misbehavior, then tell your

child what to do instead. Provide praise when your child behaves in a way that you like. Let them know exactly what it was about their behavior that you liked, such as "Thank you for talking in your quiet voice in the library," so that they know what to do more of.

Distracting your child can also be helpful when they start to get upset. This can help take their mind off something that's upsetting and get them involved in another activity to help them calm down. Try to avoid bribing your child to behave differently and instead set clear expectations.

Remember, young children have little natural self-control. Your child needs you to teach them not to kick, hit, or bite when they are angry, but instead to express feelings through words. It's important for your child to learn the difference between real and imagined insults and between appropriately standing up for their rights and attacking out of anger. The best way to teach these lessons is to supervise your child carefully when they are involved in disputes with playmates. As long as a disagreement is minor, you can keep your distance and let the children solve it on their own. However, you must intervene when children get into a physical fight that continues even after they're told to stop, or when one child seems to be in an uncontrollable rage and is assaulting or biting another. Pull the children apart and keep them separate until they have calmed down. If the fight is extremely violent, you may have to end the play session. Make it clear that it doesn't matter who "started it." There is no excuse for trying to hurt each other.

To avoid or minimize high-risk situations, teach your child ways to deal with anger without resorting to aggressive behavior. Teach them to say no in a firm tone of voice, to turn their back, or to find compromises instead of fighting. Through example, teach your child that settling differences with words is more effective—and more civilized—than using physical violence. Praise your child for appropriate behavior and tell them how "grown-up" they act whenever they use these tactics instead of hitting, kicking, or biting. And always reinforce and praise when they demonstrate kindness and gentleness.

There's nothing wrong with using a time-out when a child's behavior is inappropriate, and it can be used in children as young as 1 year old. These time-outs should be a last resort, however. Have your child sit in a chair or

go to a boring place where there are no distractions; in essence, you're separating the child from the misbehavior and giving them time to cool off. Briefly explain to your child what you're doing and why—but no long lectures. Initially, when children are young, time-out is over as soon as they have calmed down and are quiet and still. Once they have learned to calm themselves (to be quiet and still), a good rule of thumb is one minute of time-out for each year of your child's age—thus, a 3-year-old should have a three-minute time-out. When the time-out is over, there needs to be a time-in, while giving plenty of positive attention when your child is doing the right thing. (See *Time-Out/Time-In* on page 280.)

Always watch your own behavior around your child. One of the best ways to teach a child appropriate behavior is to control your own temper. If you express your anger in quiet, peaceful ways, your child probably will follow your example. That said, there may be times when you must discipline them. In such cases, do not feel guilty about it and certainly don't apologize. If your child senses your mixed feelings, they may convince themselves that they were in the right all along and you are the "bad" one. Although disciplining your child is never pleasant, it is sometimes a necessary part of parenthood. Your child needs to understand when they are in the wrong so that they will take responsibility for their actions and be willing to accept the consequences.

WHEN TO CALL THE PEDIATRICIAN

Many behavior disorders emerge during the toddler years. If your child seems to be unusually aggressive for longer than a few weeks and you cannot cope with their behavior on your own, consult your pediatrician. Other warning signs include:

- Physical injury to the child or others (teeth marks, bruises, head injuries)
- Attacks on you or other adults
- Being sent home or barred from play by neighbors or school
- Your own fear for the safety of those around your child

Warning signs include the frequency of outbursts and how easily your child can recover from them and regain composure. Children who have

suffered trauma or who have developmental disabilities may have an especially hard time dealing with change and moving on after a tantrum. Sometimes children with behavior disorders will go for several days or even a week or two without incident, and may even act quite charming during this time, but few can go an entire month without getting into trouble at least once. Keep in close contact with your child's teacher, school, and other caregivers in order to monitor their behavior.

Your pediatrician can suggest ways to discipline your child and will help you determine whether your expectations of their behavior are age-appropriate, whether their behavior is within the normal range for their age, or whether they may have a true behavior disorder. When a child has a true behavior disorder, a mental health intervention with a child psychologist, child therapist, and/or behavioral therapist can help. Ask your pediatrician for a referral.

The pediatrician or other mental health specialist will interview both you and your child and may observe your child in different situations (home, preschool, with adults, with other children). A behavior management program will be outlined. Not all methods work for all children or families, so there will be a certain amount of trial and reassessment.

Once several effective ways are found to reward desired behavior and discourage undesired behavior, they can be used in establishing an approach that works both at home and away from home. The progress may be slow, but such programs usually are successful if started when the disorder is just beginning to develop.

Coping with Disasters and Violence

Disastrous events—earthquakes, hurricanes, tornadoes, floods, and fires—can be frightening and traumatic for both children and adults. Events like these have always demanded that parents be available to talk with and reassure their children and be particularly sensitive to their children's needs. The AAP has compiled information for parents on talking with children about tragedies and other events at HealthyChildren.org and AAP.org.

Parents are understandably concerned about the effects of exposure to violence on their children, including the effects of the media's coverage of those events. In general, it is best to share only the basic information with children, not graphic details or unnecessary details about tragic circumstances. Therefore, it's best to turn off the TV and any other screens that a child may see. It's especially important to keep young children away from repetitive graphic images and sounds that may appear on television, radio, social media, and online. If you have older children as well as younger ones, you may make different, age-specific decisions about allowing their exposure to disturbing news. If you decide to let the older children watch the news or a segment online, review it first, and protect your younger children appropriately.

Children will generally follow good advice, but you must give them some latitude to make decisions about what they're ready for. You can block them from seeing the newspaper that comes to the door, for example, but not the one at the store. Today, most older children will have access to the news and graphic images through social media and other applications right from their cellphone. You need to be aware of what's out there, take steps in advance to talk to children about what they might hear or see, and ask them if they have any questions or concerns.

WHAT TO EXPECT

Even if acts of violence, natural disasters, or other traumatic events occur hundreds or thousands of miles from you and your child, television, online, and print news coverage can make the aftermath traumatizing. If the disaster actually has occurred in your own community, it can be especially frightening for your child.

In the aftermath of a crisis, children may react in different ways. Some may experience a type of post-traumatic stress reaction, with symptoms that may vary from child to child, depending in part on their age. A child up to age 5:

- May have difficulty sleeping
- May exhibit a decreased appetite
- May cry and become cranky

- May show defiance, have tantrums, and exhibit hostility toward siblings
- May cling to you, shadowing you as you move from one room of the house to another, and show anxiety on leaving your side
- May have nightmares and refuse to sleep in their own bed
- May have bed-wetting episodes, even if they have previously been toilet trained
- May develop physical symptoms, such as stomachaches and headaches
- Might refuse to go to the preschool that they had attended enthusiastically for months or years

WHAT YOU CAN DO

Remember that children tend to personalize events. They may think that a terrorist attack or disaster is going to strike them or their family members. One of your primary goals as a parent is to talk with your child and make them feel secure and safe. Your words and actions can be very powerful in comforting them; talking with your child about the events won't increase their fear and anxiety. As you interact with them, speak at a level they can understand. Here are some guidelines to keep in mind.

- Listen to what your child says to you. Help them to use age-appropriate words to describe their feelings—perhaps "sad," "mad," or "scared." Don't make assumptions, and don't downplay what they say. Accept what your child feels.
- If your child has difficulty expressing themselves, encourage them to get their feelings out in other ways—perhaps by drawing pictures or playing with toys.
- Depending on their age, your child may not need a lot of information about the events that have happened. Don't be surprised if they ask the same questions over and over. While you should be honest about what you tell them, don't overload them with information.
- If an act of violence has happened nearby, explain that there are some people in the world who do bad things. But make sure your child understands that most people help each other and do not do such bad

things, including people of all ethnic and religious groups. Use this event to teach inclusion to your child.

- For a violent event that occurred elsewhere, let your child know that the violence was isolated to particular areas far away, not in your community, and focus on how people from all over are trying to help.
- Although you always should monitor what your child watches on television, this advice is *particularly* important when violence or other disasters are filling the screen. No matter what your child's age, they can be traumatized by what they see on television or online, so restrict their viewing of any screens. When your child does watch TV, make sure you are there with them, and talk about what you've seen.
- If you appear particularly anxious over what has happened, your child will feel it and find coping more difficult. Try to stay as calm as possible in their presence and maintain as many of the routines of your family's life as you can. If your child has been going to preschool, for example, the structure of continuing to do so can be comforting to them.
- Teach your child the importance of helping out those who have been directly affected by the tragedy or disaster. Let them help you send a letter or care package or explain to them that your family is sending money or supplies to help the victims.
- If your child has been particularly traumatized by the events that have happened, talk with your pediatrician. The pediatrician may suggest seeking the help of a mental health professional who specializes in treating children in tough emotional times.
- It is easier for adults and children when there is a plan in place in advance of an emergency or disaster situation. Parents should develop a disaster plan and discuss this plan with their children. Talking to children in advance of an emergency or disaster helps them to better prepare and to develop strategies for coping with emergency situations. (For more information on helping children cope and adjust after a disaster, visit the Advocacy and Policy sections at AAP.org.)

Death of a Loved One

The death of an important person in a child's life is among the most stressful events that a child can experience. When the death involves a parent or sibling, the potential for an adverse response by the child is compounded. A number of behavioral changes may be seen, and parents should be on the lookout for problems needing professional help. When dealing with bereavement, here are some key things to consider.

- The child should be told about a death honestly and in language that is developmentally appropriate.
- The family can be reassured that showing their feelings, such as shock, disbelief, guilt, sadness, and anger, is normal and helpful. A bereaved parent or other close family member who shares these feelings and memories (e.g., with pictures and stories) with a child reduces the child's sense of isolation.
- Children need reassurance that they will be cared for and loved by a safe, stable, nurturing adult who attends sensitively to their needs. In addition, they must be assured that they did not cause the death, could not have prevented it, and cannot bring back the deceased. Parents should be encouraged to continue family routines.
- The funeral services can provide even a young child with an important way to grieve a loved one if such involvement is supportive, appropriately explained, and compatible with the family's values and approach. The child's opinion about attending the service should be considered. Children need to be prepared if they are to participate in the funeral process. The participation should be tailored according to the developmental level of the child. A trusted person should be with the child to explain what is happening and to offer support. Encouraging a child to commemorate loss through some form of participation, such as drawing pictures, planting a tree, or giving a favorite object, will promote inclusion in the process and provide a meaningful ritual.
- Similar to adults, grief for a child is a process that unfolds over time. The initial shock and denial of death may evolve into sadness and anger that can last for weeks to months and eventually end, in the best circumstances, with acceptance and readjustment.

Hyperactivity and the Easily Distractible Child

Almost every young child has days when they seem inattentive and hyperactive. Effective behavior management on the part of parents and teachers will likely help any child to stay more focused and attentive. Marked inattention (persistent trouble focusing and concentrating) and hyperactivity could be a condition called attention-deficit/hyperactivity disorder (ADHD). Ten percent of school-age children in the United States have ADHD. Children who have ADHD are inattentive, are impulsive, move about a great deal, and/or have difficulty sitting still when it is required. They also can be easily distracted, often act on impulse, and/or have difficulty paying attention when listening to or watching events around them, compared with other children of their age. They also may have trouble sleeping.

A diagnosis of ADHD is made only if a child has persistent symptoms and in more than one setting—for example, home and school—and usually not until a child is of school age. Symptoms that are present in only one context may represent an adjustment to that setting or relationship. Parental expectations that are out of sync with a child's developmental capacity may cause a child to be frustrated and appear inattentive and hyperactive. Also, symptoms in children exposed to traumatic events or chronic stress can mimic ADHD, and helping the child to heal from trauma is more effective than just treating ADHD.

Particularly when your child is a toddler, you may worry that they show signs of hyperactivity, but if you compare them with others their same age, you probably will discover that their behavior is typical of their childhood peers. Around ages 2 and 3, children naturally are very active and impulsive and have a short attention span. All children occasionally seem overactive or easily distractible—for example, when they're very tired, excited about doing something special, or anxious about being in a strange place or among strangers. Children with ADHD, however, are noticeably more active, more easily distracted, and more excitable than their peers. Most important of all, these children never seem to be calm from one day to the next, and their behaviors continue into their school years, which is when their behaviors become more problematic because children with ADHD often struggle in

school and other group settings, especially those that require focused attention.

Although most children with ADHD have typical intelligence, they may not perform well in school settings, because they have difficulty paying attention or follow instructions through to completion. They also are slower to develop control over their impulses and emotions and slower in developing the age-appropriate ability to concentrate and pay attention. They may daydream a lot or lose or forget things. They may squirm or fidget more than others their age or make more careless errors in their schoolwork. They may have a harder time resisting temptation or choosing not to take risks. These behaviors can interfere with their social interactions. Their behavior often remains immature throughout childhood and adolescence and may lead to challenges doing things that they need to do at home, in school, or among friends. Without support and treatment, children with ADHD have difficulty developing the self-esteem they need to lead healthy, productive lives.

Most children with ADHD have other family members with the same condition, which suggests that it may be mostly inherited. One commonly overlooked cause is sleep deprivation. Sometimes poor sleep is due to habits like nighttime screen exposure, but it can also result from obstructive sleep apnea. If you hear your child snoring a lot, consider talking to your child's doctor about it.

Sometimes the condition can be traced to illnesses affecting the brain or nervous system, such as meningitis, encephalitis, fetal alcohol spectrum disorder, or severe prematurity. However, in most cases there is not such a relationship. Boys are more than twice as likely as girls to be diagnosed with ADHD. Research has demonstrated that some children with ADHD experience worse symptoms, such as increased hyperactivity, when they are exposed to food additives and environmental exposures (such as tobacco smoke or lead). More research is needed, but many experts will recommend that these children eat a healthy diet of whole, real foods.

Often children with ADHD elicit negative, punitive, and controlling responses from adults or parents who may not understand the true nature of their disorder. Being subjected to much criticism only makes these children feel more negative about themselves, which is why it is important to fully

evaluate the behavioral issue, determine if the child has ADHD or other behavioral disorders, and come up with a treatment plan.

While the cause of ADHD usually remains unknown, the way the problem is perceived, understood, and treated, and the way parents and teachers respond, can influence the outcome for the child. The children who see the best results have parents who are emotionally healthy and who understand how to help children manage their behavior.

WHEN TO CALL THE PEDIATRICIAN

Observing your child alongside others their age over a period of days or weeks is the best way to determine if they are unusually inattentive or hyperactive. For this reason, those who care for them at preschool or in a childcare setting may be your best source of information. Caregivers can tell you how your child behaves in a group and whether they act in a typical manner compared with other children their age. Specific signs of ADHD include:

- Difficulty paying attention to activities that interest other children of the same age
- Difficulty following even simple instructions due to not paying attention
- Appearing forgetful and losing things, and/or having difficulties with organizing their tasks
- Being impulsive, such as repeatedly running into the street without looking, interrupting other children's play, or racing through off-limits areas without considering consequences
- Unnecessarily hurried activity, such as running and jumping without periods of rest
- Sudden emotional outbursts, such as crying, angry yelling, hitting, or frustration, that seem inappropriate
- Persistent misbehavior because of not listening despite being told no many times

If you and others observe several of these warning signs on a continuing basis, consult your pediatrician. The doctor will go through the criteria for ADHD and examine your child to rule out any medical cause for the

behavior, and then either conduct a further evaluation or refer you to a developmental-behavioral pediatrician, psychologist, or child psychiatrist for a more formal evaluation. If your pediatrician or specialist determines that your preschooler has ADHD, the doctor or therapist probably will recommend some specific behavior strategies for managing their behavior and may suggest that you learn a system for fine-tuning your own behavior management skills, using so-called behavioral therapy or behavioral parent training (see also the section *How to Respond* on page 483). Ensuring that your child gets adequate sleep, a nutrient-rich diet (including protein foods and fresh fruits and veggies, low in sugar and processed foods), plenty of exercise and time outdoors every day, and limits on screen time may help with some symptoms.

Medications also may be recommended, depending on the effectiveness of behavioral measures with your child. Toddlers and preschoolers change so rapidly and so dramatically that what might seem like a behavioral problem at one point could disappear a few months later. Therefore, it is important to determine if the behaviors have persisted for more than six months.

Keep in mind that medications are used in more severe cases of ADHD in younger children only after trying to control the behaviors with good parenting techniques and healthy lifestyle choices. The American Academy of Pediatrics recommends that children with ADHD have a thorough patient history, family history, and physical exam before being diagnosed and starting any treatment, especially with medications (specifically with stimulant drugs). In some cases, if the family history or physical exam raises concerns, your doctor may advise that your child undergo an electrocardiogram (a test measuring the heart's activity) before prescribing these medications.

As a parent of a child with ADHD, you may hear about complementary treatments, some of which are still unproven or have not been shown to be effective. Talk with your pediatrician before involving your child in any complementary therapies to ensure that you won't waste your time and money or do anything that might harm your child.

HOW TO RESPOND

If your child shows signs of ADHD, it may mean that they cannot control their behavior on their own. In their hurry and excitement, your child may be accident-prone and may destroy property. To discipline a hyperactive child, you need to respond both effectively and constructively. If your actions are effective, your child's behavior will improve as a result. If your actions are constructive, they will help develop your child's self-esteem and make them more personable. The following box, *Effective Discipline,* provides some examples of effective and constructive responses to common problems among hyperactive children.

It is important to respond immediately whenever your child misbehaves and to make sure that everyone caring for them responds to these incidents in the same way. Never spank or slap your child, since it does not encourage them to control themselves and may contribute to a continued negative self-image and resentment toward you; at the same time, this approach tells them that it's okay to strike other people. Instead, acknowledge and point out those times when your child displays appropriate behaviors (that is, catch them displaying desired behaviors), and learn to actively ignore undesired behaviors that are not dangerous; this approach is far more effective in the long run. Children with ADHD can be challenging to raise, and parents may find they need help or coaching in how to effectively manage their child's behaviors while recognizing and supporting their strengths.

EFFECTIVE DISCIPLINE

Child's Behavior*	**Your Responses**	
	EFFECTIVE	**CONSTRUCTIVE**
Temper tantrums	Give a time-out and walk away.	When child is calm, discuss the incident in an age-appropriate manner.
Overexcitement	Distract with another activity.	Talk about their behavior in an age-appropriate manner when your child is calm.
Hitting or biting	Immediately remove them from the situation or in anticipation of this behavior.	Discuss consequences of your child's actions (pain, damage, bad feelings) for them and others in an age-appropriate

		manner. Try a one-minute time-out after a brief response.
Not paying attention	Establish eye contact to hold your child's attention.	Make sure your expectations are age-appropriate for your child's developmental level (i.e., ask them to listen to a story for three minutes instead of ten; don't insist they sit through a full church service).
Refuses to pick up toys	Don't let your child play until they do their job.	Show them how to do the task and help them with it; praise them when they finish.
* Note: In all these situations, try to determine what influences might cause or prolong the behavior: Is your child in need of attention, tired, worried, or fearful? What is your own mood or behavior? Remember, you always should praise your child for good or improved effort.		

Pacifier, Thumb, and Finger Sucking

Non-nutritive sucking habits (pacifier, thumb, or other finger) are common in infants and young children—half or more of all children engage in this activity at some time early in life. It is largely the result of the normal rooting and sucking reflexes present in all infants at birth. There is evidence that some infants suck their thumbs and fingers even before delivery, and some, particularly finger suckers, will show that behavior immediately after birth. Very young babies suck their thumbs or fingers to calm themselves, satisfy their urge for contact, and help themselves feel more secure.

Because sucking is a normal reflex, pacifier, thumb, and finger sucking can be considered a normal habit in the youngest of children. Beyond the soothing effects of sucking, pacifier use has been associated with a decrease in the risk of sudden infant death syndrome (SIDS), and most pacifier users do not develop a thumb or finger sucking habit. It is recommended that use of the pacifier be discontinued once your child turns 1, as SIDS is no longer a risk at that point and your child is unlikely to develop an interest in thumb or finger sucking afterward.

Over half of thumb or finger suckers stop by age 6 or 7 months. Sometimes young children, especially when they are feeling most vulnerable, still will suck their thumb occasionally, even until the age of 8

years or so. Don't worry about it until your child is 3 years old. But because thumb sucking beyond the third birthday may cause changes in the roof of the mouth (palate) or in the way the teeth are lining up, you and your child's dentist might become concerned at that time.

TREATMENT

Parents can help their children overcome habits like thumb sucking, but it takes time. Severe emotional or stress-related problems that might prolong this habit should be ruled out before any treatment program is begun. Also, your child should have the ability to understand why thumb sucking can be a problem and must want to stop the habit. Friends or relatives might suggest that you introduce a pacifier, but there is no evidence that this is effective at this stage—it only substitutes one sucking habit for another.

Since habits are often unconscious, the first step is to help your child build an awareness of the habit. Generally, the process begins with gentle reminders when you see your child sucking their thumb, particularly during the daytime hours. You can also have them purposely suck their thumb while looking in the mirror, so that they become more aware of what they are doing. Then you and your child need to work together to find a substitute for the habit, such as squeezing a stress ball or a small plush animal or even just taking deep breaths. Then, whenever you see your child start to suck their thumb, you bring their attention to it and suggest the substitute habit instead. Praise your child when you see them catching themselves. Over time your child should be able to shift to the new habit.

Other pediatricians recommend motivating the child to unlearn the habit of thumb sucking by setting a series of attainable goals (e.g., no thumb sucking for an hour before bed, then after dinner, then all day), with praise or rewards for accomplishing those goals. But only once your child begins to catch themselves doing it will the behavior stop.

In those cases where there is notable jaw growth alteration or severe tooth misalignment and the techniques described have all failed, a pediatric dentist can install a device in the mouth that goes across the palate and serves as a reminder to the child, breaking the pattern and reducing the soothing effects of the habit. Other, often less effective ways of achieving this result include using a sock, a bandage, or adhesive tape on the thumb to

serve as a reminder to your child to stop sucking. It is important to realize that whatever approach you use, it will work only if your child agrees that they want to participate in stopping the thumb sucking.

It also is important to remember that your child may be one of the very few who for one reason or another cannot seem to stop sucking their thumb or finger. If this is the case, putting excessive pressure on your child to stop this type of behavior can cause more harm than good. Be assured that most of these children stop daytime sucking habits before they progress very far along in school due to peer pressure.

Sexual Behaviors in Young Children

Sexual behaviors in children are more normal than many parents realize. Up to half of children will display some sort of sexual behavior before age 13. That said, many parents find these behaviors concerning and wonder whether they indicate that their child has been a victim of sexual abuse or molestation. While both sexual abuse and neglect can lead to increased sexual behaviors, it's hard even for experts in child abuse to tell if any particular behavior is a result of molestation. Complicating matters further, sexually explicit images and videos are increasingly available to children, and seeing these materials can also prompt behaviors that parents might not expect at such young ages.

One behavior that is common, especially in the preschool years, is simple curiosity about bodies and their differences. At this age children are becoming aware that not everyone is the same, and they may engage in curious touching and comparison of body parts, usually in the context of comparing other features like height, weight, and hair. You may see more of these behaviors after a child welcomes a new sibling, sees a parent without clothes, or observes their mother breastfeeding. Usually, these behaviors go away once you've calmly explained to your child that some things are private, and others are not. Be ready to answer questions about the differences in an age-appropriate manner. If you're concerned about a particular behavior or pattern of behavior, however, talk to your child's pediatrician.

Temper Tantrums

As an adult, you have learned to control your strong emotions when it's not appropriate to fully express them—but your preschooler probably hasn't yet. Their temper tantrums certainly are not fun for you or for them, but they are a normal part of life with most preschoolers. The first time your child screams and kicks because they can't have their way, you may feel angry, frustrated, humiliated, or frightened. You may wonder where you've gone wrong as a parent to produce such a miserable child. Rest assured, you are not responsible for this behavior, and tantrums are not ordinarily a sign of severe emotional or personality disorders. Almost all children have these episodes occasionally, especially around ages 2 and 3. If handled successfully, they usually diminish in intensity and frequency by age 4 or 5.

The section *Anger, Aggression, and Biting* (see page 473 in this chapter) explains the development of emotions in young children, and much of it applies to temper tantrums. Tantrums are often an expression of frustration. Preschoolers are very eager to take control. They want to be more independent than their skills and safety allow, and they don't appreciate their limits. They want to make decisions, but they don't know how to compromise, and they don't deal well with disappointment or restraint. They also can't express their feelings well in words, so instead they act out their anger and frustration by crying or withdrawing, and sometimes by having temper tantrums. Although these emotional displays are unpleasant, they rarely are dangerous.

Children at this age have big ideas about what should happen, and the world does not always comply. They may want something in the moment that is beyond their capacity, unsafe, or simply impossible. The child may be tired, hungry, or lonely. You'll probably know your child well enough to recognize when they're near the end of their capacity to regulate their emotions. At that point, the child then begins to whimper or whine and becomes more demanding. Nothing will distract or comfort them, and finally they start to cry. As the crying increases, the child begins to flail their arms and kick their legs. They may fall to the ground or hold their breath—some children actually hold their breath until they turn blue or faint. As frightening as it is to watch these breath-holding spells, normal breathing resumes as soon as they faint, and they will recover quickly and completely.

Children may also bang their head on the ground, sometimes hard enough to produce a bruise.

Don't be surprised if your child has tantrums only when you are around—most children feel safe enough to act out only around their parents or other family members, seldom with outsiders. Don't take tantrums personally. Try to remain calm and understand the behavior. Ironically, occasional outbursts are actually a sign that your child trusts you.

This emotional explosion serves as a kind of energy release, which often exhausts the child, and they fall asleep soon afterward. When they awaken they usually are calm and their behavior is quiet and pleasant. If your child is ill or there is a great deal of tension among the people around them, however, the frustration may start building all over again. Children who are anxious, ill, or temperamental, who get too little rest, or who live in very stressful households tend to have tantrums more frequently.

PREVENTION

You can't prevent every tantrum, but you may be able to decrease the number, duration, or intensity by making sure your child does not get overtired, overly anxious, or unnecessarily frustrated. Your child's temper may become very short if they don't have enough quiet time, particularly when they are sick or anxious, or have been unusually active. Even if your child doesn't sleep, lying down for fifteen or twenty minutes can help restore their energy and reduce the likelihood of tantrums from exhaustion. Children who do not nap may be particularly prone to tantrums and often need such a quiet period on a daily, scheduled basis. If your child resists, you might lie down with them or read them a story, but do not allow them to play or talk excessively.

Parenting that consistently provides safe, stable, and nurturing relationships and home routines often results in fewer tantrums. Boundaries that are consistent, with safety rules as absolutes and space that allows children to make safe choices and learn from their mistakes, help children to learn and grow with less frustration. You can allow your child to have their way when the issue is minor—for example, if they want to wander around slowly instead of walking quickly to the park, or if they refuse to get dressed before breakfast. But when your child starts to run into the street, you must

stop them and insist that they obey you, even if you have to hold them back physically. Be loving but firm, and respond the same way every time your child violates the rule. They won't learn these important lessons immediately, so expect to repeat these interventions many times before the behavior changes. Also, make sure that every adult who cares for your child observes the same rules and disciplines them in the same way.

One of the best strategies for preventing temper tantrums is to give your child appropriate choices. You might say, "Do you want me to read to you, or would you rather get dressed and go to the park?" Clearly each choice must be possible and reasonable—there may be days when the park is out of the question—and you will need to show some flexibility at times. Or what happens if you want to take your child outside in the winter so they can play in the snow, but they refuse to wear their snow clothes? In this instance, you might say, "Either you wear your snow clothes, or you have to carry them with you, or I will carry them. Which choice do you want?" Once outside, your child will quickly realize that they are cold and will want to put on their snow clothes.

HOW TO RESPOND

When your child has a temper tantrum, it's important that you try to remain calm yourself. If you have loud, angry outbursts, your child naturally will imitate your behavior. If you shout at them to calm down, you probably will make the situation worse. Instead, you can start by reflecting their energy and acknowledging why they're upset: "You're mad that you can't have the candy bar. That makes you angry." Then lower your energy level to help your child regain control of their emotions. Maintaining a peaceful atmosphere will reduce the general stress level and make both you and your child feel better and more in control. As the tantrum winds down, distracting comments such as "Did you see what the kitty is doing?" or "I think I heard the doorbell" can help interrupt behavior such as breath holding before it reaches the point of fainting.

Sometimes, if you feel yourself losing control, humor will save the day. Turn a dispute over taking a bath into a fun race to the bathroom, or create a new bath toy out of a plastic cup or bowl. Soften your command to "pick up your toys" by making a funny face or singing a silly song. Unless your child

is extremely irritable or overtired, they are more likely to be distracted into obedience if you temper discipline with a bit of fun or whimsy. Doing this might also make you feel better.

Some parents feel guilty every time they say no to their children. They try too hard to explain their rules or apologize for them. Even at age 2 or 3, children can detect uncertainty in a tone of voice, and they will try to take advantage of it. If the parent sometimes gives in, the child becomes even more outraged on those occasions when they do not get their way. There is no reason to be apologetic about enforcing your rules. It only makes it more difficult for your child to understand which of them are firm and which can be questioned. This does not mean that you should be unfriendly or abusive when you say no, but do state your position clearly. As your child gets older, you can offer brief, simple reasons for your rules, but do not go into long, confusing explanations.

These important rules should be based on your child (and others) not getting hurt or destroying property. Also, everyone providing care for your child needs to agree to the same rules. It's wise to pick your battles as well. Toddlers can stay in a conflict situation for some time, which runs counter to the goal of limiting or avoiding the clash altogether. When you ask your child to do something against their will, follow through on the order with them. If you've asked your child to put away their toys, offer to help them. If you've told them not to throw a ball against the window, show them where they *can* throw it. If you've reminded them not to touch the hot oven door, either remove them from the kitchen or stay there with them to make sure that they mind you. (Never issue a safety order to a young child and then leave the room.)

Finally, use the cooling-off or time-out strategy described on page 280. Give your child some time alone to calm down and regain control. Put them in a separate place, removed from the activity in the house, and tell them clearly that their behavior was unacceptable (but that you still love them). The time-out plus your words will help your child to understand the reasons why.

WHEN TO CALL THE PEDIATRICIAN

Although occasional temper tantrums during the preschool years should be expected, they should become less frequent and less intense by the middle of the fourth year. Between tantrums, your child should behave like other kids their age and seem healthy. At no time should the behavior cause your child to harm themselves or others or destroy property. When the outbursts are very severe, frequent, or prolonged, they may be an early sign of more significant struggles, so be sure to let your pediatrician know.

Consult your pediatrician if your child shows any of the following warning signs:

- Tantrums persist or intensify after age 4.
- Your child injures themselves or others or destroys property during tantrums.
- Your child has frequent nightmares, extreme disobedience, reversal of toilet training, extreme anxiety, or headaches or stomachaches; or they refuse to eat or go to bed, are constantly grumpy, or cling to you.
- Your child holds their breath and faints during tantrums.

In cases where your child holds their breath and faints, the doctor may want to check for other causes of fainting, such as seizures (see page 662) or iron deficiency (which is associated with breath-holding spells). The pediatrician also can offer suggestions for disciplining your child and recommend parent education groups that might provide additional support and guidance. If your doctor feels the tantrums indicate a significant mental health issue, they will refer you to a child psychiatrist, psychologist, or mental health clinic.

Tics and Stereotypies

Tics and stereotypies are repetitive movements that generally look or sound about the same each time they are performed, such as eye blinking. Although they can look disturbing or uncomfortable, they often cause more distress for the parent than they do for the young child. In some cases, other developmental concerns may be present or may emerge later on.

Stereotypies generally begin before 3 years of age and often involve arms, hands, or the entire body. Examples include rhythmic arm flapping, body rocking, and finger wiggling. Sometimes there may also be body clenching, mouth gaping, or a vocalization of a sound along with the movement. They tend to appear many times per day, can occur in short bursts or randomly, and seem to stick around for months to years. They may occur in certain situations, such as when a child is focusing on something, excited, or stressed, making it easy for parents to video them. The child is not doing this because they feel as if they have to or want to do it; it just happens. A child may seem to stare off or not be responsive briefly during these episodes, but, unlike with seizures, you can interrupt the staring and get your child's attention. Although some children outgrow stereotypies, other times they may persist for many years.

Tics generally begin between 3 and 8 years of age and initially involve muscles of the face or of vocalizations/sounds. Examples include blinking, mouth gaping, eye widening or deviation, head jerking, throat clearing, sniffing, coughing, or grunting. They generally begin gradually, although to caregivers they may appear to start suddenly when they get worse. They can be exacerbated by illness, or by family or social stress. They can worsen when a child is anxious, tense, or sleep-deprived, or when a child is at home and not otherwise occupied. They can become less frequent during focused motor activities like sports or musical performance. Tics can emerge, resolve, and change in appearance over time. Children generally report an initial sensation or urge and experience at least some of their tics as voluntary responses and, at least briefly, as suppressible. They may persist for many years, sometimes into adulthood.

When a tic occurs sporadically for less than a year, it is called a provisional tic disorder. Chronic tic disorders are diagnosed when tics last longer than twelve months, and these tend to start later, such as in early elementary school years rather than preschool years. The primary chronic tic disorder is called *Tourette's syndrome,* in which children have both motor tics and vocal tics. Vocal tics may include involuntary uttering of words or phrases (sometimes including obscene words). Chronic tic disorders are often associated with other disorders, including ADHD (attention-

deficit/hyperactivity disorder), OCD (obsessive-compulsive disorder), and anxiety.

A sudden onset of tics can be highly concerning for parents and caregivers. This is most often a more dramatic onset of typical tic disorders. An explosive onset can raise concerns about a condition termed PANDAS, or pediatric autoimmune neuropsychiatric disorder associated with streptococcal infection. PANDAS may be diagnosed when sudden and dramatic episodes of obsessive-compulsive behaviors and tics occur close in time to an infection such as streptococcal infection (group A strep). The role of autoimmunity and the connection between this condition and streptococcal and other infections is currently being studied. All PANDAS cases are unique, and treatment varies based on the cause and symptoms. Most cases wax and wane as a child grows. Talk to your pediatrician about what treatment options are available and the best way to evaluate and treat your child.

MANAGEMENT

In general, stereotypies and tics do not need to be treated unless they interfere with childcare, preschool, or the child's other activities, cause physical pain, or produce significant social distress for the child. Sometimes parents find their child's tics annoying and are tempted to say, "Stop doing that." But this is unlikely to be helpful.

If your pediatrician believes that there is a psychological or medical component that is making your child's stereotypies and tics worse, these underlying conditions should be treated. Try to reduce the stress, worries, or conflicts in your child's life, which may help relieve the severity of their tics.

For chronic tic disorders, your doctor may prescribe medications or refer you to a specialist. Cognitive behavioral therapy with a psychologist is also an effective method of reducing the severity of tics.

CHAPTER 22

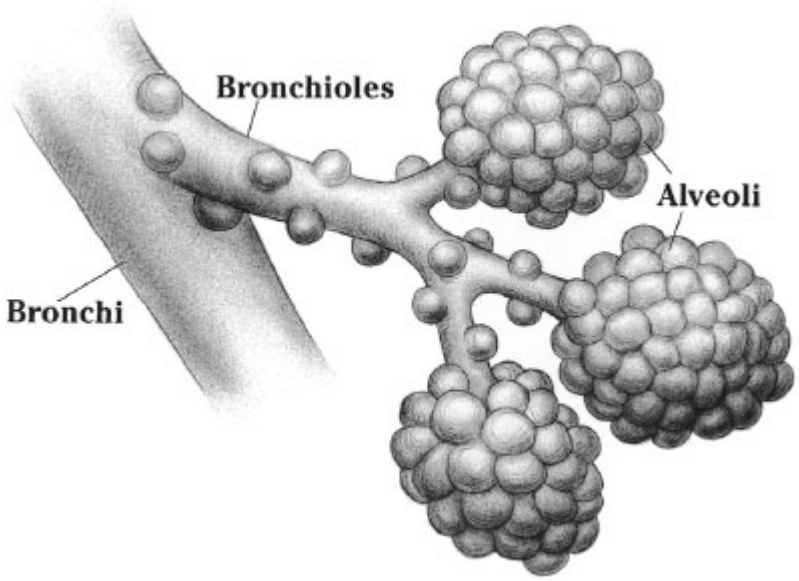
Chest and Lungs

Bronchiolitis

Bronchiolitis is an infection of the small breathing tubes (bronchioles) of the lungs. It is one of the most common diseases of early childhood. (*Note:* The term "bronchiolitis" sometimes is confused with "bronchitis," which refers to an infection of the larger, more central airways.) Bronchiolitis is caused most commonly by respiratory syncytial virus (RSV), which can be especially common from October or November through March, though other viruses can be responsible.

SIGNS AND SYMPTOMS

Almost all children get an RSV infection by the time they are 3 years old. The majority of them develop only an upper respiratory infection (a cold) with a runny nose, mild cough, and sometimes fever. Unfortunately, in a small number of infants, especially those under the age of 1 year, the RSV infection leads to inflammation and swelling of the bronchioles. When this happens, after a day or two the cough becomes more pronounced, and the child begins to breathe more rapidly and with more difficulty.



If your baby shows any of the following signs of breathing difficulty, or if their fever lasts more than three days (or if fever is present at all in an infant under 3 months), call your pediatrician immediately.

- They make a high-pitched whistling sound, called a wheeze, each time they breathe in (inhale) or out (exhale).
- There is drawing in of the skin between and around the ribs and breastbone with each breath.
- They are unable to drink fluids well because they are working so hard to breathe that they have difficulty sucking and swallowing.
- They develop a bluish color around their lips or fingertips. This means the airways are so blocked that not enough oxygen is getting into their lungs and into the blood.

Also call the pediatrician if your child develops any of the following signs or symptoms of dehydration (not enough fluid in the body), which also can appear with bronchiolitis:

- Dry mouth
- Drinking less than their normal amount of fluids
- Not making tears when they cry
- Urinating less often than usual

- Lethargic or not acting as usual (not playing, smiling, or interacting)

Notify your pediatrician as soon as you suspect that your child has bronchiolitis, or if they have any of the following conditions:

- A persistent cough and runny nose (symptoms not improving after a week)
- Any difficulty breathing
- An underlying medical condition such as:
  - Cystic fibrosis
  - Congenital heart disease
  - Bronchopulmonary dysplasia, seen in some infants who were born prematurely or were on a respirator (breathing machine) as newborns
- Low immunity
- Organ transplant
- Cancer for which they are receiving chemotherapy

TREATMENT

There are no medications to treat bronchiolitis. All you can do during the early phase of the illness is ease your child's cold symptoms. You can relieve some of the nasal stuffiness with a humidifier and salt water (saline) nose drops, with or without gentle nasal suction (aspiration). Coughing is one way for the body to clear the lungs, and normally a cough should not need to be treated with cough suppressant medicine.

If your child has a fever and is over 3 months old, you can give children's acetaminophen (e.g., Tylenol) as instructed on the box, or children's ibuprofen (e.g., Motrin, Advil) if your child is 6 months of age or older. Also, to avoid dehydration, make sure your child drinks lots of fluid during this time. They may prefer clear liquids rather than milk or formula. Because of their breathing difficulty, they also may feed more slowly or eat smaller amounts more frequently. They also may not eat solid foods very well due to decreased appetite. It's usually fine if they eat less solid food while sick as long as they drink enough fluids to avoid dehydration.

In contrast to asthma treatment, no breathing treatments have been shown to help children with bronchiolitis. Your pediatrician may try treatments that open up the lungs (bronchodilators) and steroids (medication inhaled or taken by mouth to decrease inflammation) to see if there is any improvement, but such medications do not prevent hospitalization or change the course of illness in otherwise healthy children with bronchiolitis. If your child is having difficulty breathing, is having trouble feeding, or shows signs of dehydration, take your child to the emergency department, where they can provide additional supportive treatment.

PREVENTION

The best way to protect your child from bronchiolitis is to keep them away from the viruses that cause it. Whenever possible, and especially when your child is an infant, avoid close contact with children or adults who are in the early (contagious) stages of respiratory infections. What produces just a mild cold in an older child or adult can cause breathing problems for an infant. If they are in a childcare center where other children might have the virus, make sure that those who care for them wash their hands thoroughly and frequently. Infants should not be exposed to secondhand smoke, as this can increase the risk of infection.

Previously there was a monthly shot available during RSV season for high-risk infants under 24 months of age to lower their risk of severe RSV infection. Now RSV immunizations are available to be given during pregnancy or during your infant's first year post-birth, depending on how old they will be during RSV season. Some children up to 24 months of age who remain vulnerable to severe RSV disease may also receive an immunization.

Cystic Fibrosis

Cystic fibrosis (CF) is the second-most-common inherited, life-shortening disease of childhood in the United States (second only to sickle cell anemia). The overall prevalence is approximately 1 out of every 3,500 live births. Considerable progress has been made in treating cystic fibrosis and its

symptoms, although there is still no cure. CF is a disease that changes the secretions of certain glands in the body. It is inherited from parents who carry the gene that causes this disease. For a child to get cystic fibrosis, both parents must be carriers of a genetic abnormality that can cause the disease. Although the sweat glands and the glandular cells of the lungs and pancreas are affected most often, the sinuses, liver, intestines, and reproductive organs also can be involved. In 1989 researchers discovered the most common gene defect that causes CF. Couples planning to have children can undergo genetic testing and counseling to find out if they carry one of the identified abnormal CF genes. They can also receive prenatal testing to detect the gene in the fetus. If both parents are carriers, there are other options available, such as IVF (in vitro fertilization). Talk to your doctor about these alternatives.

SIGNS AND SYMPTOMS

The majority of CF cases are diagnosed within the first two years after birth; in all US states, newborn screenings now include mandatory testing for CF, though not all states test as extensively as others. Therefore, even if the newborn screen was reported as "not suggestive of cystic fibrosis," additional testing is routinely done if there are symptoms of CF present. More than half of CF cases are diagnosed because of repeated lung infections. These infections tend to recur because mucus in the airways is thicker than normal and more difficult to cough out, leading to a persistent cough and potentially pneumonia or bronchitis. Over time, these infections cause damage to the lungs, and are the major cause of death in CF patients in later life. Most children with CF are also deficient in digestive enzymes, making it difficult for them to digest fats and proteins as well as they should. As a result, these children can have large, bulky, foul-smelling stools, accompanied by poor weight gain, if the enzymes are not supplemented (see *Treatment,* below, for more information on enzymes).

To confirm the diagnosis, your pediatrician will order a sweat test to measure the amount of salt your child loses as they perspire. Children with cystic fibrosis have much more salt in their sweat than children who do not have CF. Two or more of these tests may be required to ensure an accurate diagnosis, since the results are not always clearly positive or negative. Often,

genetic testing is performed as well, as different abnormal CF genes can indicate the most likely course of the illness in the child. If your child is diagnosed as having the disease, your pediatrician will help you get the additional specialized medical help that is necessary. At a medical center that specializes in treating children with CF you can find multidisciplinary experts to help your child and family.

TREATMENT

CF treatment is lifelong and typically requires many visits to a CF center, where your child will be treated by a healthcare team specializing in CF care. Treating the lung infections that develop in children with CF is the most important aspect of your child's care. The goal is to help clear the thick secretions from your child's lungs, which may involve various techniques and medications that help them cough out the sputum more easily. The lung infections themselves are treated with antibiotics. Your child may also be prescribed capsules containing digestive enzymes to be taken with every meal and snack. The amount of enzymes is based on the composition of the diet and the weight of your child. Once the correct amount of enzymes is taken, your child's stool pattern should become more normal and they'll begin gaining more weight. Close observation by your child's primary care physician, the CF center physicians, and the center care team is designed to detect failure to respond to treatment and allow additional therapy.

The majority of children with CF can expect to grow up and lead productive adult lives with continuous treatment according to care guidelines. Balancing the physical and emotional demands created by this disease is hard on both the CF patient and their family, so it is very important that you get as much support as possible. Ask your pediatrician to put you in touch not only with the nearest CF center, but also with CF support groups. The Cystic Fibrosis Foundation can be of help as well (cff.org; 1-800-344-4823). Connecting with other parents is essential to support you, your child, and your family.

Cough

Coughing is almost always an indication of an irritation in your child's air passages. When the nerve endings in the throat, windpipe, or lungs sense the irritation, a reflex causes air to be ejected forcefully through the passageways.

Coughs frequently accompany colds (see page 540). When a child has a cold, the cough may be either productive (bringing up mucus) or dry and irritating. The cough may last longer than the accompanying runny nose, up to two to three weeks.

Other respiratory illnesses can produce a cough as well, including bronchiolitis (see page 491), croup (see page 497), flu (see page 498), or pneumonia (see page 500). Your pediatrician can often tell by the sound of the cough what may be causing it. For example, an irritation in the larynx (voice box), caused by an illness such as croup, causes a cough that sounds like the bark of a dog or seal, while irritation of the larger airways (bronchi) or the trachea (windpipe) produces a deeper, raspy cough.

In a very young infant, anything more than an occasional cough has to be taken seriously and merits a visit to the pediatrician. If your child has a cough plus a fever and difficulty breathing (the breathing is too fast, too slow, or noisy, or you see a drawing in of the skin between and around the ribs and breastbone when they inhale), they may have a serious infection in the lungs, such as pneumonia. If they have these symptoms, see your doctor immediately.

Allergies and sinus infections can cause a chronic cough because mucus drips down the back of the throat (a condition known as postnasal drip), producing a dry, hard-to-stop cough, particularly at night upon lying down. A child who coughs only while asleep may have asthma (see page 454) or gastroesophageal reflux (a condition where the contents of the stomach rise up into the esophagus, causing irritation and cough).

Here are some cough-related issues that can affect children:

- Anything more than an occasional cough in an infant must be taken seriously. The most common causes are colds and bronchiolitis, which usually get better in a few days. It is important to watch for signs of breathing difficulties and seek medical help if needed. These signs include

not only rapid breathing, especially while asleep, but also drawing in of the skin between and around the ribs and breastbone (sternum).

- Sometimes children cough so hard that they throw up. Usually they vomit liquid and food from the stomach, but there also may be a lot of mucus, especially during a cold or an asthma attack.
- Wheezing is a high-pitched sound during breathing that occurs when there is an obstruction of the airway inside the chest. It is one of the symptoms of asthma, but it also can occur if your child has bronchiolitis, pneumonia, or certain other disorders.
- Children with asthma often cough. Although coughing and wheezing may occur together in children with asthma, they may also only have a cough. This may happen when they are active or playing, or at night. Sometimes their cough can be heard, but the wheezing may be evident only to your doctor when they listen with a stethoscope. The cough and the wheeze usually get better after using asthma medications.
- A cough is commonly worse at night. When your child coughs at night, it may be caused by irritation in the throat or a sinus infection with postnasal drip. Asthma is another major reason for a nighttime cough.

A sudden cough in children can mean that some food or liquid or an object (such as a coin or toy) has "gone down the wrong way" and ended up in the lungs. The coughing is an attempt to clear the airways. However, if coughing continues for more than a few minutes, or if your child is having difficulty breathing, seek medical help right away. Don't put your fingers in your child's mouth to clear the throat because you may push the food or other cause of the obstruction down farther. (See *Choking,* page 567.)

WHEN TO CALL THE PEDIATRICIAN

An infant under 2 months of age who develops a cough should be seen by the doctor. For older infants and children, consult your physician immediately if the coughing:

- Makes it difficult for your child to breathe
- Is painful, persistent, and accompanied by whooping, vomiting, or turning blue

- Interferes with eating and sleeping
- Appears suddenly and is associated with a fever
- Begins after your child chokes on food or any other object (see *Choking,* page 567)—though in about 50 percent of cases when a foreign body (food or toy) is inhaled into lungs, the cough may not develop until a few hours or days later

Your pediatrician will try to determine the cause of your child's cough; most commonly it's due to an upper respiratory virus. When the cough is from a medical problem other than a cold or the flu, such as a bacterial infection or asthma, it will be necessary to treat that condition before the cough will clear. Occasionally when the cause of a chronic cough (lasting longer than four weeks) is not apparent, further tests such as chest X-rays or even testing for tuberculosis may be necessary.

TREATMENT

Treating a cough depends on its cause. Some people may feel a cool-mist humidifier can help with comfort, especially in dry weather. However, be sure to clean the device thoroughly each morning, as recommended in the manufacturer's manual, so it doesn't become a breeding ground for harmful bacteria or fungi.

Nighttime coughing associated with allergies can be problematic, because they prevent the child (and often the rest of the family) from getting a good night's sleep. Nighttime coughing from asthma is often a sign that asthma treatment is needed or, if the child is already taking asthma medication, that a change in asthma medication is needed. If the night cough is due to asthma, use a bronchodilator or other asthma medication as directed by your pediatrician.

Although cough medicines can be purchased without a prescription, these cough medicines are not effective for children younger than 6 years old and may not help older children either. They may even pose a health risk from serious side effects, especially for children under age 2. As long as your child is over 1 year of age, honey straight from a spoon or diluted in warm water works just as well. (Never give honey to an infant, because it can cause a serious and deadly infection called botulism.)

Croup

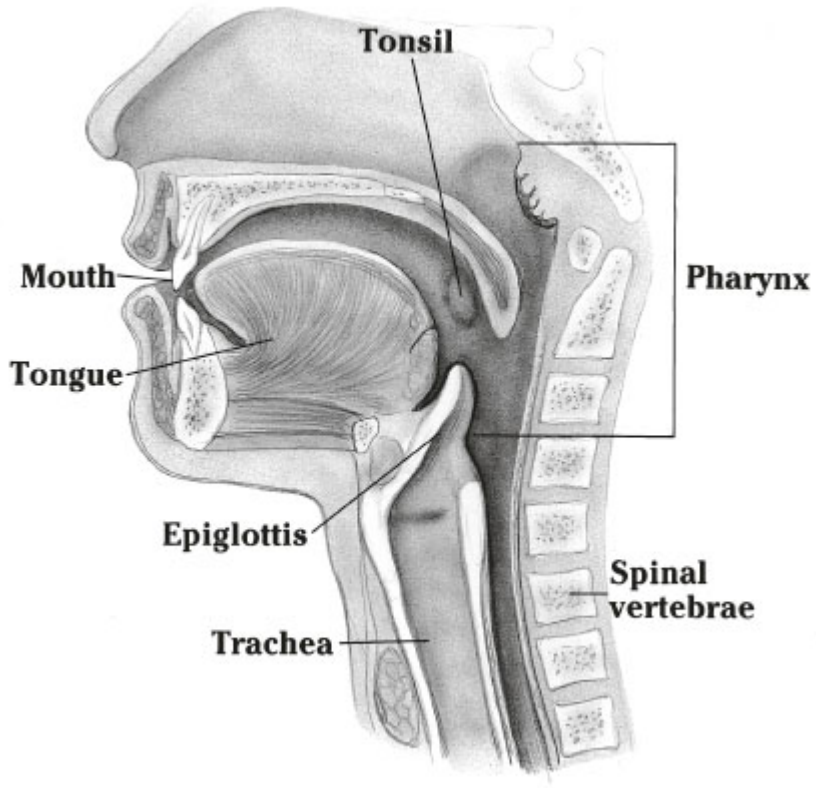
Croup is an inflammation of the voice box (larynx) and windpipe (trachea). It causes a barking cough and a high-pitched sound when breathing in (stridor). Croup is usually caused by a virus, most commonly the parainfluenza virus. Other, less common viral causes of croup include the flu, RSV, adenovirus, and enteroviruses. The illness most often is caught from someone who is infected, sometimes from air droplets or from your child's own hand, which they use to transfer the virus into their nose or mouth.

Croup tends to occur in the fall and winter in children between 3 months and 3 years old. Initially your child may develop nasal stuffiness (resembling a cold) and fever. After a day or two, the sound of the cough will turn into something resembling a barking or seal-like cough. The cough tends to become worse at night.

The greatest danger with croup is that your child's airway will continue to swell, further narrowing their windpipe and making it difficult to breathe. As your child tires from the effort of breathing, they may stop eating and drinking. They also may become too fatigued to cough. Some children are particularly prone to getting a croup-like cough whenever they have a respiratory illness.

TREATMENT

If your child has mild croup symptoms, steam up the bathroom by turning on the hot water in the shower. Take your child into the steamy bathroom, close the door, and sit in the bathroom with your child. Inhaling the warm, humidified air should ease their breathing within fifteen to twenty minutes. Or, weather permitting, you can take them outside to breathe in the cool, wet night air. While they are sleeping, use a cool-mist humidifier in their room.



Do *not* try to open your child's airway with your finger. Their breathing is being obstructed by swollen tissue beyond your reach, so you can't clear it away. They may throw up because of the coughing, but don't try to make them vomit. Pay close attention to your child's breathing. Take them to the nearest emergency room *immediately* if:

- They seem to be struggling to get a breath.
- They can't speak because of a lack of breath.
- They get excessively sleepy.
- The child turns blue when they cough.
- You still hear stridor when your child is calm or resting.

Your pediatrician may prescribe various medications, usually steroids, to help decrease the swelling in the upper airway and throat and make it easier for them to breathe. Steroids will also decrease the amount of time your child has symptoms of croup. Antibiotics are not helpful for croup because the infection is usually caused by a virus. Cough syrups do not help, either.

In fact, as stated earlier, over-the-counter cough medicines may pose a health risk.

In the most serious cases, which are quite rare, if your child has a lot of difficulty breathing, your pediatrician may recommend you go to the emergency department for a special breathing medication (racemic epi) or admit them to the hospital until the swelling in the airway gets better.

Influenza (Flu)

Influenza (flu) is an illness caused by the influenza virus. The infection can spread rapidly through communities as the virus is passed from person to person. When someone with the flu coughs or sneezes, the influenza virus gets into the air, and people nearby, including children, can inhale it. The virus also can be spread when a contagious person touches a hard surface, such as a door handle, and then someone else touches the same surface and then their nose, mouth, or eyes. The virus is most likely to be transmitted to other people during the first several days of illness. Flu is most common from fall through spring.

Flu symptoms include:

- A sudden fever, usually above 101 degrees Fahrenheit (38.3 degrees Celsius)
- Chills and body shakes
- Headache, body aches, and being a lot more tired than usual
- Sore throat
- Dry, hacking cough
- Stuffy, runny nose

While influenza may cause some abdominal pain, vomiting, and diarrhea, it does most of its damage in the respiratory system; it should not be confused with viruses that cause what is commonly known as stomach flu.

You may wonder whether your child has a cold or the flu. A child with a common cold (see *Colds/Upper Respiratory Infection,* page 540) usually has a

lower fever, a runny nose, and only a small amount of coughing. Children with the flu usually feel much sicker, achier, and more miserable.

Most children get over the flu in about a week or two without any lingering problems. However, you might suspect a complication if your child says that their ear hurts or that they feel pressure in their face and head, or if their cough and fever persist beyond two weeks.

Children who appear to have the greatest risk of complications from influenza are those with an underlying chronic medical condition, such as heart, lung, or kidney disease, an immune system problem, diabetes, some blood diseases, or a malignancy. Such children should be kept away from anyone showing symptoms suggestive of influenza, such as fever, cough, and runny nose, and your pediatrician may suggest additional precautions.

TREATMENT

For all children with the flu who don't feel well, lots of tender loving care is in order. Children can benefit from extra bed rest, extra fluids, and light meals. A cool-mist humidifier or vaporizer in the room may add additional moisture to the air and make breathing a little easier.

If your child is uncomfortable because of a fever, acetaminophen or ibuprofen in doses recommended by your pediatrician for their age and weight will help them feel better. (See Chapter 30, *Fever.*) Ibuprofen is approved for use in children 6 months of age and older; however, it should never be given to children who are dehydrated or who are vomiting continuously. **It is extremely important never to give aspirin to a child who has or may have the flu. Giving a child aspirin during a viral illness is associated with an increased risk of developing Reye syndrome.**

PREVENTION

Every child 6 months or older (including infants who were born preterm) should get the flu vaccine each year—the vaccine is safe, and it's the best way to prevent the illness. The best time to get the flu vaccine is the late summer or early fall, or as soon as it is available in your community.

Currently there are two types of the vaccine to protect against the flu—an inactivated (killed) vaccine, also called the flu shot, which is given by injection, and a live, attenuated (weakened) influenza vaccine that is sprayed

into the nostrils, often called the flu mist. Ask your pediatrician which is preferred for your child. If your child is receiving the flu vaccine for the first time, they will need two doses given at least one month apart.

Everyone should get the flu vaccine annually, but for some people it's especially important. All healthcare personnel and adults who live in the same household as someone who has a high risk for flu complications or who care for children under the age of 5 years should receive the flu vaccine yearly. All women who are pregnant, are considering pregnancy, have recently delivered, or are breastfeeding during the flu season should also receive a flu vaccine.

The flu vaccine has few side effects, the most common being redness, soreness, or swelling at the injection site and fever. Although some flu vaccines are produced using chicken eggs, the vaccine itself has been shown to contain minimal egg protein, and many studies have shown that it is safe for people with egg allergy, so all children with presumed egg allergy can safely receive the flu vaccine without any special precautions.

In addition to being vaccinated, here are some tips that will help protect your family from becoming sick.

1. Wash hands often. Use soap and warm water and lather up for at least twenty seconds—about as long as it takes to sing the "Happy Birthday" song two times. An alcohol-based hand sanitizer works well, too. Put enough on your hands to make them all wet, and then rub them together until dry.
2. Teach your child to cover their mouth and nose when coughing or sneezing. Show your child how to cough into the elbow or upper sleeve (not a hand) or use a tissue.
3. Throw all tissues used for runny noses and sneezes in the trash right away.
4. Wash dishes and utensils in hot, soapy water or the dishwasher.
5. Don't let children share pacifiers, cups, spoons, forks, washcloths, or towels without washing. *Never* share toothbrushes.
6. Teach your child to try not to touch their eyes, nose, or mouth.

7. Clean doorknobs, toilet handles, countertops, and even toys. Use a disinfectant wipe or a cloth with soap and hot water.

If your child does become ill, antiviral medications to treat some kinds of influenza infection are available by prescription. Antiviral medications work best if started within the first one to two days of showing signs of the flu, so call your pediatrician right away, especially if your child is at high risk of complications. Call your pediatrician within twenty-four hours to ask about antiviral medications if your child is at high risk of influenza complications or if your child:

- Has any serious health problem like asthma, diabetes, sickle cell disease, or cerebral palsy
- Is younger than 2 years, but especially if younger than 6 months, as young children are at an increased risk of influenza infection, hospitalization, and serious complications, including death

Pneumonia

The word "pneumonia" refers to an infection of the lung. While such infections were extremely dangerous in past generations, today most children recover from pneumonia if they receive proper medical attention.

Most cases of pneumonia follow a viral upper respiratory tract infection. Pneumonia also can be caused by bacteria. If a viral infection has irritated the airway enough or weakened a child's immune system, bacteria may begin to grow in the lung, adding a second infection to the original one.

Children whose immune defenses or lungs are weakened by other illnesses, such as cystic fibrosis, asthma, or cancer, are more likely to develop pneumonia. Children whose airways or lungs are abnormal in any other way also have a higher risk.

Because most forms of pneumonia are linked to viral or bacterial infections that spread from person to person, they're most common during the fall, winter, and early spring, when children spend more time indoors in close contact with others. The chance that a child will develop pneumonia is

not affected by how warmly they are dressed or by air temperature on cold days.

SIGNS AND SYMPTOMS

Like many infections, pneumonia usually produces a fever, which in turn may cause sweating, chills, flushed skin, and general discomfort. The child also may lose their appetite and seem less energetic than normal. Babies and toddlers may seem pale and limp and cry more than usual.

Because pneumonia can cause breathing difficulties, you may notice these other, more specific symptoms, too:

- Cough (see page 494)
- Fast, labored breathing
- Drawing in of the skin between and around the ribs and breastbone with each breath
- Flaring (widening) of the nostrils
- Pain in the chest, particularly with coughing or deep breathing
- Wheezing
- Bluish color to the lips or nails, caused by decreased oxygen in the bloodstream

Although the diagnosis of pneumonia usually can be made by a pediatrician on the basis of the signs, symptoms, and examination, a chest X-ray sometimes is necessary to make certain and to determine the extent of lung involvement.

TREATMENT

When pneumonia is caused by a virus, usually there is no specific treatment other than rest and the usual measures for fever control (see Chapter 30). Coughing is helpful in clearing the excessive secretions caused by the infection. Viral pneumonia usually improves after a few days, although the cough may linger for several weeks.

Because it is often difficult to tell whether the pneumonia is caused by a virus or by bacteria, your pediatrician may prescribe an antibiotic. All

antibiotics should be taken for the full prescribed course and at the specific dosage recommended. Your child will feel better after just a few days, and you may be tempted to discontinue medication early, but you should not do so—some bacteria may remain, and the infection might return unless the entire course is completed. Check back with the doctor if your child shows any of the following signs that the infection may be worsening or spreading:

- Fever lasting more than a few days despite using antibiotics
- Fever that goes away and then returns after a few days
- Breathing difficulties
- Increased lethargy and sleepiness
- Evidence of an infection elsewhere in the body: red, swollen joints, bone pain, neck stiffness, vomiting, or other new symptoms or signs

PREVENTION

Your child should be vaccinated against pneumococcal infections, a bacterial cause of pneumonia. The American Academy of Pediatrics recommends that all children younger than 2 years old receive this immunization (called pneumococcal conjugate). A series of doses needs to be given at 2, 4, 6, and 12 to 15 months of age, at the same time that children receive other childhood vaccines.

If your child did not receive the initial doses at the recommended times, talk to your pediatrician about a catch-up schedule. One dose of pneumococcal conjugate vaccine should be given to all healthy children ages 2 through 5 years who have not previously received their recommended doses before the age of 2 years and to children ages 2 through 18 years with certain underlying medical conditions who have not previously received a dose.

Another pneumococcal vaccine (pneumococcal polysaccharide) also is recommended for older children (2 through 5 years of age) who have a high risk of developing a pneumococcal infection. These include children with sickle cell anemia, heart disease, lung disease, kidney failure, damaged or no spleen, organ transplant, and HIV (human immunodeficiency virus) infection. It's also recommended for children taking certain medications or who have diseases that weaken their immune system. Some children with

certain underlying medical conditions may require a second dose of pneumococcal vaccine given at least eight weeks later.

See also *Asthma,* page 454; *Colds/Upper Respiratory Infection,* page 540; Chapter 30, *Fever.*

Tuberculosis

Tuberculosis (TB) is an airborne infection that primarily affects the lungs. While TB is less common than it once was, some groups of children have a higher risk of developing tuberculosis, including:

- Children living in a household with an adult who has active tuberculosis or has a high risk of contracting TB
- Children infected with HIV or another condition that weakens the immune system
- Children born in a country that has a high prevalence of TB
- Children visiting a country where TB is regularly found (endemic) and who have extended contact with people who live there
- Children from communities that generally receive inadequate medical care
- Children living in a shelter or living with someone who has been in jail

Tuberculosis usually is spread when an infected adult coughs the bacteria into the air. These germs are inhaled by the child, who then becomes infected. Children younger than about 10 years with TB of the lungs rarely transmit infection to other people, because they tend to have very few bacteria in their mucous secretions and also have a relatively ineffective cough.

Fortunately, most children exposed to tuberculosis do not become ill. When the bacteria reach their lungs, the body's immune system attacks the bacteria and prevents further spread. However, the child still must be treated to prevent the disease from becoming active. Occasionally, in a small number of children without proper treatment, the infection does progress to disease, causing fever, fatigue, irritability, a persistent cough, weakness,

heavy and fast breathing, night sweats, swollen glands, weight loss, and poor growth.

In a very small number of children (mostly those less than 4 years old), the tuberculosis infection can spread through the bloodstream, affecting virtually any organ in the body. This illness requires much more complicated treatment, and the earlier treatment is started, the better the outcome. These children have a much greater risk of developing tuberculous meningitis, a dangerous form of the disease that affects the brain and central nervous system.

If your child has any of the risk factors mentioned earlier, your pediatrician may recommend a test to see whether they have ever been exposed to the illness. The tuberculin skin test or a TB blood test can be used. Your child may need either test if you answer yes to at least one of the following questions:

- Has a family member or contact had tuberculosis disease?
- Has a family member had a positive tuberculin skin test?
- Was your child born in a high-risk country (countries other than the United States, Canada, Australia, New Zealand, or Western European countries)?
- Has your child traveled (had contact with resident populations) to a high-risk country for more than one week?

The skin test is performed in the pediatrician's office by injecting a purified, inactive piece of TB germ into the skin of the forearm. If there has been an infection, your child's skin will gradually swell and redden at the injection site. Your pediatrician must check the skin forty-eight to seventy-two hours after the injection and measure the diameter of the reaction. The test will be able to tell if the bacteria have ever entered the child's body, even if the child has had no symptoms.

Doctors may instead choose to use a blood test to check for tuberculosis. This type of test is especially useful for people who received a tuberculosis vaccine in another country or who cannot return to the clinic in two to three days to have their skin test read. Like the skin test, the blood test only

tells doctors if the tuberculosis germ has ever entered a person's body, not if there is still an active infection.

If your child's skin or blood test for TB comes back positive, a chest X-ray will be ordered to determine if there is evidence of an active or past infection in the lungs. If the X-ray does indicate the possibility of an active infection, the pediatrician also will search for the TB bacteria in your child's cough secretions or in the stomach. This is done in order to determine the type of treatment needed.

TREATMENT

If your child's skin or blood test is positive but they do not have symptoms or signs of active tuberculosis infection, they still have the tuberculosis bacteria hiding out in their body and will need to be treated to prevent the bacteria from becoming active and causing symptoms. The medication used for treatment, isoniazid, must be taken by mouth once a day every day for a minimum of nine months (antibiotics for shorter lengths of time may be possible).

For an *active* tuberculosis infection, your pediatrician or an infectious disease specialist will prescribe three or four medications. You will have to give these to your child every day for six to twelve months. Your child may have to be hospitalized initially for the treatment to be started, although most of it can be carried out at home.

PREVENTION

If your child has been infected with TB, regardless of whether they develop symptoms, it is *very* important to attempt to identify the person from whom they caught the disease. Usually this is done by looking for symptoms of TB in everyone who came in close contact with them, including family members and childcare providers, and having TB skin tests or blood tests done. The most common symptom in adults is a persistent cough, especially one that is associated with coughing up blood. Anyone who has a positive skin test or blood test should receive a physical examination, a chest X-ray, and treatment.

When active tuberculosis infection is found in an adult, they should be isolated as much as possible—especially from young children—until

treatment is under way. Certain family members who have been in contact with that person, including all children under 5 years old and those with conditions like HIV, usually are also initially treated with isoniazid, regardless of the results of their own skin tests. Anyone who becomes ill or develops an abnormality on a chest X-ray should be treated as having an active case of tuberculosis.

Whooping Cough (Pertussis)

Pertussis, or whooping cough, is caused by bacteria that attack the lining of the breathing passages (bronchi and bronchioles), producing inflammation and narrowing of the airways. Severe coughing is a prominent symptom. Because the child is short of breath, they inhale deeply and quickly between coughs. These breaths frequently make a "whooping" sound—which is how this illness got its common name. The intense coughing scatters the pertussis bacteria into the air, spreading the disease to other susceptible persons.

Many years ago, there were several hundred thousand cases of whooping cough each year in the United States. After the development of a vaccine for pertussis, that figure decreased. But in recent years there has been a rise in the number of cases seen in the United States. As a result, giving the pertussis vaccine to children and their caregivers is more important than ever. Infants under 1 year of age are at greatest risk of developing severe breathing problems and life-threatening illness from whooping cough.

Pertussis often acts like a common cold for a week or two. Then the cough gets worse (rather than better, as usually happens with a cold), and older children may start to have the characteristic "whoop." During this phase (which can last two weeks or more), the child often is short of breath and can look bluish around the mouth. They also may tear up, drool, and vomit. Young infants with pertussis may have episodes where they appear to stop breathing or they begin vomiting after a long bout of coughing. Infants with pertussis become exhausted and develop complications such as susceptibility to other infections, pneumonia, and seizures. Pertussis can be fatal in some infants, but the usual course is for recovery to begin after two to four more weeks. The cough of pertussis, which has also been called the

"100-day cough," may not disappear for months, and may return with subsequent respiratory infections.

WHEN TO CALL THE PEDIATRICIAN

Pertussis infection starts out acting like a cold. You should consider whooping cough if the following conditions are present:

- The child is a very young infant who has not been fully immunized and/or has been exposed to someone with a chronic cough or the disease.
- The child's cough becomes more severe and frequent, or their lips and fingertips become dark or blue.
- They become exhausted after coughing episodes, eat poorly, vomit after coughing, and/or look "sick."

TREATMENT

The majority of infants less than 6 months old with whooping cough initially need to be treated in the hospital. In addition, slightly less than half of older babies with the disease are initially treated in the hospital. This more intensive care can decrease the chances of complications. These complications can include pneumonia, which occurs in slightly less than one-fourth of children under 1 year old who have whooping cough. (If your child is older, they are more likely to be treated only at home.)

While in the hospital, your child may need to have the thick respiratory secretions suctioned. Their breathing will be monitored, and they may need to have oxygen administered. Your child will be isolated from other patients to keep the infection from spreading to them.

Whooping cough is treated with an antibiotic that is most effective when given in the first stage of the illness, before coughing spells begin. Although antibiotics can stop the spread of the infection, they cannot prevent or treat the cough itself. Because cough medicines do not relieve the coughing spells, your pediatrician probably will recommend other forms of home treatment to help manage the cough. Let your child rest in bed, and use a cool-mist vaporizer to help soothe their irritated lungs and breathing passages. A vaporizer also will help loosen secretions in the respiratory tract. Ask your pediatrician for instructions on the best position for your child to help drain

those secretions and improve breathing. Also ask your doctor whether antibiotics or vaccine boosters need to be given to others in your household to prevent them from developing the disease. Children who have been diagnosed with pertussis should be kept home from school or daycare until finishing five days of antibiotics.

PREVENTION

The best way to protect your child against pertussis is with the DTaP vaccine (immunizations at 2 months, 4 months, and 6 months of age, and booster shots at 12 to 18 months and at 4 or 5 years of age or prior to starting school). Parents or family members who will be in close contact with infants younger than 1 year old should also receive the Tdap booster to decrease the risk of passing the infection to the infant. In addition, all women who are pregnant should receive the Tdap vaccine during each pregnancy. This allows mothers to pass on protection against pertussis to their newborns.

CHAPTER 23

Chronic Health Conditions

Coping with Chronic (Long-Term) Health Problems

We tend to think of childhood as a carefree and healthy time of life, but some children face chronic health problems during these early years. What distinguishes a *chronic* health problem from an *acute* health problem is that the acute problem is expected to resolve in a relatively short time frame and the child will return to their typical level of health. An acute health problem could mean an injury or a fracture that will heal, or an infection such as pneumonia, from which your child will recover completely. There are also many conditions that the child will outgrow without any treatment or intervention. For example, a child with bed-wetting or intoeing will usually outgrow such health issues by school age.

In contrast, a chronic health problem is usually expected to last a year or more and requires ongoing medical attention for management. For example, a child with asthma may require inhalers every day to prevent an asthma attack. Parents should take steps to reduce exposure to irritants and allergens in the child's environment, and will need to learn about asthma, the treatment plan, and what to do if the child has an asthma attack. The child will need to visit their primary care doctor, specialist, or both several times throughout the year. Parents also need to learn how to navigate the healthcare system so that their child gets the treatment they need. Finally, parents need to help their child cope with the chronic condition emotionally and physically, and to be able to help themselves and other family members cope as well. You could substitute diabetes, autism spectrum disorder, juvenile idiopathic arthritis, or any other number of diagnoses, and the challenges would be very similar.

The information that follows is aimed at helping parents and caregivers deal with the emotional and practical challenges of caring for a child who has a long-term health condition, special healthcare need, or disability. (The specific medical treatment of many chronic conditions is discussed elsewhere, under the names of those conditions; see the Index.)

Some long-term health conditions in children are relatively mild, and some children with chronic health conditions will be able to enjoy good health due to the success of ongoing medical treatment. Regardless, any type of long-lasting condition, special healthcare need, or disability is stressful for both the child and their family. It is important to be able to manage all of these aspects and take care of yourself in the process.

Learning about your child's chronic condition is a slow process, and it can be very frustrating at times; occasionally you may feel alone with these challenges. Rest assured that you are *not* alone. Your reactions, grief, and frustrations are normal, and your journey will be filled with many highs and lows; you will meet other parents on the same journey; and you will have many victories. Also remember that your child is still *your child*—they are not, and should not be, defined by the medical condition.

Receiving the Diagnosis of a Chronic Condition in Your Child

All parents, from the time they find out they are expecting a child, start out assuming the child will be healthy. You may have found out about your child's condition during pregnancy, in the newborn nursery, or afterward when you noticed that something was not quite right about your child's health. Regardless of when your child was diagnosed, being given the diagnosis of a chronic condition can cause a parent to feel sadness, fear, guilt, or grief at losing the expectation of a healthy child. This is a normal reaction and an adjustment that all parents of a child with a chronic condition endure.

You may feel that your hopes and expectations for your child have been replaced by fear of the unknown. You may think: "What will happen to my child in two years? Five? Ten? Will the condition get better or worse? How am I going to manage all of these medications? Will I have to take time off from work? How much pain will my child have? Will my insurance cover all

the costs?" You may never forget the day that you were given the diagnosis for your child. It's a lot of information to absorb, and it takes time to process it all.

This may be a brand-new world for you, with a lot to learn in a relatively short period of time. There may be highs and lows, flares and periods of quiet, denial and fear of the unknown. There may be days when you think you are the only parent with a child who has special needs, and you may wonder if anyone else knows how you feel. All of this can take a toll on your own well-being and health, which in turn can affect how you can take care of your child. Recognizing these emotions will help you learn how to care for your child, your family, and yourself.

If your child is born with a serious medical problem or develops a chronic medical condition during their first years, you may face some of the following stressors and decisions:

- The realization that your child is not perfectly healthy may lead to feelings of disappointment and guilt, and fear for the child's future. In trying to deal with these feelings, you may find yourself struggling with unexplained emotional swings ranging from hopefulness to depression and anxiety.
- It can help to select and work with a team of medical and community partners who can help your child and work with you in shared decision-making.
- You may be faced with learning about a new diagnosis and understanding your child's prognosis.
- You may face decisions about treatment or surgery.
- You may have to be responsible for giving your child certain medications, guiding them in usage of special equipment, or performing special therapies.
- You will be called on to provide the time, energy, money, and emotional commitment necessary for your child to receive the treatment and coordinated care they need.
- You will need to learn how to access appropriate services and information.

- In adapting your life to meet your child's needs without neglecting other family members, you may face many difficult choices, some of which may require compromise solutions.

Navigating the Healthcare System

Parents of children with chronic conditions routinely describe navigating the healthcare system as one of their biggest challenges. Depending on your child's condition, you may be dealing with a few extra doctor visits per year, or you could be working with multiple specialists, pharmacies, therapists, insurance companies, and home healthcare agencies and personnel as well as hospitalizations. All of this may sometimes seem overwhelming and take up a great deal of time. Empowering yourself with information about your child's condition is a necessary start to learning how to navigate the healthcare system as effectively as possible.

You know your child and their needs better than anyone else. Read about your child's condition, ask questions of your child's doctors and nurses, and talk with other parents. The information you learn—and particularly the answers to questions that you don't know to ask in the early stages—will help you engage with your child's doctors in making decisions. Healthcare and developmental outcomes are improved when the parents are part of the decision-making process and knowledgeable about the child's condition. Keep a notebook with questions, and make sure they are answered. If you see something at home that concerns you, call your pediatrician, specialist, or medical provider, or use the patient portal of your health system's electronic health record; do not assume that you have to wait until the next scheduled appointment. Your healthcare team will depend on and respect the information parents and caregivers provide them to make the right medical decision for your child.

It's best to make sure your child has a *medical home that includes physical, behavioral, and dental/oral healthcare providers.* The American Academy of Pediatrics defines a medical home as care that is accessible, continuous, comprehensive, family-centered, coordinated, compassionate, and culturally effective. The medical home model of care means that the medical care team, child, and family work in partnership together to meet

all the child's special needs. At a minimum, ensure that your child has regularly scheduled visits with their doctors to actively manage the child's condition; this will help keep your child as healthy as possible. It is essential that you and your family have a strong relationship with your child's primary care physician, who will help oversee all aspects of care. It is also helpful to select one medical person as the overall coordinator of your child's medical care. This person may be someone in your pediatrician's office or another health professional who is closely involved with your child's treatment. It should be someone who knows your family well, fosters shared decision-making, values you as an equal team member, makes you feel comfortable, and is willing to spend time answering questions, partnering with you, and working with other doctors and therapists involved in your child's care. Many primary care offices, healthcare systems, and insurance companies provide a care manager, often a nurse or social worker, who is knowledgeable about your child's condition, your child's care team, and the community services, equipment, medications, and other resources they require.

Keep track of and manage what goes on at home to ensure that you can carry out the medical care recommendations, and that your child gets good nutrition and all their medications as recommended. Make sure that your child's medical care needs are met *proactively*—that is, everyone works to keep your child healthy and ensure they do not get sicker due to a complication of the chronic health problem. Many children with chronic healthcare conditions have relatively long periods in which those conditions are well controlled; at other times, the condition may flare up. Your goal is to keep the condition under control and learn the signs and symptoms of a flare so you can intervene early and prevent complications, whether those are emergency department visits, hospital admissions, or even long-term consequences to your child.

Be sure that you include dental/oral health and behavioral health providers in your team to ensure optimal health for your child. Chronic medical conditions can add challenges when it comes to dental health, but pediatric dentists are usually equipped to help you address those challenges.

Parent support groups will have meetings (either online or in person), offer online groups and listservs, and provide literature and emotional

support. Learn about the options for treatment, including those that your doctor may not know about or is not familiar with. Regardless of whether those options are what you decide to choose, information enables you to take control of the treatment plan and have the knowledge to make the right decision for your child and family.

Getting Help for Your Child

There are many ways that you can help with a chronic condition. You can start by making sure that your child gets to all of their doctor appointments on time. If you must miss a doctor's appointment, call the doctor's office right away and get it rescheduled—preferably *before* you miss the appointment. That way, your child's doctors can help you manage the medical condition before there is a disease flare. If you find that you are unable to give your child their medications because of scheduling conflicts, financial barriers to filling the prescription, or your child's refusal, call your provider or healthcare team. Doctors will give you advice on how to help your child accept the regimen, or they may be able to propose an alternative treatment plan. It is important that you let your child's doctors know what is going on at home and if something needs to be changed.

WHERE WE STAND

When children have a chronic, serious illness or disability, their parents may turn to complementary or alternative therapies, wanting to try everything and anything to help their child. These treatments often are used in addition to the care their child is receiving from their pediatrician or other medical practitioner. In most cases, parents use these complementary or alternative therapies even though they are happy with traditional medical care; however, in some cases, parents may turn to them when they become frustrated with the limitations on what mainstream medicine can offer their child.

If you've made the decision to seek alternative therapies for your child's care, involve your pediatrician in the process. In most cases, such therapies work best when used in combination with traditional or integrative medical care. In fact, pediatricians trained in integrative medicine are specially trained in combining conventional (standard) therapies such as medications and surgery with complementary therapies that have been shown to be safe and effective, such as acupuncture and meditation. In addition, your doctor may be able to help you better understand these therapies, whether they have scientific merit, whether claims about them are accurate or exaggerated, and whether they pose any risks to your child's well-being. Keep in mind that an alternative treatment

does not always mean a safe one, and your pediatrician can help you determine whether there is a risk of interactions with your child's other medications.

The American Academy of Pediatrics has encouraged pediatricians to evaluate the scientific merits of alternative therapies, determine whether they might cause any direct or indirect harm, and advise parents on the full range of treatment options. If you decide to use a complementary or alternative therapy, your pediatrician or integrative medicine physician may be able to assist in evaluating your child's response to that treatment.

Good nutrition and growth are at the root of helping a child with chronic healthcare needs. Some children with a chronic health condition have difficulty eating and swallowing. It is especially important for your child to be offered a good, healthy diet. If necessary, a parent or caregiver can work with the doctors or nutritionists to make sure your child is not gaining too little weight or too much. Some children with difficulty swallowing will cough or retch with feeds. If that is the case, you may also need to work with an occupational therapist or speech and language pathologist, who can focus on helping your child learn to swallow with less difficulty to avoid inhaling food particles into the lungs.

Not all of your child's chronic needs will be medical, of course. They may require community supports such as special schooling, counseling, or other therapy. Many children with chronic conditions can attend daycare or school. Some children may be in private daycare; others may be in a center-based learning center specifically for children with disabilities. It is important that you speak with your child's teachers and caregivers about the medical needs. Specifically, you should let your child's teachers and caregivers know what the medical condition is, medications or therapies that are needed during the day, and warning signs about which you need to be called. School nurses may be available to help you and your child manage any medical condition.

Your family may need outside financial or governmental assistance. The team that coordinates your child's medical care also should provide some guidance in obtaining this extra help, but the best way to make sure you and your child get the services and support needed is to learn about the resources and regulations that apply to special services for children with chronic healthcare needs. You also should find out what you can do if the

services received do not meet your child's needs. Family Voices (familyvoices.org) is one organization that helps families connect with needed resources.

Focus on emotional state and well-being. Help your child adapt to their chronic condition. You should offer your child every opportunity to enjoy typical activities and participate to the extent that it is medically safe to do so. That means going to the park to run and play if they are able, making friends, and attending school. As your child gets older, they will become increasingly aware of the medical treatments and the sense of being "different," regardless of whether there is any actual physical disability or appearances. Many children may not talk about their feelings but will act out in different ways, including throwing tantrums, having a short fuse, or being sad. Meeting other children with a chronic condition can help. It is also important to acknowledge your child's feelings and help caregivers and teachers understand how your child is coping so they can help. Many children and families benefit from counseling or therapy to help cope with these unique stresses.

Balancing the Needs of Family and Child

For a while, the child with chronic health needs may take all your attention, leaving little for other family members and outside relationships. Although this is normal, and everyone in the family can be affected, you'll soon be seeking some way to restore a sense of balance and routine to your activities. No one will benefit—not the sick child, not other children, not your spouse or partner—if the health problem becomes the central and overwhelming issue in your family's life. Eventually your child's medical care must become a part of the daily routine rather than its focus.

If your child must be hospitalized, returning to normal family and community life is vital, not only for the family but also for the child's health and well-being. The longer your child is treated like a patient instead of a growing child, the more problems they may have socially and emotionally later. Although it's natural to want to protect a sick child, overprotection may make it more difficult for them to develop the confidence, security, and self-discipline needed to mature properly. Also, if there are other children in

the household, you can't expect them to observe rules that you allow the child who is sick or disabled to ignore. Make sure these siblings receive adequate attention as well.

Your child needs encouragement far more than protection. Rather than concentrating on what they cannot do, try to focus instead on what they *can* do. Build on the child's strengths. If given a chance to participate in typical activities with similar-aged children, they probably will do things that surprise everyone. Establishing this participation is difficult if your child's condition is uncertain. You may withdraw from your friends due to worrying about your child, and you may hesitate to plan social activities if you're not sure they will be well enough to attend. If you give in to these feelings all the time, resentment is bound to build up, so try not to let this happen. Even if there is a chance that the medical condition may worsen unexpectedly, take the risk and plan special outings, invite friends to your home, and get a babysitter from time to time so you can go out for an evening. Both you and your child will be better off in the long run if you take this approach.

The following suggestions may help you cope more effectively with your child's condition.

- Whenever two parents are involved in care, both parents and all caregivers should be included in discussions and decisions about medical treatment, even if the parents are separated or divorced. Too often, one parent may go alone to the medical appointment and then must explain to the other parent what was said. This may prevent one parent from getting some of their questions answered or learning enough about the choices.
- Keep an open line of communication with your pediatrician. Express concerns and ask questions. Ask for a care plan to be developed with your input and regularly updated with relevant medical information and summaries.
- Do not be offended if your child's doctors ask personal questions about your family life. The more they know about the family, the better they can help manage your child's care. For example, if your child has diabetes, a special schedule of meals may be necessary, so the pediatrician may want

to suggest ways to work this diet into your family's normal meal plan. Or if a wheelchair is necessary, the doctor may ask about your home in order to suggest options to make the home more accessible. If caring for your child is causing notable stress, your child's pediatrician may ask to explore that with you and offer guidance. If there are any concerns about the doctor's suggestions, discuss them so that you can reach an acceptable plan of action together.

- It's natural to feel a struggle between hoping for the best possible outcome for your child and fearing the worst. Accepting setbacks when they occur does not mean you've abandoned hope. If things are not going well or you have concerns about your child's future, you should discuss these worries. Your child depends on you to speak up at these times and to work with the doctor to adjust the treatment or find a solution that will make the situation as manageable as possible. Asking for additional help, including child life counseling, psychological counseling or therapy, and social services, makes long-term coping easier.
- Discuss your child's condition frankly, not only with the child but also with the other members of your family. If you do not tell your child the truth, there will be a sense that you are lying; this can lead to feelings of isolation and rejection. Furthermore, they may imagine all the things that could be wrong—most of which may be worse than the real problem. So, talk openly, and listen to their responses to make sure all is understood. Answer questions in clear, simple language.
- Call on friends and family members for support. You cannot expect to handle the strain created by your child's chronic condition all by yourself. Asking close friends to help meet your own emotional needs will in turn help you to meet your child's.
- If you have other children, be sure to give them your attention and try to balance their needs and fears as well. There are resources available for siblings of children and youth with special healthcare needs. The Centers for Disease Control and Prevention (cdc.gov), the Health Resources and Services Administration: Maternal and Child Health Bureau (mchb.hrsa.gov), and the AAP's HealthyChildren.org are all great places to start.

- Connecting with other parents or caregivers who have children with the same or similar conditions as your child is helpful to many families. Each state has a Family-to-Family Health Information Center that can help link you to other parents. In addition, for families whose children have certain diagnoses (such as cystic fibrosis, sickle cell disease, or diabetes), there are specific family support networks that your healthcare providers or community partners can link you to.
- Remember that your child needs to be loved and valued as an individual. If you let the medical problems overshadow your feelings for them as a person, that may interfere with the bond of trust and affection between parent and child. Be sure to reach out to your child's medical care team if you are feeling overwhelmed or lost, or if you don't know how to give proper medical or emotional care. Don't become so worried that you cannot relax and enjoy your child.

You are not alone. It is important to reach out to other parents who have a child with a chronic condition to see how they have coped with the journey. Family support groups are often an important part of the journey. Knowing other families will help reassure you, your child, and other family members.

Many chronic conditions of childhood are addressed throughout the book in their respective chapters. Please refer to the Index to find specific illnesses and diseases. It is important for you to be proactive in learning about your child's condition as much as possible and what you can do to help. Read about the condition, talk with other families, and get to know your doctors well—they will be a tremendous resource and help you understand how to take care of your child's medical needs.

CHAPTER 24

Developmental Disabilities

It's natural to compare your child with others their age. Each child, however, has their own unique rate of development, so some learn certain skills faster than others. Sometimes, when a child is slightly delayed, they may simply need a little more time to catch up to other peers. If your child seems especially behind or different from their peers, however, it's important to let their pediatrician know. Significant developmental issues should be identified as soon as possible so that early intervention can help ensure that the child reaches their full developmental potential.

Chapters 5 through 16 of this book can give you a better idea of what skills your child should have by certain ages. If you notice something that doesn't seem right or if your child loses a skill they had previously gained, make sure your pediatrician knows. Developmental disabilities that can be identified during childhood include intellectual disability, language and learning disorders, attention-deficit/hyperactivity disorder, cerebral palsy, autism spectrum disorder, and sensory impairments such as vision and hearing impairments. (Some pediatricians include epilepsy in this category, but some children who have epilepsy develop typically.)

Within each developmental disability there is a range of mild to severe that may impact daily functioning just a little bit or a lot. Also, some children may have more than one disability, each requiring different types of support. Your pediatrician and medical home will be integral to helping you navigate any medical and other support if your child has a developmental disability.

The AAP recommends that all children have developmental surveillance at all well-child visits and developmental screening with an approved standardized instrument at 9, 18, and 30 months. If your child fails the developmental screening examination and/or there are parental concerns,

your child should have a complete medical and developmental evaluation, including a consultation with a developmental-behavioral pediatrician, child neurologist, geneticist, or pediatric rehabilitation medicine physician, all of whom are specialists trained in evaluation, diagnosis, and care planning for children with disabilities. Your pediatrician will refer you to the most appropriate professional for further assessment. Doing this will give your pediatrician the information they need to determine whether a true disability exists, and, if so, how it should be managed. Your physician may recommend additional evaluation by a physical, speech and language, or occupational therapist. Early intervention services are typically recommended for children under the age of 3 with developmental delays/disabilities or medical conditions that place children at high risk for delay or disability. You don't need a referral from a doctor for an evaluation by an early intervention specialist (ages birth to age 3 years) or the school system (ages 3–21 years), but your pediatrician is often available to help you arrange these consultations. These evaluations may be available through the public early intervention system for your county if your child is under 3 years of age or via the school district if your child is over 3. If you or your physician has concerns about developmental delays, you should contact your school district to find out if they can do these evaluations.

Every child over the age of 3 years with a developmental disability is entitled by federal law to a free and appropriate public education in the least restrictive environment. Most states also offer special early intervention programs for infants and toddlers. For children under 3, such intervention may be provided in your home. Between the ages of 3 and 5 years, therapy or education for identified delays may take place in a preschool or at home.

The families of children with diagnosed disabilities also need special support and education. Families often worry about how they can help their child once a developmental disability is identified. To understand how your child can make developmental progress, each member of your family should be educated about the child's developmental condition and counseled about how to help them develop new skills. One of the most important tenets of early intervention, in fact, is to teach parents appropriate therapeutic techniques that can be practiced and utilized even outside therapy sessions.

If your child is diagnosed with a developmental disability, you may find yourself feeling overwhelmed. Where will you find care? Does your home need modifications? How will this process affect their education, your career, other children in the home? The questions may seem endless. Support is all around you, however, and your pediatrician can help you in starting to find answers. Look for family support networks (organizations like Family Voices, familyvoices.org, can help). Take time to talk with family members and caregivers, including your pediatrician, about what outcomes your family most values and what sort of interventions might work best for your particular situation (this process is called shared decision-making). Remember that you may be relying on any number of experts to help your child, but you are the best expert in the world on your own child's specific needs.

Autism Spectrum Disorder

Autism spectrum disorder (ASD), commonly referred to as autism, affects a child's behavior, social skills, and communication abilities. ASD and autism are both used to describe the same condition. Autism is a lifelong condition and can impair the way an individual interacts with others. Although there is a range of symptoms with varying levels of severity, from mild differences in social awareness to severe disabilities in relating to and communicating with others, the scientific consensus is now that autism spectrum disorder is a single diagnosis that results from many different causes. The diagnosis of ASD can be further modified by indicating whether a child has an additional language disorder and/or intellectual disability and whether there is a known neurogenetic condition associated with or predisposing to autism.

The social symptoms associated with ASD are typically seen in the first year after birth (although they may be subtle). Children may have difficulty with non-verbal communication, such as use of gestures, pointing, making eye contact, and imitation. Language problems—unusual or delayed language—are more obvious in the second year. Repetitive behaviors, such as turning a light switch off and on, repetitive speech, a singular interest in one topic, or physical behaviors like rocking from side to side or hand flapping, may be present early or may appear even later. Some children also

have intellectual deficits, although some have typical scores on formal intellectual testing done after 6 years of age.

Some children with ASD do not have language delays and have typical intelligence. The hallmark of autism is deficits in social skills. Children may have trouble taking the point of view of others and thus difficulties in understanding how they should interact with others. They may be preoccupied with their own world, be unaware of their impact on other people, talk about only one or two topics that they focus on repeatedly, and interpret language literally, having trouble with humor, teasing, and figures of speech. They may be described as having "quirky" interests and behavior. Their voice may have little variation in tone, and they may exhibit only limited facial expressions or eye contact. Many also have symptoms of ADHD and anxiety.

Children with fewer overall symptoms may still have challenging behaviors that impair function and benefit from intervention. Children who do not display any repetitive or restrictive patterns of behavior but have difficulties with social communication may now be classified as having social communication disorder.

Autism affects children of all races, ethnicities, and socioeconomic groups. It occurs about four times more often in boys than in girls and is diagnosed in nearly one of every forty-four children in the United States. Although autism was once thought of as relatively rare, the number of children identified as having this diagnosis has risen in recent years. This increase in reported cases is likely due in part to a greater awareness of autism's signs and symptoms on the part of parents, teachers, and pediatricians, which means that more children are being diagnosed. In addition, some children who are diagnosed as having autism today might have been classified in the past as having a different diagnosis, like intellectual disability; this would also contribute to the increase in numbers.

As noted, autism is a diagnosis that describes a spectrum of symptoms. Likely there are many different underlying reasons for these symptoms, so in most individual cases the exact cause of autism remains unclear. Studies of families, including those with twins, have shown that genetics plays an important role in autism. Researchers are also studying factors in the environment that may interact with genes to increase a child's risk of

developing symptoms of autism. Better awareness leads to diagnosis in children with milder symptoms. This allows for treatment, which has been shown to help, especially when started earlier in life.

Some parents have been concerned about a possible link between autism and certain childhood immunizations. Numerous studies have now examined the claim that childhood vaccines cause autism, and **they have effectively ruled out any link between vaccines and autism**. In fact, in 2010, the original researchers claiming a link between vaccines and autism admitted to falsification of data and fraudulent research. The changes in the brain that lead to autism start in the womb, long before the baby is born and receives any vaccines. If you have questions about vaccines for your child, talk to your pediatrician, who can provide scientifically confirmed information about the safety of vaccines and the important benefits of vaccinating your child.

SIGNS AND SYMPTOMS

The following characteristics may be seen in children with ASD. Keep in mind that no two children with this disorder are alike, and signs and symptoms can differ from one child to another, and across the life span of any one child.

Some children with ASD never develop the ability to speak or may have delayed or poorly developed language skills. They may use words without attaching the usual meanings to them, or simply repeat what they hear others saying (known as echolalia). They may not be capable of starting or continuing a conversation, using language for social discussions, or following the unwritten rules for conversations and storytelling such as providing context and taking turns (language pragmatics).

Some children may not be able to understand what people say to them or interpret or respond appropriately to cues such as the facial expressions and body language of others. They may have delayed use of pointing, unusual qualities of pointing or requesting, or limited use of pointing to indicate what they want or to interact with others. They might not respond when their name is called but may react when they hear other types of sounds (a dog's bark, the crinkle of a bag of potato chips).

These children may be socially withdrawn and have trouble relating to people and making eye contact. They may appear to be unaware of their surroundings or in their own world. Their behavior and body movements are sometimes repetitive. For instance, they may have repetitive motor movements like rocking, spinning, flapping their hands, or lining things up. Prolonged toe-walking is another subtle sign you may notice. They may be fascinated by spinning objects like fans or tops. They also may develop maladaptive behavior patterns that could be harmful to themselves, such as head banging or biting, or may be aggressive toward others. They may become upset and have tantrums or disruptive behavior when changes in everyday routines occur (e.g., mealtimes) or when they must transition from one activity to another.

They may have a limited (restricted) range of interests and activities. Their play may not be creative or imaginative in the usual sense of "play," and may include repetitive behavior. They may play with toys in ways the toys are not designed for. They may play with parts of a toy (only the wheels on a toy truck, for example) rather than the entire toy. They may line up toys repeatedly and may have delays in use of make-believe or pretend play.

Instead of forming attachments to a blanket or stuffed animal, they might prefer unusual objects (e.g., string, sticks, figures), and may not want to give up holding them all the time.

They may be very sensitive to smells, lights, sounds, touch, and textures; they may seem to have a high threshold for pain. Many children with autism have restricted eating habits or abnormal sleep patterns.

DIAGNOSIS

Typically, the earlier that therapies are started after diagnosis, the better the response. Therefore, if your child has shown delays in developing language, has difficulties with social communication, or has unusual behaviors, talk to your pediatrician. Other early signs should raise concerns and should be evaluated for a potential diagnosis. Contact your doctor if your child is not doing the following activities by the stated age.

By 12 Months

- Plays games with you, like pattycake
- Uses simple gestures, like waving bye-bye
- Says “mama,” “dada,” or another special name
- Understands “no” (pauses briefly or stops when you say it)

By 18 Months

- Points to show you interesting objects or events
- Tries to say three or more words besides “mama” or “dada”
- Plays with toys in a simple way, like pushing a car
- Follows one-step directions without any gestures, like giving you the toy when you say, “Give it to me”

By 24 Months

- Points to at least two body parts when you ask them to show you
- Looks at your face to see how to react in a new situation
- Says at least two words together, like “More milk”
- Plays with more than one toy at the same time, like putting toy food on a toy plate

By 36 Months

- Notices other children and joins them to play
- Talks with you in conversation using at least two back-and-forth exchanges
- Asks “who,” “what,” “where,” or “why” questions, like “Where is Mommy/Daddy?”

By 48 Months

- Pretends to be something else during play (teacher, superhero, dog)
- Asks to go play with children if none are around, like “Can I play with Alex?”
- Says sentences with four or more words

- Talks about at least one thing that happened during their day, like "I played soccer"

WHERE WE STAND

The American Academy of Pediatrics encourages doctors to be aware of the signs of ASD, and to be on the lookout for these signs during every well-child visit.

At the same time, the Academy urges parents to always let their pediatricians know of any concerns they may have about their child's behavior and development. The AAP recommends autism-specific screening when children are at 18 and 24 months of age; the sooner an intervention program is started, the better. However, children should be evaluated at any age if a parent or professional has concern about the possibility of ASD. If ASD is suspected or diagnosed, parents should seek a referral for early intervention and local specialists (like speech therapy or behavioral intervention to promote social skills). Public early intervention programs are specific for children from birth to 3 years of age. Above the age of 3, a referral should be made to your school district. Parents should make an effort to become as familiar as possible with available treatments and programs in their community and support their child in learning the skills needed to be successful in the least restrictive educational setting.

Further signs and symptoms can be found at the Centers for Disease Control and Prevention website, cdc.gov/ncbddd/actearly.

If you observe signs like these in your child or are concerned about other aspects of their language and social development, let your pediatrician know —and the earlier, the better. In fact, as soon as the diagnosis of autism is suspected, treatment should begin, even before a diagnosis is conclusively made. Children with other types of delays may have some of these symptoms as well, but these other developmental diagnoses also benefit from intervention, so getting your child evaluated is important even if you are not concerned about autism.

Unfortunately, no laboratory test is available to diagnose autism, nor, as we have seen, does a single set of symptoms always characterize it. If your pediatrician is concerned about ASD but the symptoms are unclear or more complex, they should refer you to a team of healthcare specialists with expertise in ASD (developmental pediatricians, neurologists, child psychiatrists, child psychologists, etc.) who can clarify whether the collection of symptoms is consistent with ASD. As part of the diagnostic

process, your child's play behavior will be observed, as will their interactions with their caregivers. The physician will take a detailed history, conduct a physical examination, and perhaps order laboratory tests to look for medical conditions that can cause symptoms associated with autism. The diagnostic process should also include evaluation of your child's language and cognitive ability using standardized testing. Children with language delays should always be evaluated to make sure they can hear normally.

To help make the diagnosis, start with your pediatrician. Pediatricians are trained to identify the most common symptoms associated with ASD. Your pediatrician may refer you to a specialist in ASD, typically found in major medical centers. You can also call your state's public early childhood system or school district to request a free evaluation, without a doctor's referral, to find out if your child qualifies for intervention services. Check out cdc.gov/FindEI to help find available resources.

TREATMENT

There is no known cure for autism spectrum disorder, but there are effective treatments that improve many of the difficulties associated with ASD. A child diagnosed with ASD will need specialized services aimed at the management of the specific findings associated with their ASD. Early treatment will likely improve the ability of a child with autism to function more independently.

Some commonly used approaches include applied behavior analysis (ABA), developmental interventions (e.g., Floortime), and TEACCH (Treatment and Education of Autistic and Communications-Handicapped Children). The most effective techniques are intensive and help the child develop communication and social skills while teaching appropriate behaviors.

School-age children with ASD require an Individualized Education Plan (IEP) that addresses their language and social learning needs in the least restrictive environment. Some children are able to thrive in the general education environment with a few added supports. Sometimes children will benefit from smaller learning environments that provide less distraction. For other children, more inclusive environments with typical peer modeling can be beneficial. Generally, younger children benefit from intensive educational

programs and other therapies that may include one-on-one work, twelve months a year. As for other children with developmental disabilities, families should evaluate educational options that promote development of social skills. Social skills group therapy approaches can be very helpful for children of all ages. At times, medications also are helpful to manage the behavioral difficulties with autism and related disorders as part of an overall behavioral plan. The use of medication is more common in children and youth of school age.

Children with ASD can vary considerably in their ability for independence in adulthood, as well as in their behavior and language skills. It is impossible to predict in early childhood the adult abilities of a young child with ASD, so it is important to begin interventions for language, social, academic, and behavioral symptoms as early and intensely as possible, with involvement of the family in treatment. No two children with ASD have the same needs, and the approach that is appropriate for one child may be different from what is used for another. Be as involved as you possibly can in your child's treatments. Your pediatrician can help you find community agencies that provide services for your child, as well as family support networks, counseling, and advocacy groups. On the internet, seek out reliable sources of information and education, such as the Centers for Disease Control and Prevention (cdc.gov/autism) or the American Academy of Pediatrics (aap.org/en/patient-care/autism/). You may get conflicting advice about interventions besides those recommended at the time of your child's evaluation. It is important to confer with your pediatrician or specialist about therapies that you might be considering. Through support groups, you also can meet parents of other children with ASD and share experiences, concerns, and solutions.

As mentioned earlier, there is usually a genetic factor involved in ASD, so if one of your children is diagnosed as having autism, there is an increased risk that the same disorder will be identified in your other children. Genetic testing is becoming more available and may be an important part of the evaluation of your child. Speak to your pediatrician about receiving counseling to discuss the increased risk for autism in your other children. Ask your pediatrician if your child should undergo any

genetic testing or if your child needs a referral to a genetic specialist. (Also see the section on autism in Chapter 13 on page 267.)

Cerebral Palsy

Children with cerebral palsy (CP) have abnormal development of or damage to the area of the brain that controls movement, posture, and muscle tone. About 1 to 4 children per 1,000 have CP. About half of children with cerebral palsy have typical intelligence, even though they have difficulty with motor control and movement. The condition causes different types of motor difficulties, which can vary from quite mild and barely noticeable to profound. Depending on the severity of the problem, a child with cerebral palsy may have clumsy movement patterns, or they may be unable to walk. Some children have weakness and poor motor control of one arm and one leg on the same side of the body (called hemiparesis), some have difficulties with both their legs (diplegia), and some have problems with control of both upper and lower extremities (quadriplegia). In some children the muscle tone generally is increased (called spasticity or hypertonia), while in others it is very low (called hypotonia), and in some it is mixed. Muscles with increased tone feel stiff and may be difficult to move, while muscle with decreased tone may feel floppy and have excessive flexibility. While many children with cerebral palsy have no trouble understanding language, they may have difficulty in coordinating the mouth movements needed to produce speech.

Cerebral palsy is caused by malformation of or damage to the brain. Often the damage occurs before birth, while the brain is being formed, but occasionally it occurs during delivery or after birth. Premature birth is associated with an increased risk of cerebral palsy due to the fragility of the developing brain. Other causes of cerebral palsy include underlying genetic or metabolic abnormalities, in-utero stroke, congenital infections, and abnormal formation or development of certain parts of the brain. A baby also can get cerebral palsy from very severe jaundice after birth, or later on in infancy from an injury or illness affecting the brain.

Although parents often look for an explanation as to why this happened, a report by the American Academy of Pediatrics and the American College

of Obstetricians and Gynecologists concluded that most cases of cerebral palsy are not the result of events during labor and delivery, such as an insufficient supply of oxygen (hypoxia).

SIGNS AND SYMPTOMS

The signs and symptoms of cerebral palsy vary tremendously because there are many different types and degrees of motor problems. The main clue that your child might have cerebral palsy is a delay in achieving the motor milestones listed in Chapters 5 through 16 of this book. Here are some specific warning signs.

In a Baby over 2 Months

- Their head lags when you pick them up while they're lying on their back, and they have poor head control in sitting.
- They feel stiff.
- They feel floppy.
- When held cradled in your arms, they seem to overextend their back and neck—constantly acting as if they are pushing away from you.
- When you pick them up, their legs get stiff and they cross, or "scissor."

In a Baby over 9 Months

- They are not yet able to sit without support.
- They use one side of the body more than the other, such as crawling in a lopsided manner, pushing off with one hand and leg while dragging the opposite hand and leg.
- They hop on their knees but do not crawl on all fours.
- They do not walk independently by 18 months of age.

If you have any concerns about your child's development, talk to your pediatrician right away. Because children's rates of development vary widely, it is sometimes difficult to make a definite diagnosis of mild cerebral palsy right away. Often a consultation with a developmental pediatrician, pediatric neurologist, or pediatric rehabilitation medicine physician will assist in the diagnosis. Your pediatrician will refer you to the appropriate professional.

Your child will also be referred to a physical and/or occupational therapist for additional assessment of their motor skills. An MRI (magnetic resonance imaging) scan of the head should be done in all children with cerebral palsy to determine whether a brain abnormality exists. Additional genetic or metabolic testing is sometimes needed as well. Even when a firm diagnosis is made during these early years, it often is difficult to predict how severe the motor problems will be in the future.

TREATMENT

If your pediatrician suspects that your child has cerebral palsy, you may be referred to an early intervention program. These programs are staffed by early childhood educators; physical, occupational, and speech and language therapists; nurses; social workers; and medical consultants. In such a program, your child will get therapies specifically targeting their needs and you'll learn how to better help your child. You will be taught by a physical and/or occupational therapist what exercises to do with your infant, what positions are most comfortable and beneficial to them, and how to help with specific problems such as feeding difficulties. Sometimes medications such as baclofen or botulinum toxin type A are used to minimize the spasticity or decrease muscle tightness in the legs or arms, though medication for spasticity is not typically recommended for younger children. Older children may be treated with implantable baclofen pumps or have surgical procedures to decrease spasticity or treat problems with the hips or spine. You may receive information about adaptive equipment that can help your child participate in everyday activities and position them so they can use their hands better in play. Special equipment may include customized utensils to make eating easier, adapted bath or potty chairs, pencils that can be held more easily, braces or orthotics for the legs and ankles, wheelchairs, and walkers. These adaptations allow children to be more independent and participate with peers and within the community. Through support groups, you also can meet parents of other children with similar disabilities and share experiences, concerns, and solutions.

The most important thing you can do for your child is to help them develop skills, become resilient, and gain positive self-esteem. Encourage them to perform the tasks they are capable of and practice more challenging

tasks so that they learn to do them with as little assistance as possible. The professionals at early intervention centers can help you evaluate your child's abilities and teach you how to reach appropriate goals. You may be offered advice about other types of therapies besides those provided by the conventional therapy team. Discuss any non-standard therapies with your pediatrician before trying them.

A number of organizations are available to help parents learn more about how best to take care of their child with cerebral palsy. These include United Cerebral Palsy (ucp.org), the Cerebral Palsy Foundation (yourcpf.org), and the Cerebral Palsy Research Network (cprn.org).

ASSOCIATED PROBLEMS

Intellectual Development Disorder

It has been estimated that more than half of children with cerebral palsy have global developmental delays that include thinking and problem-solving. Many children with cerebral palsy also are diagnosed with intellectual development disorder, while others have average intellectual abilities. (See also *Intellectual Development Disorder (IDD),* page 536.)

Autism

About 7 to 8 percent of children with cerebral palsy will also be diagnosed with having autism spectrum disorder. If you have concerns about your child's play, social, or communication skills, ask your pediatrician about the possibility of autism.

Seizures

Four out of every ten people with cerebral palsy have or will develop seizures. They may not start until later in childhood. Fortunately, these seizures often can be controlled with anticonvulsant medications. (See also page 663.)

Eating and Digestive Difficulties

Many children with cerebral palsy experience difficulties with eating and digestion. Children who have problems with the muscles in their face or mouth may need more help learning to chew or swallow food safely. Constipation and reflux are very common and are thought to be associated

with abnormalities in the muscles that control the gastrointestinal tract. These problems can affect continence (learning to control the bowel and bladder function). Some children require minor dietary changes or fiber supplements, while others need prescription medications or more intensive support for healthy digestion and/or continence.

Vision Difficulties

Because the injury to the brain often affects eye muscle coordination, more than three out of four children with cerebral palsy have vision difficulties. Some of the vision issues include strabismus (eyes not properly aligned; see page 608), amblyopia (decreased vision in one eye that may cause turning in or out), or cortical visual impairment (where the brain can't understand what the eyes are seeing). It is extremely important to have your child's eyes checked regularly by your pediatrician and a pediatric ophthalmologist. Many of these vision difficulties can be corrected if identified and treated early, but if left untreated they may worsen and may even cause permanent vision loss.

Joint Contractures

In children with spastic forms of cerebral palsy, it is often difficult to prevent contracture, a loss of range of motion of a stiff joint, caused by the unequal pull of one muscle over the other. Possible problems that may result include scoliosis (curvature of the spine) or dislocation of the hips. Some children with asymmetry of their muscle tone may have differences in the size of the affected arm or leg, or contractures of joints.

A physical therapist, developmental pediatrician, or pediatric rehabilitation medicine physician can teach you how to stretch the muscles to try to prevent the onset of contracture. Sometimes braces, splints, casting, or medication may be used to improve joint mobility and stability. In some situations, orthopedic surgery is performed as part of contracture management.

Dental Problems

Many children with cerebral palsy have a greater risk of developing oral diseases. This can mean more gingivitis (gum disease) and cavities. One reason may be that it is difficult for them to brush their teeth. However, they

also have more enamel defects than other children, which may make their teeth more susceptible to decay. In addition, some medications such as seizure or asthma medications may contribute to cavity formation. Because of the special skills needed to monitor their dental needs, families often seek out pediatric dentists with training in caring for children with chronic needs.

Hearing Loss

Some children with cerebral palsy have a complete or partial hearing loss as part of the injury or illness that caused the damage to the brain. All babies in the United States are screened for hearing loss before leaving the nursery, but if you find that your baby does not blink or startle at loud noises by 1 month, is not turning their head toward a sound by 3 to 4 months, or is not saying words by 12 months, discuss it with your pediatrician. The results of newborn hearing screening should be reviewed and follow-up hearing evaluation should be obtained along with formal speech and language testing. (See also *Hearing Loss [Hearing Impairment],* pages 532–36.)

Problems with Spatial Awareness

Over half the children with cerebral palsy affecting one side of the body have challenges sensing the position of their arm, leg, or hand on the affected side. (For example, when a child's hands are relaxed, they cannot tell whether their fingers are pointing up or down without looking at them.) If this problem exists, the child may limit use of the involved hand, even if the motor disability is minimal. They might act as if it is not there. Physical or occupational therapy can help them learn to use the affected parts of their body, despite this disability.

Congenital Abnormalities

Congenital abnormalities are caused by problems during the fetus's development before birth. About 3 of every 100 babies born in the United States have congenital abnormalities.

There are five categories of these abnormalities, grouped according to the cause.

Chromosome Abnormalities

Chromosomes carry the genetic material inherited from one generation to the next in the egg and sperm. Normally, twenty-three chromosomes come from the father and twenty-three from the mother. The genes carried on the chromosomes provide the instructions for how the body is made and determine a child's characteristics.

When a child does not have the normal forty-six chromosomes, or when pieces of the chromosomes are missing or duplicated, there may be problems in the development and function of organs, including the brain. Down syndrome (trisomy 21) is an example of a condition that can occur when a child is born with an extra chromosome.

Single-Gene Abnormalities

Sometimes the chromosomes are normal in number, but one or more of the genes on them are abnormal. Some of these genetic abnormalities are inherited from a parent who also has that abnormality. This is known as autosomal dominant inheritance. Each child has a one in two chance of inheriting this gene from the parent. Examples include achondroplasia and Marfan syndrome.

Other genetic problems can be passed to the child only if both parents carry the same gene. Cystic fibrosis, Tay-Sachs disease, and spinal muscular atrophy are all examples of disorders inherited in this fashion. In these cases, neither parent has the disorder, but each carries one gene for it, and the disorder results when the child inherits the abnormal gene from both parents. Each child has a one in four chance of inheriting this gene from both parents and being affected. This is known as autosomal recessive inheritance.

A third type of genetic abnormality is called sex-linked and generally is passed on to boys only, though the abnormality runs on their mother's side of the family. Girls may carry the abnormal gene that causes these disorders on one of their X chromosomes but not show the actual disease because they have an extra X chromosome with a normal gene. Because boys have only one X chromosome, if they inherit an abnormal gene on the X chromosome, they will have the disorder. (Examples of this problem include hemophilia, fragile X syndrome, color blindness, and the common forms of muscular

dystrophy.) When the mother is a carrier of one of these genes, each of her sons has a one in two chance of inheriting this gene.

The fourth type of genetic abnormality is of the mitochondria, which are the parts of the cell that make energy. Mitochondrial DNA is inherited from the mother only. Mitochondrial diseases may cause a wide variety of problems, including seizures, developmental delays, hearing and vision abnormalities, or kidney and intestinal problems.

Conditions During Pregnancy That Affect Development

Some infections, illnesses, and conditions that affect the mother during pregnancy, particularly during the first nine weeks, can cause serious congenital abnormalities—Zika, German measles, and cytomegalovirus, for example. That is why infections and other disorders such as diabetes are screened for during pregnancy. In many cases, working closely with your physician, getting recommended vaccines, and following strict management protocols can help decrease complications during pregnancy and later problems for your baby. Other things that can affect your baby during development are alcohol consumption, illegal drugs, particular medications, and certain chemicals that can pollute air, water, and food, like mercury, lead, and dioxin. Always check with your doctor before using any medication or nutritional supplement while you are pregnant.

Combination of Genetic and Environmental Problems

Spina bifida and cleft lip and palate are types of congenital abnormalities that may occur when there is a genetic tendency for the condition combined with exposure to certain environmental influences, toxins, chemicals (alcohol, cigarette smoke, etc.) or vitamin deficiencies (folic acid, etc.) within the womb during critical stages of the pregnancy. Women are prescribed prenatal vitamins containing folic acid even while they are planning to become pregnant, to help prevent the fetus from having spina bifida.

Unknown Causes

Most congenital abnormalities have no known cause. If you and your family have had one child with congenital abnormalities or developmental problems without a known cause, ask your pediatrician or obstetrician for a

referral to a geneticist or genetic counselor. They can review with you your risk for having another child with similar problems.

WHEN YOUR CHILD HAS A CONGENITAL DISORDER

Despite advances in prenatal diagnostics, such as ultrasound, many families learn their baby has a congenital abnormality after they are born. It is very important to ask the doctors caring for your baby to explain everything so that you understand what is happening with them and so that you can enlist the support of friends and family. Siblings need to be informed about the condition of the baby in words that are appropriate to their developmental level. Once a diagnosis is made, many families find it very helpful to be put in contact with family support groups for that disorder.

CONGENITAL CONDITIONS

Congenital abnormalities are so diverse and require such different types of treatment that it would be impossible to discuss them all in this section. Instead, we will look only at the medical management of two conditions: Down syndrome and spina bifida. However, clinical symptoms accompanying congenital conditions might include global developmental delay or intellectual disability, cerebral palsy, sensory impairment, or autism spectrum disorder; in these cases, the evaluations and interventions described for those clinical conditions would apply.

Down Syndrome

Approximately 1 out of every 700 babies is born with Down syndrome. Fortunately, through prenatal testing, Down syndrome can often be detected prenatally. Down syndrome is caused by the presence of an extra chromosome. One result of this extra chromosome is a typical appearance that includes up-slanted eyes with extra folds of skin at the inner corners, flattening of the bridge of the nose, a tongue that looks larger in the setting of a small mouth, and a decrease in the muscle and ligament tone of the body.

Most children with Down syndrome will have mild to moderate intellectual disability and will benefit from early intervention services, which can be started in infancy. However, it is important to remember that

children with Down syndrome are more like other children than they are different. Children with Down syndrome form deep and meaningful relationships with others, can learn in special education and inclusive classrooms, and can participate in community activities and sports. Many can be employed competitively or in a workshop setting and can live independently or in a group home setting as adults.

Children with Down syndrome are at higher risk for a number of medical conditions. Congenital heart disease is common in children with Down syndrome, so your doctor will arrange for an ultrasound of the heart (echocardiogram) shortly after birth. These children may also get frequent ear infections, which can affect their hearing and speech over time. Children with Down syndrome may be born with problems with the gastrointestinal tract or with other organ systems; these can usually be found by exam and by monitoring how the baby eats and moves their bowels.

Many children with Down syndrome are shorter and weigh less than average for their age when they are infants. However, older children with Down syndrome may struggle with excess weight gain. More than half have vision and hearing impairments. Many children will develop sleep apnea, so all children should have a sleep study by the time they start school. Some children with Down syndrome will develop hypothyroidism, which can lead to decreased metabolism, weight gain, and slowed behavior. Although rare, children with Down syndrome are also at higher risk for loosening of the ligaments that provide neck stability and connect the vertebral column to the base of the skull. If these ligaments are too loose, overextension (bending backward) of the neck can occur, causing serious spinal injury. For this reason, caution should be taken with contact sports that could place a child at increased risk of spinal cord injury, such as football, soccer, and gymnastics. Medical procedures like surgeries and even X-rays can also put the spine at risk if the child is not positioned appropriately. A physician must perform an examination and obtain radiographs of the neck before the child participates in specific sports.

In 2022, the American Academy of Pediatrics published health supervision guidelines for children and adolescents with Down syndrome. These guidelines can be used by families and by pediatricians to ensure all the unique medical needs for children with Down syndrome are met.

Spina Bifida

Spina bifida occurs when the tissue surrounding the spinal cord fails to close properly during early fetal development. There are many different subtypes of spina bifida. The most common form, spina bifida occulta, occurs when the spinal bones don't close but there are no problems with the nerves, as they are protected by the spinal column. Most people with spina bifida occulta don't even know they have it. Another form is meningocele, in which a sac of fluid that protects the spinal cord pushes out between the opening in the spinal bones, but no spinal nerve tissue is involved. A third type is myelomeningocele, in which the protruding sac of fluid also contains parts of the spinal nerves and spinal cord. Most of the time when people say spina bifida, they are referring to myelomeningocele, so that is what this section will discuss.

Spina bifida is often caused by an interaction between genes and the environment. A parent who has one child with spina bifida has a greater chance (1 out of 100) of having another. This increased frequency appears to be due to some combined effect of heredity and environment. One factor we know of is inadequate intake of folic acid during very early pregnancy, so supplements including this vitamin are recommended for all women of childbearing age, preferably starting before pregnancy begins, to minimize the risk for spina bifida in the fetus. Ultrasound examination can usually identify spina bifida during pregnancy, and blood tests done on the mother can help to identify an increased risk of having a baby with spina bifida. Knowing that a baby will have spina bifida allows the family to plan for delivery at a medical center that offers specialty care. At some centers with experts in high-risk maternal-fetal medicine and specialist surgeons, pregnant women may choose to be evaluated for fetal surgery (surgery done while the fetus is still in the womb), which is not a cure but may lessen the impact of the condition in some children.

A newborn with spina bifida has a sac protruding from the spine that contains spinal fluid and a portion of the spinal cord. These are the nerves that control the lower part of the body. On the first or second day after birth, surgery must be performed to close the opening in the spine. Unfortunately, little can be done to repair the damaged nerves, but a lot can be done to help

children be as functional as possible. Most babies with spina bifida have several other medical complications. These include:

HYDROCEPHALUS. Up to nine out of ten children with spina bifida eventually develop hydrocephalus, or increased fluid in and around the brain. The increase occurs because the path through which the fluid ordinarily flows is blocked. This condition is serious and must be treated surgically. Signs of hydrocephalus can include that the baby's head is growing more rapidly than expected, a bulging fontanelle (soft spot), or symptoms of irritability, lethargy, or seizures. The condition is confirmed by a CT (computed tomography), magnetic resonance imagery (MRI), or ultrasound scan of the head. If the condition exists, surgery will be required to relieve fluid buildup by placement of a shunt to remove the fluid.

WHERE WE STAND

In an effort to reduce the prevalence of spina bifida, the American Academy of Pediatrics endorses the recommendation of the US Public Health Service that all women capable of becoming pregnant consume 400 mcg per day of folic acid (a B vitamin). Folic acid helps to prevent neural tube defects (NTDs), which include spina bifida. Although some foods are fortified with folic acid, it is not possible for women to meet the 400 mcg goal through a typical diet. Thus, an Academy policy statement recommends a daily multivitamin tablet that contains folic acid in the recommended dose. Studies show that if all women of childbearing age met these dietary requirements, 50 percent or more of NTDs could be prevented.

Women who are at high risk for an NTD-affected pregnancy (for example, because of a previous NTD-affected pregnancy, having diabetes mellitus, or taking anti-seizure medications) are advised to discuss their risk with their doctor. This includes possible treatments with very high doses of folic acid (4,000 mcg per day), beginning one month before becoming pregnant and continuing throughout the first trimester. As the doctor will explain, however, women should not attempt to achieve this very high dose of folic acid by taking multivitamin supplements (because then they may receive too much of other vitamins), and should follow the advice of the physician.

LATEX ALLERGIES. People with spina bifida are more likely to be allergic to latex, likely because of early surgeries and latex sensitization. Allergic reactions can vary from mild to very severe. All children with spina bifida should take precautions to avoid latex. Children with latex allergies should

have an emergency care plan in place should an allergic event occur. You can reduce the chances that your child will acquire this sensitivity by avoiding exposure to latex. But be aware that many infant products contain latex (bottle nipples, pacifiers, teething toys, changing pads, mattress covers, and some diapers). If your child does have a latex allergy, make sure you have an anaphylaxis plan (see page 469).

MUSCLE WEAKNESS OR PARALYSIS. Because the congenital abnormality of the spinal cord impacts the development of nerves connecting the brain to the lower limbs, the muscles in the legs may be very weak or not function at all in children with spina bifida. Because they may not be able to move their feet, knees, or hips, they may be born with contractures of these joints (shortening or tightening of the joints or muscles). Surgery can be performed to correct some of these contractures, and the muscle weakness can be helped with physical therapy and bracing. Depending on the level of the spinal lesion, children with spina bifida may be able to walk independently or with walkers. Many use wheelchairs, however.

BOWEL AND BLADDER PROBLEMS. Often the nerves that control bowel and bladder function do not work properly with spina bifida. As a result, these children are more likely to develop urinary tract infections and can have urine back up from the bladder and damage the kidneys. Your pediatrician will refer your child to a urologist, who will monitor your child's bladder function and determine if they need to have urine drained through a catheter to protect their kidneys. These children are prone to urinary tract infections, which might cause fever or abdominal or back pain.

Bowel control may be a problem because of the lack of nerve control of the rectum. Careful dietary management to keep the stools soft, including stool softeners, suppositories, or enemas, may be recommended to help with bowel management.

EDUCATIONAL AND SOCIAL PROBLEMS. Seven out of ten children with spina bifida have developmental and learning disabilities requiring some educational supports for learning needs. Issues of health and wellness, including weight control, physical activity, and social inclusion, are

particularly important to the long-term physical, emotional, and social well-being of children with spina bifida.

Parents of a child with spina bifida need more than one physician to manage their child's medical care. In addition to the basic care your pediatrician delivers, this condition requires a team approach that involves neurosurgeons, orthopedic surgeons, urologists, developmental-behavioral pediatricians, rehabilitation experts, physical therapists, psychologists, and social workers. Many medical centers run special spina bifida clinics, which offer the services of all these health professionals in one location. Having all members of the team together makes it easier for everyone to communicate and usually provides better access to information and assistance when parents need it.

RESOURCES

Information and support for parents of children born with congenital conditions are available from various organizations.

CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)

1-800-232-4636

cdc.gov

MARCH OF DIMES

1-888-663-4637

marchofdimes.org

THE NATIONAL DOWN SYNDROME CONGRESS

1-800-232-NDSC (6372)

ndsccenter.org

THE SPINA BIFIDA ASSOCIATION

1-800-621-3141

spinabifidaassociation.org

UNITED CEREBRAL PALSY

1-800-872-5827

ucp.org

Hearing Loss (Hearing Impairment)

Although hearing loss can occur at any age, hearing difficulties at birth or that develop during infancy and the toddler years can have serious developmental consequences if unrecognized and untreated. This is because normal hearing is needed to understand spoken language and then, later, to produce clear speech. Consequently, if your child experiences hearing loss during infancy or early childhood, immediate attention is required. Even a temporary but significant hearing loss during this time can make it very difficult for the child to learn spoken language or speech patterns. Sometimes parents will see their child respond to a loud noise and be reassured that their child is not deaf. However, subtle or mild losses in hearing may not be obvious but will still negatively impact language development.

Most children experience mild hearing loss when fluid accumulates in the middle ear from congestion, colds, or ear infections. This hearing loss is usually only temporary; normal hearing commonly returns once the congestion or infection subsides and the Eustachian tube (which connects the middle ear to the throat) drains the remaining fluid into the back of the throat. In many children, perhaps one in ten, fluid stays in the middle ear following an ear infection (see page 542) because of problems with the Eustachian tube. Children with this problem don't hear as well as they should and sometimes develop speech delays. Much less common is the permanent kind of hearing impairment that always impacts normal speech and language development. Permanent hearing impairment varies from mild or partial to complete or total deafness.

There are two main kinds of hearing loss or impairment: conductive and sensorineural. When a child has a conductive hearing loss, there may be an abnormality in the structure of the outer ear canal or middle ear, there may be a large amount of cerumen (wax) lodged in the ear canal, or there may be fluid in the middle ear that interferes with the transfer of sound.

By contrast, a sensorineural hearing loss is caused by an abnormality of the inner ear or the nerves that carry sound messages from the inner ear to the brain. The loss can be present at birth or occur anytime thereafter. Even without a family history of deafness, the cause is frequently genetic, with

parents and other family members often unaffected because each parent is only a carrier for a hearing loss gene; because future children have an increased risk of being hearing impaired, genetic counseling is recommended. Or if the mother had rubella (German measles), cytomegalovirus (CMV), toxoplasmosis, or another infectious illness that affects the inner ear during pregnancy, the fetus could have been infected and may lose hearing as a result. Some infections cause hearing loss in early childhood. The problem also may be due to a malformation of the inner ear.

Hearing loss must be diagnosed as soon as possible, so that your child isn't delayed in learning language—a process that begins the day they are born. The American Academy of Pediatrics recommends that before a newborn infant goes home from the hospital, they undergo a formal hearing screening. In fact, every state and territory in the United States now has an Early Hearing Detection and Intervention (EHDI) program, which mandates that all newborns be screened for hearing impairment before they are discharged from the hospital. If your newborn's screen is abnormal, make sure your pediatrician knows: A follow-up screen should be performed as soon as possible.

While it is very reassuring when an infant passes their newborn hearing screen, some children develop hearing loss over time. At any time during your child's life, if you and/or your pediatrician suspect that they have hearing loss, insist that a formal hearing evaluation be performed promptly. (See *Hearing Loss: What to Look For* on page 534.) Some family doctors, pediatricians, and well-baby clinics can test in the office for hearing loss or fluid in the middle ear, a common cause of hearing loss. If a problem is detected, your child may be referred to an audiologist (hearing specialist) and/or ear, nose, and throat doctor (ENT; otolaryngologist).

If your child is under 6 months of age, is unable to cooperate with or understand a hearing examination, or has significant developmental delays, they may be given one of two available tests, which are like the tests performed during newborn hearing screenings. They are painless and can take anywhere from five to sixty minutes.

- The auditory brainstem response test (ABR) measures how the brain responds to sound during deep sleep. Clicks or tones are played into the

baby's ears through soft earphones, and electrodes placed on the baby's head measure the brain's response. This allows the doctor to test your child's hearing without having to rely on their cooperation. ABRs are performed during a natural sleep in infants under 3 or 4 months old. Older babies and toddlers need to be sedated to undergo an ABR.

- The otoacoustic emissions test measures sound waves produced by the ear. A tiny probe is placed just inside the baby's ear canal, which then measures the response when clicks or tones are played into the baby's ear. Babies and young children usually do not need to be napping or sedated for this, as it is a brief screening exam. This can be done at any age.

Behavioral audiometry, or conditioned response audiometry, can be performed with a cooperative baby as young as 6 months old. A combination of visual and auditory stimuli is provided, and the test can determine frequency-specific (although not ear-specific) hearing levels in infants and toddlers.

Formal behavioral audiometry can determine hearing levels as well as eardrum function in each ear. This is performed using soft earphones that send sounds and words to the ear and is typically well tolerated by children in the 3-to 5-year-old age range.

HEARING LOSS: WHAT TO LOOK FOR

Here are the signs and symptoms that should make you suspect that your child has a hearing loss and alert you to call your pediatrician. Also, any child being evaluated for possible autism spectrum disorder or delay in language development should undergo a hearing evaluation.

- Your child doesn't startle at loud noises by 1 month or turn to the source of a sound by 3 to 4 months of age.
- They don't notice you until they see you.
- They concentrate on gurgling and other vibrating noises that they can feel, rather than experimenting with a wide variety of vowel sounds and consonants. (See *Language Development* in Chapters 7, 8, 9, and 12.)
- Their speech is delayed or hard to understand, or they don't say single words such as "dada" or "mama" by 12 to 15 months of age.
- They do not say three or more words besides "mama" or "dada" by 18 months of age.
- They do not put two to three words together at 2 years of age.
- Their speech is not understandable 50 percent of the time by 2½ years of age.

- They don't always respond when called. (This is usually mistaken for inattention or resistance, but it could be the result of a partial hearing loss.)
- They seem to hear some sounds but not others. (Some hearing losses affect only high-pitched sounds; some children have hearing loss in only one ear.)
- They seem not only to hear poorly but also to have trouble holding their head steady or are slow to sit or walk unsupported. (In some children with sensorineural hearing loss, the part of the inner ear that provides information about balance and movement of the head is also damaged.)

Not all these tests may be available in your immediate area, but the consequences of undiagnosed hearing loss are so serious that your doctor may advise you to travel to where the tests and potential treatment can be offered. Certainly, if these tests indicate that your baby may have a hearing problem, your doctor should recommend a more thorough hearing evaluation as soon as possible to confirm whether your child's hearing is impaired. Even mild hearing loss can still affect overall hearing and should be properly diagnosed and treated.

TREATMENT

Treating hearing loss will depend on its cause. If it is a mild conductive hearing loss due to fluid in the middle ear, the doctor may simply recommend that your child be retested in a few months to see whether the fluid has cleared by itself. Medications such as antihistamines, decongestants, or antibiotics are ineffective in clearing up middle ear fluid.

If there is no improvement in hearing over a three-month period, and there is still fluid behind the eardrum, the doctor may recommend a referral to an ENT specialist. If the fluid persists and there is sufficient (even though temporary) conductive hearing impairment from the fluid, the specialist may recommend draining the fluid through ventilating tubes. These are surgically inserted through the eardrum. This is a minor operation and takes about fifteen minutes, but your child must receive a general anesthetic for it to be done properly, so your child usually will spend part of the day in a hospital or an outpatient surgery center.

Even with the tubes in place, future infections can occur, but the tubes help reduce the amount of fluid and decrease your child's risk of repeated

infection. If the cause for the hearing loss was purely the fluid, the tubes will improve hearing.

If conductive hearing loss is due to a malformation of the outer or middle ear, a hearing aid may restore hearing to normal or near-normal levels. However, a hearing aid will work only when it's being worn. You must make sure it is on and functioning at all times, particularly in a very young child. Reconstructive surgery may be considered when the child is older.

Early placement of hearing aids for infants with hearing loss is important to give them awareness of sound and language. Early exposure to either aural (spoken) or visual (sign) language has a very positive impact on language development. In children with mild to moderate sensorineural hearing loss, hearing aids can improve hearing so much that most can develop normal speech and spoken language.

Should your child have severe or profound hearing loss in both ears and receive little or no benefit from hearing aids, they could be a candidate for cochlear implants. Cochlear implants have been approved by the Food and Drug Administration for children since 1990. If your family is considering an implant for a child whose hearing loss occurred at birth, outcomes for developing useful speech and hearing are better with early (ideally by 1 year of age) rather than late (over 3 years old) implantation. Therefore, it is extremely important to seek out early and efficient evaluation and treatment of hearing loss. Most children with typical development and early implantation coupled with intensive therapy after the surgery can develop good to excellent hearing and can be supported in a mainstream educational setting; almost all children with cochlear implants gain better awareness of sounds in their environment.

Parents of children with sensorineural hearing loss usually are most concerned about whether their child will learn to talk. The answer is that although optimally timed cochlear implantation will greatly improve the chances of learning spoken language, not all may learn to speak clearly. However, all children with hearing loss can be taught to communicate. Some children learn to lip-read well, while others never fully master the skill. However, speech is only one form of communication. For children in whom hearing aids or cochlear implants cannot offer enough improvement in hearing to develop spoken language, or for those families who have chosen

not to pursue spoken language, sign language is another mode of communication that can be learned. If your child is learning sign language, you and your immediate family also must learn it. This way you will be able to teach, praise, comfort, and laugh with them. You should encourage friends and relatives to learn signing, too. Written language is very important as well, because it is the key to educational and future career success.

Intellectual Development Disorder (IDD)

The term "intellectual development disorder" (IDD) is used when a child's intelligence and adaptive behavior, which covers many everyday social and practical skills, is significantly below average and affects the way they learn, develop new skills, and participate in the world around them. The more severe the disability, the more delayed a child's skills will be in comparison to their chronological age.

There are several different ways to test a child for intellectual development disorder. Traditional intelligence tests, such as an IQ test, show a child's ability to learn and solve problems. More important, however, is the child's ability to function in their everyday life. This is known as adaptive behavior and can also be tested formally.

IQ testing is not thought to be reliable until age 6 or older. Many specialists agree that IQ testing prior to age 8 cannot be used to predict long-term abilities. To determine IQ, the child is given a test to assess their language abilities, memory, problem-solving, visual spatial skills, and non-verbal reasoning. The tests are designed around an average score of 100, and most people test within a range of 30 points above and below that. In some cases, standard IQ tests are not accurate or reliable because cultural differences, language problems, or physical problems interfere with testing. In such cases, tests that measure the child's ability to function and reason should be used.

The diagnosis of intellectual development disorder no longer relies on an IQ measurement below 70, which used to be the standard definition. Now, specialists who diagnose this condition tend to focus more on assessing adaptive behavior, as this correlates most with functioning and levels of

independence. Generally, lower intellectual functioning correlates with more difficulties in different areas of adaptive functioning. This includes conceptual skills (language, literacy, time, number concepts), practical skills (personal care skills, travel and transportation, schedules/routines, safety, use of money), and social skills (interpersonal skills, gullibility, ability to follow rules).

SIGNS AND SYMPTOMS

Generally, the more severe the degree of intellectual disability, the earlier you will notice the signs. It may be difficult to predict in young children who have delays in both language and problem-solving skills what their level of function might be as they develop.

When a baby is late in developing basic motor skills (e.g., holding their head up by themselves by 3 to 4 months or sitting unsupported by 7 to 8 months), there also may be some associated intellectual development disorder. However, this is by no means always the case. Nor does typical motor development guarantee normal intelligence. Some children with mild to moderate degrees of intellectual development disorder have normal physical development. In such cases, the first sign of intellectual development disorder may be a delay in language development or in learning simple imitation skills, such as waving bye-bye or playing pattycake.

In many cases of mild disability, the young child may reach developmental milestones at typical times. Later, when they begin preschool or school, they may have difficulty performing academic skills at their grade level. They might have trouble completing puzzles, recognizing colors, or counting when their classmates already have mastered these tasks. Remember, however, children do develop at very different rates, and problems in school are often not a sign of intellectual development disorder. In fact, specific learning disabilities—which are not the same as intellectual development disorder—are often diagnosed only when a child has more difficulty learning than would be expected for the child's overall intelligence level. The key is watching a child's trajectory over time. Children with learning disabilities can often close the gap with their peers with the help of targeted interventions, although other learning disabilities, like dyslexia, can

remain lifelong. When a child doesn't seem to be catching up, then an intellectual development disorder should be considered.

Early developmental delays also can be caused by disorders such as hearing loss, vision problems, learning disabilities, or lack of experience due to environmental challenges. Formal testing can be done closer to kindergarten age.

WHEN TO CALL THE PEDIATRICIAN

If you are concerned about a delay in your child's development, call your pediatrician, who will review your child's overall development and determine whether it is appropriate for their age. If the pediatrician is concerned, they will probably refer you to a pediatric developmental specialist, a pediatric neurologist, or a multidisciplinary team of professionals for further assessment. Children under 3 years of age should be referred to the public early intervention program, and children over 3 years of age should be referred to your school district for formal testing. With older children, formal psychological testing is necessary for a formal diagnosis of intellectual development disorder.

TREATMENT

Young children and toddlers who demonstrate delays across many areas of development may be suspected to have an intellectual development disorder. Early support for optimal development might include speech therapy, occupational therapy, and physical therapy. Special education programs through the public school can be started after the third birthday. In general, the main treatment for children with intellectual development disorder is supportive therapy and education with a goal of achieving their optimal developmental potential. Children with intellectual development disorder often benefit from life-skills and vocational training through the end of high school and can often qualify for public school education through 21 years of age. Many are capable of graduating with diplomas, though some are better suited to graduate with a certificate.

Intellectual development disorder has a range of impact, with symptoms that can be mild, moderate, or severe in degree. Adults with mild intellectual development disorder may develop the academic or trade skills for

community employment, often read at a fourth- to sixth-grade level, and can frequently live independently with some minor supervision. However, with increasing functional impairment, there is a greater likelihood that the person will need supports for daily needs and employment. People with severe to profound intellectual development disorder are often dependent upon others for care and supervision through adulthood and will require thoughtful planning for the transition to adulthood.

In the past, people with IDD often were forced to live in large residential facilities. The goal is now for adults with IDD to live with their families, in their communities, or in small supported living units with meaningful work options. (For more information, visit the American Association on Intellectual and Developmental Disabilities, aaidd.org/home, and the CDC, cdc.gov.)

PREVENTION

Preventable causes of intellectual development disorder include alcohol consumption by the mother during pregnancy and other fetal exposures. Women planning to become pregnant should consult with their obstetricians regarding support they may need to have the healthiest possible pregnancy.

While an increasing number of genetic causes for IDD can be identified, early screening can only prevent symptoms due to metabolic disorders such as phenylketonuria (PKU) and hypothyroidism. Currently there are 116 treatable inborn errors of metabolism, which may account for 5 percent of intellectual development disorder cases. If these conditions are detected soon after birth through standard screening tests performed in the hospital nursery, they can be treated. Other examples of conditions that can cause intellectual development disorder if not detected and treated early in life include lead poisoning, infections in the newborn period, hydrocephalus (excess fluid causing increased pressure in the brain; see page 530), and epilepsy (seizures).

Genetic testing for other causes (single-gene mutations, chromosome abnormalities) may not provide an opportunity for treatment or prevention, but it may offer insights into other ways to help children with intellectual development disorder. Many times, a specific genetic cause is associated

with other medical problems. If your doctor knows about an underlying genetic cause for your child's intellectual development disorder, they can provide early evaluation for those problems. One example is fragile X syndrome, which is one of the most common causes of heritable intellectual development disorder. Children with fragile X syndrome may also have problems with their heart or kidneys, even though some of these problems don't present until a child is older. Sometimes, an underlying genetic cause may also be important for understanding the risk of having additional children with the same genetic change. For example, with fragile X syndrome, there is a 50 percent likelihood for each boy in the family to be born with the syndrome. If you are interested in understanding whether your child's intellectual development disorder has an underlying genetic cause, or if you would like to discuss the likelihood of your future children also having an intellectual development disorder, ask your child's pediatrician about genetic counseling or a referral to a genetic specialist.

Consult your pediatrician, local advocacy organizations, and other reputable professionals to find out what programs (e.g., Special Olympics, Best Buddies, etc.) are available in your community. Professional assistance can be extremely helpful. In the long run, however, you and your family members will be your child's most important advocates. Along with your child's teachers and therapist, you can set realistic objectives for your child and encourage them to reach these objectives. Assist them, if necessary, but let them do as much as possible on their own. You and your child will feel most rewarded when they reach a goal by themselves.

CHAPTER 25

Ears, Nose, and Throat

Colds/Upper Respiratory Infection

Your child probably will have more colds, or upper respiratory infections, than any other illness. In the first two years alone, most children have around eight to ten colds. And if your child spends time in a childcare setting, or if there are school-age children in your house, they may have even more, since colds spread easily among children who are in close contact with one another. That's the bad news, but there is some good news, too: Most colds go away by themselves and do not lead to anything worse.

Colds are caused by viruses, which are extremely small infectious particles (much smaller than bacteria). A sneeze or a cough may directly transfer a virus from one person to another. The virus also may be spread indirectly, when someone infected with the virus transfers some of the virus particles onto their hand by coughing, sneezing, or touching their nose. They then touch a surface such as a toy or doorknob, and a healthy person touches it after, or they may touch the healthy person's hand directly. This healthy person touches their newly contaminated hand to their own nose, introducing the infectious agent to a place where it can multiply and grow—the nose or throat. Symptoms of a cold soon develop. The cycle then repeats itself, with the virus being transferred from this newly infected child or adult to the next susceptible one, and so on.

Once the virus is present and multiplying, your child will develop the familiar symptoms and signs:

- Runny nose (first, a clear discharge; later, a thicker, often colored one)
- Sneezing

- Mild fever (101–102 degrees Fahrenheit [38.3–38.9 degrees Celsius]), particularly in the evening
- Decreased appetite
- Sore throat and, perhaps, difficulty swallowing
- Cough
- On-and-off irritability
- Slightly swollen glands in the neck

If your child has a typical cold without complications, the symptoms should disappear gradually in seven to ten days.

TREATMENT

An older child with a cold usually doesn't need to see a doctor unless the condition becomes more serious. If they are 3 months old or younger, however, call the pediatrician at the first sign of illness. With a young baby, symptoms can be misleading, and colds can quickly develop into more serious ailments, such as bronchiolitis (see page 491), croup (see page 497), or pneumonia (see page 500). For a child older than 3 months, call the pediatrician if:

- The nostrils are widening with each breath, there is drawing in of the skin between and around the ribs and breastbone as the child inhales, your child is breathing rapidly, or there are any other signs of difficulty breathing.
- The lips or nails turn blue.
- Nasal mucus persists for longer than ten to fourteen days.
- A daytime cough lasts more than ten days.
- They have pain in their ear (see *Middle Ear Infections,* page 542) or persistent fussiness or crying.
- Their temperature is higher than 102 degrees Fahrenheit (38.9 degrees Celsius).
- They are excessively sleepy or cranky.

Your pediatrician may want to see your child, or they may ask you to watch them closely and report back if they don't improve each day and are not completely recovered within one week from the start of their illness.

Unfortunately, there's no cure for the common cold. Antibiotics may be used to combat *bacterial* infections, but they have no effect on viruses, so the best you can do is to make your child comfortable. Make sure they get extra rest and drink a lot of fluids. If they have a fever or are uncomfortable, give them single-ingredient acetaminophen or ibuprofen. Ibuprofen is approved for children 6 months of age and older; however, it should never be given to children who are dehydrated or who are vomiting repeatedly. (Be sure to follow the recommended dosage for your child's age and the time interval for repeated doses.)

It's important to note that the American Academy of Pediatrics' position is that over-the-counter cough medicines are not effective for children younger than 6 years old; in fact, they can have potentially serious side effects. In addition, keep in mind that coughing clears mucus from the lower part of the respiratory tract, and ordinarily there's no reason to suppress it.

If your infant is having trouble breathing or drinking because of nasal congestion, clear their nose with saline (salt water) nose drops or spray, which are available without a prescription. This can then be followed by suction with a bulb syringe every few hours, or before each feeding and before bed. For the nose drops, use a dropper that has been cleaned with soap and water and rinsed well with plain water. Place two drops in each nostril fifteen to twenty minutes before feeding, and then immediately suction. **Never use nose drops that contain any medication, since too much of the medication can be absorbed and cause problems in an infant. Only use normal saline nose drops.**

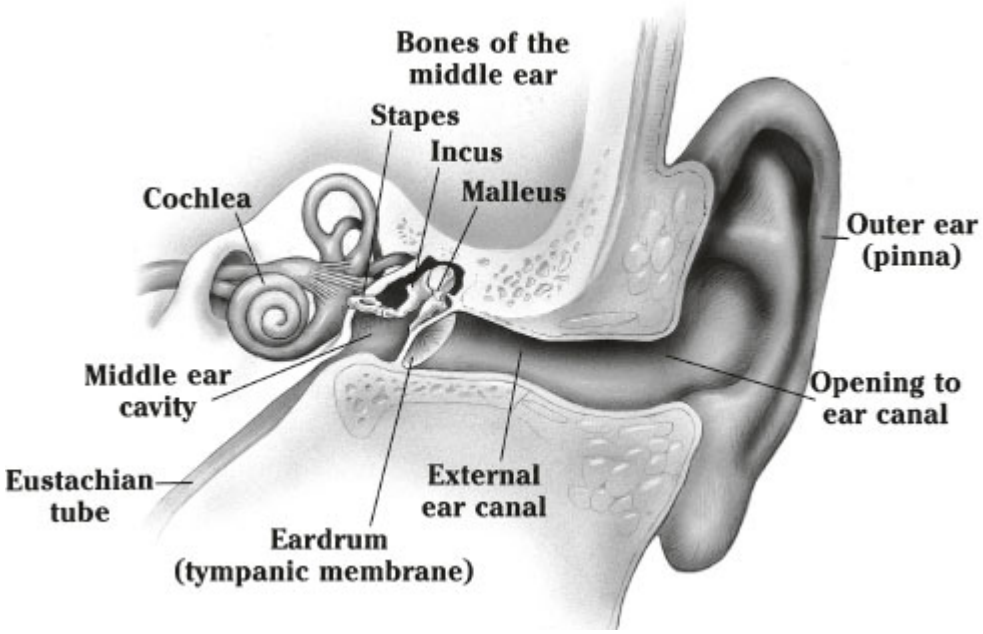
When using the suction bulb, remember to squeeze the bulb part of the syringe first, gently stick the rubber tip into one nostril, and then slowly release the bulb. This slight amount of suction will draw the clogged mucus out of the nose and should allow your child to breathe and suck at the same time once again. You'll find that this technique works best when your baby is under 6 months of age. As they get older, they'll fight the bulb, making it difficult to suction the mucus, but the saline drops will still be effective.

Alternatively, there are nasal aspirators on the market powered by battery or by parents' oral suction.

Placing a cool-mist humidifier or vaporizer in your child's room also will help keep nasal secretions more liquid and make them more comfortable. Set it close to them (but safely beyond their reach) so that they get the full benefit of the additional moisture. Be sure to clean and dry the humidifier thoroughly each day as recommended in the manufacturer's manual to prevent bacterial or mold contamination. **Hot-water vaporizers are not recommended since they can cause serious scalds or burns.**

PREVENTION

If your baby is under 3 months old, the best way to prevent colds is to keep them away from people who have them. This is especially true during the winter, when many of the viruses that cause colds are circulating in larger numbers. A virus that causes a mild illness in an older child or an adult can cause a more serious one in an infant. If your child is in childcare and has a cold, teach them to cough and sneeze away from others, and to use a tissue to cough into and wipe their nose. Doing this may prevent them from spreading the cold to others. Similarly, if your child would be in contact with children who have colds and it is convenient for you to keep them away from them, do so. Also teach them to wash their hands regularly during the day or use an alcohol-based hand sanitizer when soap and water are not available; this will cut down on the spread of viruses.



Cross section of ear

Teach your child to sneeze or cough into the crook of their elbow or shoulder. Even using a tissue or a handkerchief is better than having your child cover their mouth with their hand when sneezing and coughing. If the virus lands on their hand, it can be transmitted to whatever they touch—a sibling, a friend, or a toy.

Middle Ear Infections

During your child's first few years, there's a good chance that they'll get a middle ear infection. At least 70 percent of the time, middle ear infections occur after colds that have weakened the body's ability to prevent bacteria from entering the middle ear. Doctors refer to this middle ear infection as acute otitis media.

Middle ear infections are one of the most prevalent treatable childhood illnesses, occurring most often in children between 6 months and 3 years of age. Two-thirds of all children have at least one ear infection by their second birthday. It's a particularly common problem among young children because they are more susceptible to colds and because of the length and shape of their tiny Eustachian tubes, which normally ventilate the middle ear.

Children under 1 year of age who spend time in childcare programs tend to get more middle ear infections than those cared for at home, primarily because they are exposed to more viruses. Also, infants who self-feed from a bottle when lying on their backs are susceptible to ear infections, as this way of feeding may allow small amounts of formula to enter the Eustachian tube. Two things may explain the fact that by the time your child reaches school age, their likelihood of getting a middle ear infection will decrease: The growth of their middle ear structures reduces the likelihood of fluid blockage, and the body's defenses against infection improve with age.

Several other factors may place children at a higher risk of middle ear infections:

- *Secondhand smoke.* Children who breathe in secondhand tobacco smoke have a markedly increased risk of ear infections as well as respiratory infections, bronchitis, pneumonia, and asthma.
- *Gender.* Although researchers are not sure why, boys have more middle ear infections than girls.
- *Heredity.* Ear infections can run in families. Children are more likely to have repeated middle ear infections if a parent or a sibling also had numerous ear infections.

There are certain things you can do to protect your infant from ear infections, such as breastfeeding, not smoking and not allowing smokers around your child, making sure they are up to date on their vaccines, and practicing good hygiene and proper nutrition to prevent illness.

SIGNS AND SYMPTOMS

Middle ear infections are usually painful, but not always. A child old enough to talk will tell you that their ear hurts; a younger child may pull at their ear and cry. Babies with ear infections may cry even more during feedings, because sucking and swallowing cause painful pressure changes in the middle ear. A baby with an ear infection may have trouble sleeping. Fever is another warning signal: Ear infections sometimes (about a third of the time) are accompanied by elevated temperatures ranging from 100.4 to 104 degrees Fahrenheit (38–40 degrees Celsius). In addition, children may

appear off balance or clumsier because the fluid or infection in the middle ear may affect their sense of balance (vestibular system).

You might see blood-tinged yellow fluid or pus draining from the infected ear. This kind of discharge means that the eardrum has developed a small hole (called a perforation). This hole usually heals by itself without complications, but you will want to describe the discharge to your pediatrician.

You also may notice that your child does not hear well. This occurs because the fluid behind the eardrum interferes with sound transmission. But the hearing loss is usually temporary; normal hearing will be restored once the middle ear is free of fluid. Occasionally, when ear infections recur, fluid may remain behind the eardrum for many weeks and continue to interfere with hearing. If you feel your child's hearing is not as good as it was before their ear became infected, consult your pediatrician. Good hearing is important for proper speech development, so if your child is having any speech delay, ask your pediatrician if a referral for a hearing test or a consultation with an ear, nose, and throat doctor (ENT; otolaryngologist) or an audiologist (hearing specialist) would be appropriate. Even when there's no speech delay, if your child has had middle ear fluid in both ears for more than three months, or in one ear for more than six months, referral for a hearing test is important.

ANTIBIOTIC OVERUSE

Antibiotics are an important treatment in managing bacterial infections such as severe ear infections and strep throat. But infections caused by viruses will not improve with antibiotics. That is why the common cold, certain types of mild ear infections, and most sore throats do not require an antibiotic. When an antibiotic is prescribed, the goal is to make sure that the antibiotic is specific for the type of bacteria causing the infection and that it is given for the right length of time.

If antibiotics are used when they are not needed—or if patients do not take the drug consistently—new strains of bacteria may develop. When that happens, antibiotics eventually may stop working and the infections they're designed to treat will no longer be curable using these medications, because the bacteria have become resistant to them. In addition, antibiotics can produce side effects, including allergic reactions and a potentially serious form of antibiotic-associated diarrhea.

Here are three important points to keep in mind if your child has an infection, to make sure your child gets the right kind of antibiotic and only when it's necessary.

- Ask your pediatrician if the infection causing your child's illness is caused by bacteria. Antibiotics work only against bacterial illnesses, not those caused by viruses. So while these medications may be appropriate for treating severe ear infections, you should not ask your pediatrician for a prescription for antibiotics to treat your child's colds and flu (as well as many sore throats and coughs), which are viral infections.
- If an antibiotic is not necessary because your child has a viral infection, ask what other measures are recommended to help with your child's symptoms. For children with mild ear infections, your child's doctor may recommend pain medicine to treat ear pain while the infection clears on its own.
- If your child's doctor prescribes an antibiotic for an ear infection or other bacterial infection, ask how to follow up if your child's condition worsens or has not improved in forty-eight to seventy-two hours. Make sure that your child takes the prescribed antibiotic exactly as your doctor instructs. And don't give your child antibiotics that have been prescribed for another family member or for another illness. If your child develops an itchy rash, hives, or watery diarrhea while taking antibiotics, notify your child's doctor.

Middle ear infections are most common during the cold and flu season of winter and early spring. When your child complains of moderate or severe pain in their ear during the summer, especially when you touch or pull on the ear, they could be suffering from an infection of the *outer* ear canal, called swimmer's ear. Swimmer's ear is essentially an infection of the skin lining the inside of the outer ear canal. Although this may temporarily affect hearing, it poses no risk of long-term hearing loss. Swimmer's ear can be extremely painful and should be treated. (See *Swimmer's Ear [External Otitis]*, page 556.)

TREATMENT

Whenever you suspect an ear infection, call your pediatrician. In the meantime, try to make your child more comfortable. If they have a high fever, cool them using the procedures described in Chapter 30. Give acetaminophen or ibuprofen in the dose appropriate for their age to help decrease the pain. (Do not give aspirin to your child; it has been associated with Reye syndrome, a disease that affects the liver and brain.)

If there's a fever, the doctor will examine your child to determine whether there are any other problems. To treat middle ear infections, the doctor will recommend steps to ease pain and may prescribe an antibiotic. For swimmer's ear or a middle ear infection with perforation, antibiotic ear drops may be prescribed as well.

An antibiotic is one of the treatment options for ear infections. If one is recommended, your doctor will specify the schedule for giving it to your child; it usually includes dosing once, twice, or three times a day. It's important to follow the medication schedule precisely. If an antibiotic is prescribed by an urgent care or emergency department doctor, let your pediatrician know so that they can check the dose and make a note in your child's chart.

As the infection begins to clear, some children experience a sense of fullness or popping in the ears; these are normal signs of recovery. There should be clear signs of improvement and disappearance of ear pain and fever within two days.

When your child starts feeling better, you may be tempted to discontinue the medication—but don't. Some of the bacteria that caused the infection still may be present, and stopping the treatment too soon may allow them to multiply again and permit the infection to return with full force. Your pediatrician may want to see your child after the medication is finished, to check if any fluid is still present behind the eardrum, which can occur even if the infection has been controlled. This condition (fluid in the middle ear), known as otitis media with effusion, is extremely common: Five out of every ten children still have some fluid three weeks after an ear infection is treated. In nine out of ten cases, the fluid will disappear within three months without additional treatment. Also, this fluid accumulation may be caused by something other than an ear infection, such as swollen adenoid tissue in the upper throat that interferes with drainage; for that reason, seeing a doctor is especially important to determine the cause of and best care for the problem.

Occasionally an ear infection won't respond to the first antibiotic prescribed. If your child continues to complain of significant ear pain and still has a high fever for more than two days after starting an antibiotic, call your pediatrician. To determine if the antibiotic is working, your doctor may examine your child and take another look at your child's eardrum. Sometimes the antibiotic may need to be changed, or another antibiotic added. In more severe or persistent cases, an antibiotic shot or shots may be needed to treat the infection. If none of those options works, your pediatrician may refer you to an ENT specialist for another exam. In rare

cases the ENT may take a sample of the fluid from the ear by inserting a needle through the eardrum. This will help determine the specific cause of the infection and assist in determining treatment. In very rare instances a child may be hospitalized so that antibiotics can be given intravenously and the ear can be drained surgically.



Should a child with an ear infection be kept home? Not unless they have a fever, are in serious pain, or feel or look sick. If they're feeling well, and if medication can be given before and after school (or perhaps by a school nurse), they can go to school. If your child's eardrum has ruptured, they'll be able to engage in most activities, although they may not be permitted to swim until the ear is dry and healed. Ordinarily, there's no reason to prevent them from flying in an airplane, although they may have some discomfort from the pressure change. Pain medication and drinking fluids during take-off and landing can help prevent and ease discomfort.

PREVENTION

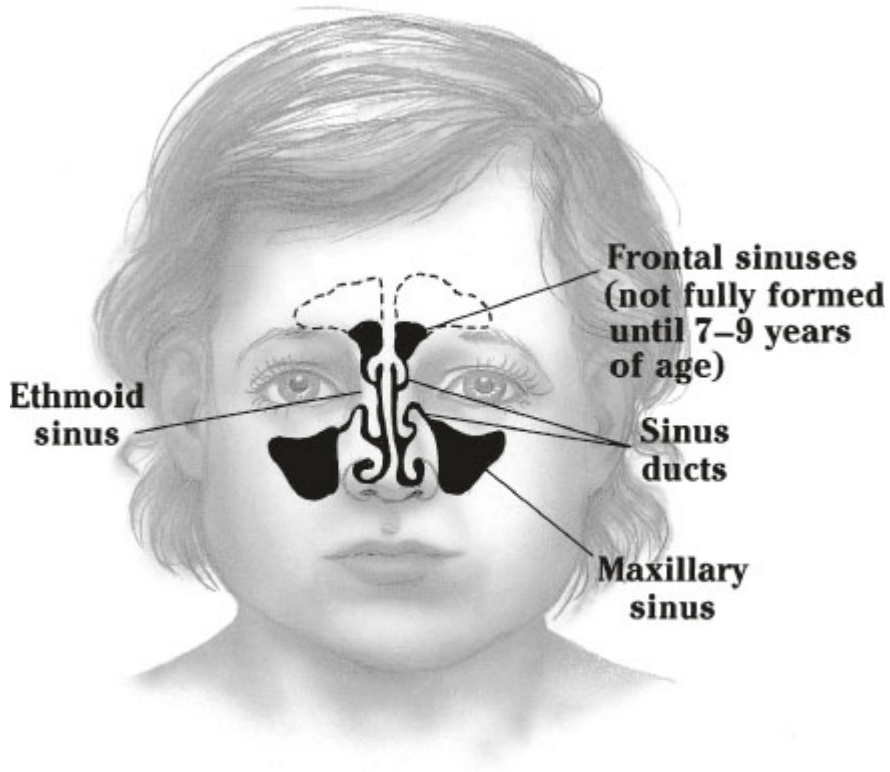
Occasional ear infections cannot be prevented. In some children, ear infections may be related to seasonal allergies, which also can cause

congestion and block the natural drainage of fluid from the ear to the throat. If your child seems to get ear infections more frequently when their allergies flare up, mention this to your pediatrician, who may suggest additional testing or recommend nasal saline spray, antihistamines, or a nasal allergy spray.

If your baby is being bottle-fed, hold their head higher than their stomach during feedings. Doing this keeps the Eustachian tubes from becoming blocked. Keep your baby away from cigarette smoke and vape emissions, as children exposed to secondhand tobacco smoke have more ear infections—and more respiratory infections, bronchitis, pneumonia, poor lung function, and asthma—than children who aren't exposed to smoke. In addition, careful handwashing can help protect your baby from illness and subsequent ear infections. Breastfeeding is also associated with fewer ear infections in children. Pacifier use after the age of 6 months is associated with ear infections as well, so it may be a good idea to stop pacifier use, especially if your child is prone to ear infections.

And what about children who recover from one ear infection only to get another shortly thereafter? If your child continues to have ear infections, and continues to have hearing loss, they will be referred to an ENT, who may recommend that tiny ventilation tubes (sometimes called tympanostomy tubes or PE tubes) be inserted in the eardrum under anesthesia. While the tubes are in place, they usually restore hearing to normal, and prevent fluid and harmful bacteria from becoming trapped in the middle ear, where they can cause another infection.

PE (pressure equalizing) tubes are used less commonly now than in past decades, but they are still useful in certain circumstances. An ENT specialist will take a careful history and examine the ears and also perform hearing testing in a child before placing tubes. In children with recurrent infections or a history of fluid in the ears and documented hearing loss for more than three months, tubes are usually indicated. In other cases, the ENT specialist may follow your child's hearing and examination every three to six months over time before deciding on surgery. If the placement of ventilation tubes is proposed for your child, discuss their specific problem with your child's specialist and pediatrician so you fully understand the advantages and disadvantages.



Keep in mind that although ear infections are bothersome and uncomfortable, they are usually minor and clear up without causing any lasting problems. Most children stop getting ear infections by the time they are 4 to 6 years old.

Sinusitis

Sinusitis is an inflammation of one or more of the sinuses (bony cavities) around the nose. It usually occurs as a complication of a cold or allergic inflammation in children over 2 years of age. These conditions cause swelling of the lining of the nose and sinuses. This swelling blocks the openings that normally allow the sinuses to drain into the back of the nose, so the sinuses fill with fluid. Although nose blowing and sniffing may be natural responses to this blockage, they can make the situation worse by pushing bacteria from the back of the nose into the sinuses. Since the sinuses can't drain properly, the bacteria will multiply there, causing an infection.

Several signs of sinusitis should alert you to call your pediatrician:

- Persistent cold or upper respiratory infection symptoms, including daytime cough and/or nasal discharge lasting for more than ten days without any improvement. The nasal discharge may be thick and yellow, clear, or whitish, and the cough usually will continue during the day as well as at night. In some cases, a child with sinusitis will have swelling around the eyes when they wake up in the morning. Also, a preschooler with sinusitis sometimes may have persistent bad breath along with cold symptoms. (However, this also could mean that they have put something into their nose or have a sore throat, or that they aren't brushing their teeth.)
- Your child's cold is severe and is accompanied by high fever and thick yellow nasal discharge for at least three days. Their eyes might be swollen in the early morning, and they might have a severe headache that they describe (if they're old enough) as behind or above the eyes.

In very rare cases, a sinus infection may spread to the eye. If this occurs, you'll see swelling around the eye not just in the morning but all through the day, and you should call your pediatrician immediately. Another very rare but serious possibility is that the infection spreads to the central nervous system (the brain), so if your child has a very severe headache, becomes sensitive to light, or is increasingly irritable or sleepy and difficult to arouse, seek immediate medical attention.

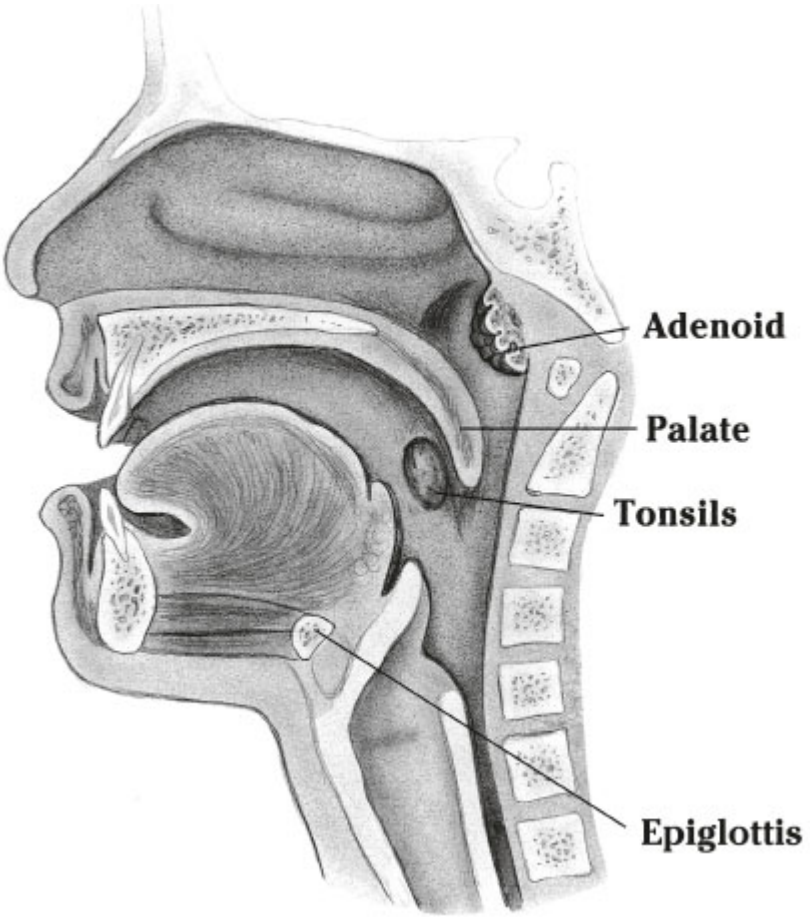
TREATMENT

If your pediatrician thinks your child has sinusitis, they may prescribe an antibiotic, usually for ten days. Once your child is on the medication, their symptoms should start to go away within forty-eight hours. In most cases the nasal discharge will clear and the cough will improve over a week or two. **But even though they may seem better, they must continue to take the antibiotics for the prescribed length of time.** If there's no improvement after two to four days, your pediatrician might want to try a different antibiotic or refer you to an ENT or allergist, after which a different medication may be prescribed or an additional one added for a longer period of time.

Epiglottitis

The epiglottis is a tongue-like flap of tissue at the back of the throat that may become infected, usually by bacteria called *Haemophilus influenzae* type b. Fortunately, this infection—epiglottitis—is now uncommon thanks to the Hib vaccine, which prevents infections from this bacteria.

Epiglottitis, which can be life-threatening when it occurs, begins with a sore throat and a fever that usually is greater than 101 degrees Fahrenheit (38.3 degrees Celsius) and quickly makes your child feel very sick. Their throat will become extremely sore. With each breath, they may make a harsh or raspy noise, called stridor. They may have such difficulty swallowing that they begin to drool.



If your child has an unusually sore throat and is drooling and/or breathing with difficulty, call your physician immediately or go to the emergency room. Because epiglottitis progresses so rapidly and has such

serious consequences, do not attempt to treat it at home. After contacting your pediatrician, try to keep your child calm. Don't try to examine their throat or insist that they lie down. Also, avoid offering food or water, because that might cause vomiting, which often makes breathing even more difficult. It's important to remember that epiglottitis can become life-threatening if it goes untreated. If the doctor determines that your child has epiglottitis, they will be urgently admitted to the hospital for treatment including antibiotics.

PREVENTION

The Hib vaccine is available to combat the bacteria that most commonly cause epiglottitis. Your child should receive the full series of the Hib vaccine, according to your pediatrician's recommendations. (See the schedule of recommended immunizations on page 746 in the Appendix.) However, even if they have had the vaccine, consult your doctor if you know there has been an exposure to another child who has the infection. Your physician might want to take added precautions.

Herpes Simplex

Oral herpes is a common viral disease of childhood. This condition produces sores (cold sores), blisters (fever blisters), and swelling of the inside of the mouth and lips. Oral herpes is highly contagious and is spread by direct contact, frequently by kissing. Most infants are protected by their mothers' antibodies up to about age 6 months, but they become susceptible after that.

When the virus is transmitted to a child for the first time, the child is said to have primary herpes. This may cause pain, swelling, and reddening of the gums and an increase in saliva, followed a day or two later by blisters inside the mouth. When the blisters break, they leave sore areas that take several days to heal. The child also may develop a fever and headache, act irritably, lose their appetite, and have swollen lymph glands for a week or so. Many children, however, have such mild symptoms that no one realizes they have the virus.

Once a child has had primary herpes, they become a carrier of the virus. This means that the virus, usually in an inactive state, remains within their system. However, during episodes of stress (including other infections), injury to the mouth, sunburn, allergies, and fatigue, the virus can become reactivated, producing what's called recurrent herpes. This condition is usually milder than the primary infection, and usually doesn't occur until later in childhood or adulthood. Cold sores and fever blisters are the symptoms of recurrent herpes.

TREATMENT

If your child complains of symptoms resembling those of herpes, consult your pediatrician. Primary herpes is not a serious illness, but it can make your child uncomfortable. The treatment, which should be aimed at reducing this discomfort, includes:

- Bed rest and sleep
- Plenty of cold fluids, including non-acidic drinks like water, milk, and apple juice
- Acetaminophen if there's fever or excessive discomfort
- Mouth rinse or gargles prescribed by your pediatrician. These medications may contain a painkiller that will numb the areas affected by the mouth sores. Carefully follow the directions for these preparations.
- A soft, bland, but nutritious diet
- Antiviral medication (such as acyclovir or a similar type of drug) that may be prescribed by your pediatrician in some severe cases. If started early in the illness, this will stop the virus from multiplying, but it will not prevent reactivation after the medication is stopped. It is important to keep in mind that antiviral medication will likely decrease symptom duration only by a day or so and may not make your child feel immediately better.

Occasionally a child infected with primary herpes refuses to drink fluids because of the associated mouth pain. Such a child must be hospitalized if they show signs of dehydration. Never use any creams or ointments containing steroids (cortisone) on mouth sores if there is the slightest

suspicion that the sores are due to herpes, as these preparations can make the viral infection spread.

PREVENTION

Direct contact is required to spread the herpes virus, so you should not let anyone with herpes blisters or sores kiss your child. People with a history of oral herpes often shed the virus in their saliva even when they have no sores. In general, to prevent spread of germs, discourage individuals from kissing your baby or child directly on the lips. Also, try to discourage your child from sharing eating utensils with other children or touching a water fountain with their mouth. (This is more easily said than done.) If your child has active open primary herpes cold sores, keep them home to prevent other children from getting this infection from them.

Nosebleeds

Your child is almost certain to have at least one nosebleed—and probably many—during these early years. Some preschoolers have several a week. This is neither abnormal nor dangerous, but it can be very frightening. If blood flows down from the back of the nose into the mouth and throat, your child may swallow a great deal of it, which in turn may cause vomiting.

There are many causes of nosebleeds, most of which aren't serious. Beginning with the most common, they include:

- *Colds and allergies.* A cold or allergy causes swelling and irritation inside the nose and may lead to spontaneous bleeding.
- *Trauma.* A child can get a nosebleed from picking their nose, putting something into it, or just blowing it too hard. A nosebleed also can occur if they are hit in the nose by a ball or other object or if they fall and hit their nose.
- *Low humidity or irritating fumes.* If your house is very dry or if you live in an arid climate, the lining of your child's nose may dry out, making it more likely to bleed. If they are frequently exposed to toxic fumes, such as from cigarette smoke, bleach, or ammonia, that may cause nosebleeds, too.

- *Anatomical problems.* Any abnormal structure inside the nose may lead to crusting and bleeding.
- *Abnormal growths.* Any abnormal tissue growing in the nose may cause bleeding. Although most of these growths (usually polyps) are benign (not cancerous), they still should be treated promptly.
- *Abnormal blood clotting.* Anything that interferes with blood clotting can lead to nosebleeds. Medications, even common ones like ibuprofen, can alter the blood-clotting mechanism just enough to cause bleeding. Blood diseases and bleeding disorders, such as hemophilia, also can provoke or worsen nosebleeds.
- *Chronic illness.* Any child with a long-term illness, or who may require extra oxygen or other medication that can dry out or affect the lining of the nose, is likely to have nosebleeds.

TREATMENT OF NOSEBLEEDS

There are many misconceptions and folktales about how to treat nosebleeds. Here's a list of dos and don'ts.

Do …

1. Remain calm. A nosebleed can be frightening but is rarely serious.
2. Keep your child still in a sitting or standing position. Tilt their head slightly forward.
3. Pinch the lower half of your child's nose (the soft part) between your thumb and finger and hold it firmly for at least ten minutes. If your child is old enough, they can do this themselves. *Don't release the nose during this time to see if it is still bleeding*—no peeking! Stopping the pressure may interfere with the forming of the clot and allow the bleeding to continue.

   Release the pressure after ten minutes and wait, keeping your child quiet and still. If the bleeding hasn't stopped, hold pressure again. If after ten more minutes of pressure the bleeding hasn't stopped, continue to hold pressure, and call your pediatrician or go to the nearest emergency department.

Don't …

1. Panic. You'll scare your child.
2. Have them lie down or tilt back their head.
3. Stuff tissues, gauze, or any other material into your child's nose to stop the bleeding.

Also, call your pediatrician if:

- You think your child may have lost too much blood or continues to bleed heavily. (But keep in mind that the blood coming from the nose always looks like a lot.)
- The bleeding is coming only from your child's mouth, or they're coughing or vomiting blood or brown material that looks like coffee grounds.
- Your child is unusually pale or sweaty. **Call your pediatrician immediately in this case, and arrange to get your child to the emergency department. Call 911 anytime your child is unresponsive.**
- They have a lot of nosebleeds, along with a chronically stuffy nose. This may mean they have a small, easily broken blood vessel in the nose or on the surface of the lining of the nose, or a growth in the nasal passages.

If a blood vessel is causing the problem, the doctor may touch that point with a chemical substance (silver nitrate) to stop the bleeding.

PREVENTION

If your child gets frequent nosebleeds, ask your pediatrician about using salt water (saline) nose drops every day and/or putting a small amount of petroleum jelly in each nostril at night. Doing so may be particularly helpful if you live in a very dry climate, or when the furnace is on. In addition, a humidifier or vaporizer will help maintain your home's humidity at a level high enough to prevent nasal drying. Also tell your child not to pick their nose. If your child still has more than five nosebleeds a year or the bleeding typically lasts more than ten minutes, the doctor may need to refer your child to an ear, nose, and throat doctor (ENT; otolaryngologist) and/or do tests to evaluate for a bleeding disorder.

Sore Throat (Strep Throat, Tonsillitis)

The terms "sore throat," "strep throat," and "tonsillitis" often are used interchangeably, but they don't mean the same thing. Tonsillitis refers to tonsils that are inflamed. (See *Tonsils and Adenoid,* page 554.) Strep throat is an infection caused by a specific type of bacteria, group A beta-hemolytic *Streptococcus*. When your child has strep throat, the tonsils are usually very inflamed, and the inflammation may affect the surrounding part of the throat as well. Most sore throats result from viruses, which may cause inflammation only of the throat around the tonsils and not of the tonsils themselves.

In infants, toddlers, and preschoolers, the most frequent cause of sore throats is a viral infection. No specific medicine is required when a virus is responsible, and the child should get better over a seven-to ten-day period. Often children who have sore throats due to viruses also have a cold at the same time. They may develop a mild fever, too, but they generally aren't very sick.

One particular virus (called Coxsackie), seen most often during the summer and fall, may cause the child to have a somewhat higher fever, more difficulty swallowing, and a sicker overall feeling. If your child has a Coxsackie infection, they also may have one or more blisters in their throat and on their hands and feet (and so Coxsackie is often called hand, foot, and mouth disease).

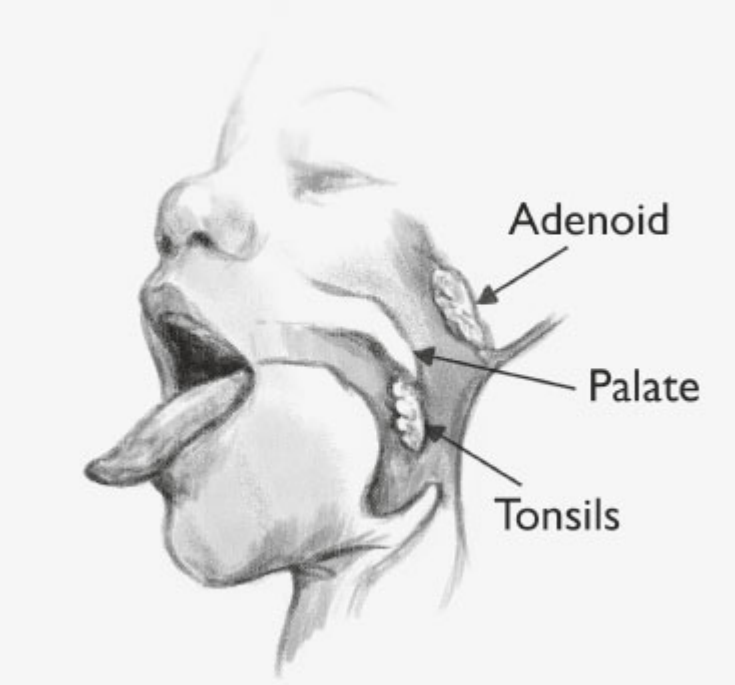
Infectious mononucleosis can produce a sore throat, often with marked tonsillitis; however, most young children who are infected with the mononucleosis virus have few or no symptoms.

Strep throat is caused by a bacterium called *Streptococcus pyogenes* or group A streptococcus. Strep throat is most common among school-age children and adolescents, peaking at 7 to 8 years of age. Children over 3 years of age with strep may have an extremely painful throat, fever over 102 degrees Fahrenheit (38.9 degrees Celsius), swollen glands in the neck, and pus on the tonsils. Strep throat does not cause a cough, runny nose, hoarseness (changes in the voice that make it sound raspy), or conjunctivitis (also called pinkeye). These symptoms suggest that a virus is the cause of the illness instead. It's important to be able to distinguish strep throat from a viral sore throat because strep infections are treated with antibiotics.

DIAGNOSIS AND TREATMENT

If your child has a sore throat that persists (not one that goes away after their first drink in the morning), whether or not it is accompanied by fever, headache, stomachache, or extreme fatigue, you should call your pediatrician. That call should be made even more urgently if your child seems extremely ill, or if they have difficulty breathing or extreme trouble swallowing (causing them to drool). This may indicate a more serious infection (see *Epiglottitis,* page 548).

If your pediatrician is concerned that your child may have strep throat, they may want to perform a swab of the back of the throat and tonsils to test for bacteria. Most pediatric offices perform rapid strep tests that provide findings within minutes. If the rapid strep test is negative, your doctor may confirm the result with a culture, which can take two days to complete. A negative test means that the infection is presumed to be due to a virus. In that case, antibiotics (which work against bacteria, not viruses) will not help and need not be prescribed.



If the test shows that your child does have strep throat, your pediatrician will prescribe an antibiotic to be taken by mouth or by injection. If your child is given the oral medication, it's very important that they take it for the

full course, as prescribed, even if the symptoms get better or go away. If a child's strep throat is not treated with antibiotics, or if they don't complete the treatment, the infection may worsen or spread to other parts of their body, leading to conditions such as abscesses of the tonsils or kidney problems. Untreated strep infections also can lead to rheumatic fever, a disease that affects the heart. However, rheumatic fever is rare in the United States and in children under 5 years old.

PREVENTION

Most types of throat infections are contagious, being passed primarily through the air on droplets of moisture or on the hands of infected children or adults. For that reason, it makes sense to keep your child away from people who have symptoms of this condition. However, most people are contagious before their first symptoms appear, so often there's no practical way to prevent your child from contracting the disease. In the past when a child had several incidents of sore throat, their tonsils might have been removed in an attempt to prevent further infections. But this operation, called a tonsillectomy, is recommended today only for the most severely affected children. Even in difficult cases, where there is repeated strep throat, antibiotic treatment is usually the best solution.

(See also *Swollen Glands,* page 557.)

Tonsils and Adenoid

If you look into your child's throat, you may see a pink, oval-shaped mass on each side. These are the tonsils. The tonsils are small in infants and increase in size over the early years of childhood. They produce antibodies during periods when the body is fighting infection. Like the tonsils, the adenoid is part of your child's defense against infections. The adenoid is located in the very upper part of the throat, above the uvula and behind the nose. This area is called the nasopharynx. The adenoid can be seen only with special instruments passed through the nose or mouth, or indirectly by X-ray.

A common illness associated with the tonsils is tonsillitis. This is an inflammation of the tonsils, usually due to an infection. Sometimes tonsils can be enlarged and not be infected; however, most of the time there is an

infection that has caused them to be larger than normal. There are several signs of tonsillitis, including:

- Red and swollen tonsils
- White or yellow coating over the tonsils
- A “throaty” voice
- Sore throat
- Uncomfortable or painful swallowing
- Swollen lymph nodes (glands) in the neck
- Fever

It is not always easy to tell when your child’s adenoid is enlarged. Some children are born with a larger adenoid. Others may have temporary enlargement of their adenoid due to colds or other infections; this is especially common among young children. Also, the symptoms just described are more frequently due to chronic rhinitis (a persistent runny nose), which can be treated with corticosteroid nasal sprays. But the constant swelling or enlargement of the adenoid can cause other health problems, such as ear and sinus infections. Some signs of adenoid enlargement are:

- Breathing through the mouth instead of the nose most of the time
- The nose sounds blocked when the child talks
- Noisy breathing during the day
- Snoring at night

Both the tonsils and the adenoid may be enlarged if your child has the previous symptoms along with any of the following:

- Breathing stops for a short period of time at night during snoring or loud breathing (sleep apnea)
- Choking or gasping during sleep
- Difficulty swallowing, especially solid foods
- A constant “throaty” voice, even when there is no tonsillitis

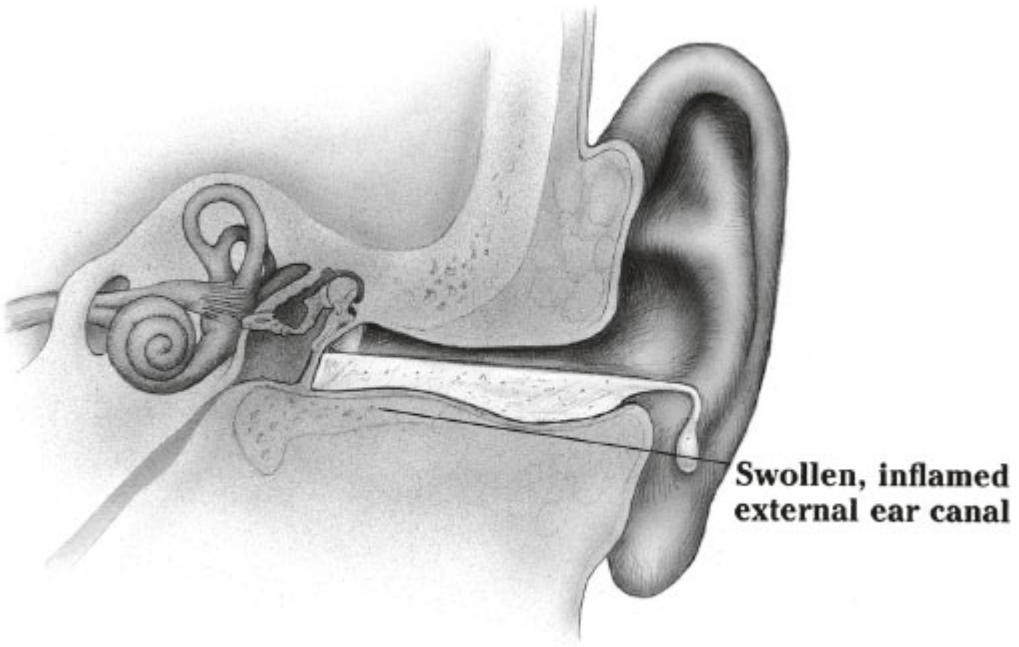
In severe cases, your child may have such difficulty breathing that it interferes with the normal exchange of oxygen and carbon dioxide in their lungs. This is important to recognize since it may interrupt your child's normal sleep pattern. If your child has breathing difficulties, seems drowsy during waking hours, and lacks energy despite what should have been adequate amounts of sleep, consult your pediatrician; when breathing problems are severe, call 911.

TREATMENT

If your child shows the signs and symptoms of enlarged tonsils or adenoid and doesn't seem to be getting better over a period of weeks, mention it to your pediatrician.

Surgery to Remove Tonsils and/or Adenoid (Tonsillectomy and Adenoidectomy)

Although these two operations (often combined and called T & A) were done almost routinely in the past and remain one of the most common major operations performed on children, not until recently has their long-term effectiveness been adequately tested. Considering current studies, today's physicians are much more conservative in recommending these procedures, even though some children still need to have their tonsils and/or adenoid taken out.



According to the guidelines of the American Academy of Pediatrics, your pediatrician may recommend surgery in the following circumstances:

- Tonsil or adenoid swelling makes normal breathing difficult (causing problems such as behavioral issues, bed-wetting, sleep apnea, school performance problems, etc.).
- Tonsils are so swollen that your child has a problem swallowing.
- An enlarged adenoid makes breathing uncomfortable, severely alters speech, and possibly affects normal growth of the face. In this case, surgery to remove only the adenoid may be recommended.
- The child has an excessive number of severe sore throats each year.

If your child needs surgery, make sure they know what will happen before, during, and after surgery. Don't keep the surgery a secret from your child. An operation can be scary, but it's better to be honest than to leave your child with fears and unanswered questions.

The hospital may have a special program to help you and your child get familiar with the hospital and the surgery. If the hospital allows, try to stay with your child during the entire hospital visit. Let your child know that

you'll be nearby during the entire operation. Your pediatrician also can help you and your child understand the operation and make it less frightening.

Swimmer's Ear (External Otitis)

Swimmer's ear is an infection of the skin inside the ear canal (or outer ear) that occurs most often after swimming or other activities that allow water into the ears. Swimmer's ear develops because moisture in the ear canal encourages the growth of certain bacteria and, at the same time, causes the skin that lines the ear canal to soften (like the white, swollen area that forms under a wet bandage). The bacteria then invade the softened skin and multiply there, causing an often painful infection.

For reasons that are not clear, some children are more prone to swimmer's ear than others. Injury to the canal (sometimes from the improper use of cotton swabs) or conditions such as eczema (see page 461) and seborrheic dermatitis (see page 707) can increase the likelihood of getting swimmer's ear.

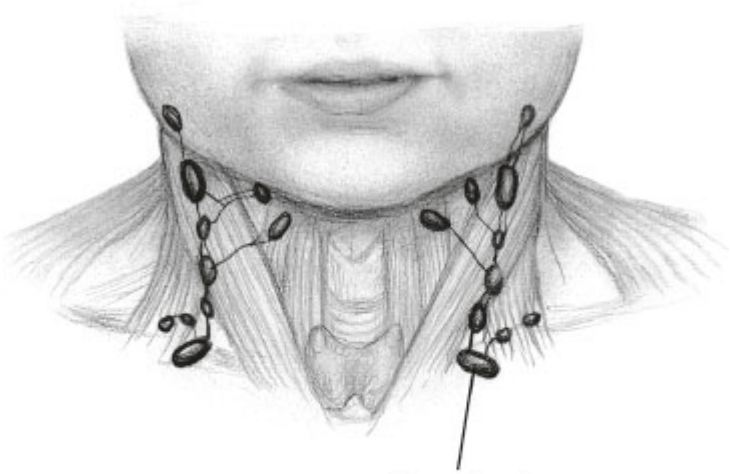
With the mildest form of swimmer's ear, your child will complain only of itchiness or a plugged feeling in the ear, or—if they're too young to tell you what's bothering them—you might notice them sticking their finger in their ear or rubbing it with their hand. Within hours to days the opening of their ear canal may become swollen and slightly red, causing a dull pain. If you push on the opening or pull up on their ear, it may be painful.

In more severe cases of swimmer's ear, the pain will be constant and intense, and your child may cry and hold their hand over their ear. The slightest motion, even chewing, will hurt a lot. The ear canal opening may be swollen shut, with a few drops of pus or cheesy material oozing out, and there may be a low-grade fever. In the most serious infections, the redness and swelling may spread beyond the ear canal to the entire outer ear. Since swimmer's ear doesn't involve the middle ear or the hearing apparatus, any loss of hearing due to blockage of the canal is temporary.

TREATMENT

If your child has pain in their ear, or if you suspect swimmer's ear, call your pediatrician. Although the condition usually isn't serious, it still needs to be

examined and treated by a doctor. Until you see your pediatrician, you can help relieve your child's pain with acetaminophen or ibuprofen. Keep them out of the water for several days and see if the pain subsides.



Do *not* insert a cotton swab or anything else into the ear in an attempt to relieve itching or promote drainage; doing so will only cause further skin damage and provide additional sites for bacteria to grow. At the pediatrician's office, the doctor first will examine the affected ear and then, perhaps, carefully clean out pus and debris from the canal. Most doctors also prescribe ear drops for five to seven days. The ear drops combat infection and thereby decrease swelling, which helps to relieve the pain. To be effective, however, ear drops have to be used properly. Here's how to administer them:

1. Lay your child on their side with their affected ear up.
2. Put the drops in so that they run along the side of the ear canal, permitting air to escape as the medicine flows in. You can gently move the ear to help the drops along.
3. Keep your child lying on their side for two or three minutes to make sure that the drops reach the deepest part of the ear canal.
4. Use these drops as directed for the length of time prescribed.

If the ear canal is too swollen for drops to enter, your pediatrician may insert a wick—a small piece of cotton or spongy material that soaks up the medicine and holds it in the canal. In this case, you'll need to re-saturate the wick with the drops three or four times per day. Rarely, oral antibiotics also are prescribed.

When your child is being treated for swimmer's ear, your doctor may recommend they stay out of the water for a few days. However, they can take brief showers or baths daily and have their hair washed, if you dry the ear canal afterward with the corner of a towel. Once that's done, put in more ear drops.

PREVENTION

There's no need to try to prevent swimmer's ear unless your child has had this infection frequently or very recently. Under these circumstances, limit their stay in the water, usually to less than an hour. Then, when they come out, remove the excess water from their ear with the corner of a towel, or have them shake their head.

As a preventive measure, many pediatricians recommend acetic acid ear drops. They are available in various preparations, some of which require a prescription. They usually are used in the morning, at the end of each swim, and at bedtime. A mixture of equal parts white vinegar and rubbing alcohol is a practical and effective home remedy. A few drops in each ear can be used after swimming.

Resist the temptation to clean out your child's ear with cotton swabs, your finger, or any other object, as doing so can cause trauma to the ear canal or eardrum.

Swollen Glands

Lymph glands (or lymph nodes) are an important part of the body's defense system against infection and illness. These glands normally contain groups of cells, called lymphocytes, which act as barriers to infection. The lymphocytes produce substances called antibodies that destroy or immobilize infecting cells or poisons. When lymph glands become enlarged or swollen, it usually means that the lymphocytes have increased in number

due to an infection or other illness and that they are being called into action to produce extra antibodies. Rarely, swollen glands—particularly if long-lasting and without other signs of inflammation, such as redness or tenderness—may indicate a tumor.

If your child has swollen glands, you'll be able to feel them or even see the swelling. They also may be tender to the touch. Sometimes, if you look near the gland, you can find the infection or injury that has caused it to swell. For example, a sore throat often will cause glands in the neck to swell, or an infection on the arm will produce swollen glands under the arm. Sometimes the illness may be a generalized one, such as those caused by a virus, in which case many glands might be slightly swollen. In general, because children have more viral infections than adults, lymph nodes, particularly in the neck, are more likely to be enlarged. Swollen glands at the base of the neck and just above the collarbone may be an infection or even a tumor within the chest, and should be examined by a physician as soon as possible.

TREATMENT

In the vast majority of cases, swollen glands are not serious. Young children almost always have a few small glands (less than 0.4 inch [1 cm]) in their neck, behind their ears, or at the back of their heads that can be felt, but it is nothing to be concerned about. Lymph node swelling usually disappears after the illness that caused it is gone. The glands gradually return to normal over a period of weeks. You should call the pediatrician if your child shows any of the following:

- Lymph glands swollen and tender for more than five days
- Fever higher than 101 degrees Fahrenheit (38.3 degrees Celsius)
- Glands that appear to be swollen throughout the body
- Tiredness, lethargy, or loss of appetite
- Glands that enlarge rapidly, or the skin overlying them turning red or purple

As with any infection, if your child has a fever or is in pain, you can give them acetaminophen or ibuprofen in the appropriate dosage for their weight

and age until you can see the pediatrician. When you call, your doctor probably will ask you some questions to try to determine the cause of the swelling, so it will help if you do a little investigating beforehand. For instance, if the swollen glands are in the jaw or neck area, check if your child's teeth are tender or their gums are inflamed, and ask your child if there is any soreness in their mouth or throat. Mention to your doctor any exposure your child has had to animals (especially cats) or wooded areas. Also check for any recent animal scratches, tick bites, or insect bites or stings that may have become infected.

The treatment for swollen glands will depend on the cause. If there's a specific bacterial infection in nearby skin or tissue, antibiotics will clear it, allowing the glands to gradually return to their normal size. If the gland itself has an infection, it may require not only antibiotics but also warm compresses to localize the infection, or surgical drainage. If this is done, the material obtained from the wound will be cultured to determine the exact cause of the infection. Doing this will help the doctor choose the most appropriate antibiotic.

If your pediatrician cannot find the cause of the swelling, or if the swollen glands don't improve after antibiotic treatment, further tests will be needed. For example, infectious mononucleosis might be the problem if your child has a fever and a bad sore throat (but not strep), is very weak, and has swollen (but not red, hot, or tender) glands, although mononucleosis occurs more often in older children. Special tests can confirm this diagnosis. In cases where the cause of a swollen gland is unclear, the pediatrician also may want to do a tuberculosis skin test.

If the cause of prolonged swelling of lymph nodes cannot be found in any other way, it may be necessary to perform a biopsy (remove a piece of tissue from the gland) and examine it under a microscope. In rare cases this may reveal a tumor or fungal infection, which would require special treatment.

PREVENTION

The only swollen glands that are preventable are those that are caused by bacterial infections in the surrounding tissue. In cases of suspected infection, you can avoid involving the lymph nodes by properly cleaning all

wounds (see *Cuts and Scrapes,* page 569) and receiving early antibiotic treatment.

CHAPTER 26

Emergencies

The information in this section, such as first-aid procedures for the choking child and cardiopulmonary resuscitation (CPR), is constantly evolving. Visit HealthyChildren.org and ask your pediatrician or other qualified health professional for the latest information on these procedures. It is rare for children to become seriously ill with no warning signs. Based on your child's symptoms, you should usually contact your child's pediatrician for advice. Timely treatment of symptoms can prevent an illness from getting worse or turning into an emergency.

At the same time, take steps *before* an emergency occurs to prepare for such an event if it should happen (see guidelines for emergency phone numbers on page 561). Also read the description of how to assemble a first-aid kit (page 570). For the CPR guidelines chart, see page 756.

Many emergencies involve sudden injuries. These injuries are often caused by the following:

- Motor-vehicle-related injuries (car crashes, pedestrian injuries), or other sudden impacts, such as from bicycle-related injuries, falling TVs or furniture, or falls from heights such as a window
- Poisoning (if the child is not seriously ill, call Poison Help first)
- Burns or smoke inhalation
- Choking
- Drowning (even non-fatal events) in a swimming pool, bathtub, etc.
- Head or other serious injury after a significant fall or sports-related injury
- Firearms or other weapons
- Electric shock

Other emergencies can result from either medical illnesses or injuries. Often you can tell that these emergencies are happening if you observe that your child has any of the following symptoms:

- Acting strangely or becoming more withdrawn and less alert
- Increasing difficulty with breathing
- Skin or lips that look blue or purple (or gray for darker-skinned children)
- A cut or burn that is large or deep
- Bleeding that does not stop
- Rhythmic jerking and loss of consciousness (a seizure)
- Unconsciousness
- A head injury followed by any change in level of consciousness, confusion, a bad headache, or vomiting
- Very loose or knocked-out teeth, or other major mouth or facial injuries
- Increasing or severe persistent pain
- Decreasing responsiveness when you talk to your child

Call your child's pediatrician or Poison Help (1-800-222-1222) at once if your child has swallowed or come in contact with a suspected poison or any medication you did not intend for them to ingest, even if your child has no signs or symptoms. You should not make your child vomit (do not give them syrup of ipecac, make them gag, or give them salt water) unless specifically instructed to by Poison Help or your pediatrician, as it can cause further injury to your child's body.

EMERGENCY PHONE NUMBERS

Keep the following phone numbers and addresses handy by programming them into your cellphone and the phone of anyone who cares for your child. You can also post them on your refrigerator or near other phones and insert a copy in your wallet.

- Your cellphone number
- Home or caregiver's phone number and address
- Phone number of a nearby relative, trusted neighbor, or friend
- Your pediatrician's contact information
- Your dentist's contact information

- Emergency medical services (ambulance) (911 in most areas)
- Police (911 in most areas)
- Fire department (911 in most areas)
- Poison Help (1-800-222-1222)
- Hospital
- Dentist

It is important that everyone who cares for your child, including care providers or sitters, knows where to find emergency phone numbers. If you have 911 service in your area, make sure your older children and your sitter know to dial 911 in case of an emergency. Be certain that they know your home address and a phone number, since an emergency operator will ask for or confirm this information. Always leave another phone number and the address where you can be located. You should also make sure your sitter knows about any medications your child takes and any food and medication allergies they may have. Those caring for your child (including you and your spouse and family) also should take a CPR class.

Remember, for a medical emergency, always call 911 first, then your child's pediatrician. If your child is seriously ill or injured, it may be safer for your child to be transported by emergency medical services (an ambulance).

Always call for help if you are concerned that your child's life may be in danger or your child is seriously hurt.

In Case of a True Emergency

- Stay calm.
- If your child is unresponsive and is not breathing, and you know how, start CPR (cardiopulmonary resuscitation). (For information on CPR, see page 567.)
- If you need immediate help, call 911. For example, if your child is having trouble breathing, is having a seizure, or is unresponsive, dial 911. If you do not have 911 service in your area, call your local emergency ambulance service or county emergency medical service. Otherwise, call your child's pediatrician's office and state clearly that you have an emergency.
- If there is bleeding, apply continuous pressure to the site with a clean cloth.
- If your child is having a seizure, place them on a carpeted floor with their head turned to the side, and stay with your child until help arrives. Do not put anything in their mouth. Your child can bite down while unaware

of their actions. Turning the child's head to the side will help the tongue move to the side, which will help open their airway.

After you arrive at the emergency department, make sure you tell the emergency staff the name of your child's pediatrician, who will work closely with the emergency department and can provide them with additional information about your child. Bring any medication your child is taking and their immunization record with you to the hospital. Also bring any suspected poisons or medications your child might have taken. If your child has a medically complicated condition, it's a good idea to keep a notebook/folder on their past medical history, including information such as dates of and types of surgeries.

In the event of a car crash, the driver or other adults in the car may be unconscious or otherwise unable to give first responders information about the child. To help ensure that your child can be identified and treated promptly, consider attaching a sticker to your child's car safety seat with their name, date of birth, parents' names and phone numbers, and any other information you think might be important to emergency personnel (e.g., special healthcare needs or severe allergies). Place the sticker in a spot where first responders will be able to find it but where it is not easily visible from outside the car. Many police and fire departments, hospitals, and health departments keep a stock of preprinted stickers for this purpose, or you can make your own.

Bites

ANIMAL BITES

Keep your child safe around animals, including family pets. Review *Safety Around Animals* on page 417. Many parents assume that children are most likely to be bitten by unknown or wild animals, but in fact most bites are inflicted by animals the child knows, including the family pet. Although the injury often is minor, biting does at times cause serious wounds, facial damage, and emotional problems.

As many as 1 percent of all visits to pediatric emergency centers during the summer months are for human or animal bite wounds. An estimated 4.7

million dog bites, 400,000 cat bites, 45,000 snake bites, and 250,000 human bites occur annually in the United States. About six in ten of those bitten by dogs are children.

TREATMENT

If your child is bleeding from an animal bite, apply firm, direct, continuous pressure to the area for five minutes or until the bleeding stops. Then wash the wound gently with soap and water and consult your pediatrician. Animal bites to the face, head, and neck (which are common in small children) can be serious, and your child will need to be examined by an emergency health provider.

If the wound is very large, or if you cannot stop the bleeding, continue to apply pressure, and call your pediatrician to find out where to take your child for treatment. If the wound is so large that the edges won't come together, it probably will need to be sutured (stitched). Although this will help reduce scarring, in an animal bite it increases the chance of infection, so your doctor may prescribe antibiotics or choose not to suture the wound.

Contact your pediatrician whenever your child receives an animal bite that breaks the skin, no matter how minor the injury appears. The doctor will need to check whether your child has been adequately immunized against tetanus (see the immunization schedule on page 746) or might require protection against rabies. Both diseases can be spread by animal bites.

Rabies is a viral infection that can be transmitted by an infected animal through bites or scratches. It causes a high fever, difficulty swallowing, seizures, paralysis, and ultimately death. Fortunately, rabies in humans is rare today, with an average of two to three deaths each year in the United States; the decline in recent years is due to the availability of animal control and vaccination programs, as well as effective human rabies vaccines and immunoglobulin treatments. Nevertheless, because the disease is so serious, your pediatrician will carefully evaluate any bite for the risk of contracting this disease. Bites from wild animals—especially bats but also skunks, raccoons, coyotes, and foxes—are much more dangerous than those from tame, immunized (against rabies) dogs and cats. Avoid contact with the

animal and call animal control to evaluate any dead animal for rabies and dispose of it.

When your child is evaluated, either by emergency department physicians or your pediatrician, they will determine if the risk of contracting rabies is high; if so, they will refer your child to receive immunoglobulin and a rabies vaccine series to prevent them from contracting the disease. If the animal that bit your child is a healthy dog or cat, the animal should be observed for ten days, and treatment for your child should be started only if the animal shows signs of rabies.

As noted earlier, an animal bite, even when it doesn't cause rabies, can become infected. Notify your pediatrician immediately if you see any of the following signs of infection.

- Pus or drainage coming from the bite
- The area immediately around the bite becoming swollen and tender (it normally will be red for two or three days, but this in itself is not cause for alarm)
- Red streaks that appear to spread out from the bite
- Swollen glands above the bite

(See also *Safety Around Animals,* page 417.)

Your pediatrician may recommend antibiotic therapy for a child who has:

- Moderate or severe bite wounds
- Puncture wounds, especially if the bone, tendon, or joint has been penetrated
- Facial bites
- Hand and foot bites
- Genital area bites

For very severe or deep bites, an X-ray may be needed to make sure that the bite has not penetrated the bone or a joint. If that happens, there is a much higher risk of infection and a child may need surgery to decrease that risk.

Children who have a weakened immune system or have no spleen often receive antibiotic treatment for a bite. Your pediatrician may recommend a follow-up visit to inspect any wound for signs of infection within forty-eight hours. Many children who have been bitten by dogs may also show signs of traumatic stress in the weeks and months after the incident, long after the physical wound has healed. These children may feel fear, including anxiety about being bitten again, especially when they see or hear about another dog. They may withdraw, or cling to their parents. They may resist going outside to play, have trouble sleeping, have nightmares, and wet the bed.

To help the healing process, be attentive to what your child is saying and feeling. Give them extra attention, particularly when you sense that they need it. Some children with traumatic stress may require treatment by a mental health professional.

HUMAN BITES

Children often experience a human bite from a sibling or a playmate. If your child is bitten by another person, call your pediatrician immediately to describe the severity of the injury. Doing this can be especially important if the biter's teeth pierced your child's skin or if the injury is large enough to require stitches. Bites that occur over the knuckles of the hand (commonly known as fight bites) are at extremely high risk of infection and should be evaluated in the emergency department.

Be sure to wash the bite carefully with cool water and soap right away to help prevent infection. For a bite that barely breaks the skin, such as a cut or scrape, a good washing with soap and water, followed by bandaging and close follow-up, is all that is needed. For more serious bites, your pediatrician should evaluate the wound. Your pediatrician will also check your child's tetanus and hepatitis B vaccine status and assess the risk for other infections.

Burns

Burns are divided into three categories, according to their severity. First-degree burns are mild and cause redness and perhaps slight swelling of the skin (like most sunburns). Second-degree burns are painful and cause

blistering and considerable swelling. Third-degree burns lack sensation and may appear white or charred and cause serious injury, not just to the surface but also to the deeper skin layers.

There are many different causes of serious burns in children, including sunburn, scalds from hot water or other liquids, and those due to fire, electrical contact, or chemicals. All of these can cause permanent injury and scarring to the skin and important organs such as the eyes, mouth, and genitalia.

TREATMENT

Your *immediate* treatment of a burn should include the following.

1. As quickly as possible, soak the burn in cool water. Don't hesitate to run cool water over the burn long enough to cool the area and relieve the pain immediately after the injury. **Do not use ice on a burn, as it may delay healing.** Also, do not rub a burn; it can increase blistering.
2. Cool any smoldering clothing immediately by soaking with water, then remove any clothing from the burned area unless it is stuck firmly to the skin. In that case, cut away as much clothing as possible.
3. If the injured area is not oozing, cover the burn with a sterile gauze pad or a clean, dry cloth.
4. If the burn is oozing, cover it lightly with sterile gauze if available and immediately seek medical attention. If sterile gauze is not available, cover burns with a clean sheet or towel.
5. Do not put butter, grease, mustard, or powder on a burn. All these so-called home remedies actually can make the injury worse.

For anything more serious than a superficial burn, or if redness and pain continue for more than a few hours, consult a physician. *All* children with electrical burns and burns of the hands, mouth, or genitals should receive immediate medical attention. Chemicals that cause burns also may be absorbed through the skin and cause other symptoms. Call Poison Help (1-800-222-1222) or your pediatrician after washing off all the chemicals. (For treatment of a chemical contact to a child's eye, see *Poison in the Eye,* page 582.)

If your physician thinks the burn is not too serious, they may show you how to clean and care for it at home using medicated ointments and dressings. Under the following circumstances, however, hospitalization may be necessary:

- If the burns are third-degree
- If 10 percent or more of the body is burned
- If the burn involves the face, hands, feet, or genitals, or involves a moving joint, or is circumferential (goes completely around the part of the body)
- If the child is very young or fussy, and therefore too difficult to treat at home

When treating a burn at home, watch for any increase in redness or swelling or the development of a bad odor or discharge. These can be signs of infection, which will require medical attention.

PREVENTION

Chapter 18, *Keeping Your Child Safe,* provides ways to safeguard your child against fire and scalding at home. For added protection, here are a few more suggestions.

- *Install smoke detectors* (and carbon monoxide detectors) in hallways outside bedrooms, the kitchen, the living room, and near the furnace, with at least one on every floor of the house. Test them every month to be sure they work. It is best to use alarms that have ten-year long-life batteries, but if these are not available, change batteries at least annually on a specific date that you'll remember (such as January 1 of each year). Smoke alarms are coming on the market with new technologies that make them more sensitive to flaming and smoldering fires and less prone to nuisance alarms caused by cooking heat or steam. This may give you more time to evacuate in case of a fire. Consider investing in new alarms if yours are several years old.
- *Practice home fire drills.* Make sure every family member and others who care for your children in your home know at least two ways to leave any area of the home safely in case of a fire.

- *Have several working fire extinguishers readily available* and familiarize yourself with how to use them. Place fire extinguishers around the home where the risk of fire is greatest, such as in the kitchen, in the furnace room, and near the fireplace.
- *Teach your children to crawl to the exits* if there's smoke in the room. (They will avoid inhaling the smoke by staying below it.)
- *Purchase a safety ladder* if your home has a second story, and teach your children how to use it. If you live in a high-rise building, teach your children the locations of all exits and make sure they understand never to use the elevator in a fire. (It can become trapped between floors or open on a floor where the fire is burning.)
- *Agree on a family meeting point* outside the house or apartment so you can make certain everyone has gotten out of the burning area.
- *Teach your children to stop, drop, and roll* on the ground if their clothing catches fire.
- *Avoid smoking indoors.*
- *Do not leave food cooking* on the stove unattended.
- *Lock up flammable liquids* in the home. It is best to store them outside the home, out of children's reach, and away from heat or ignition sources.
- *Lower the temperature of your water heater* so the temperature at the faucet is no more than 120 degrees Fahrenheit (48.9 degrees Celsius) to prevent hot-water scalds and burns.
- *Don't plug appliances or other electrical equipment into extension cords* if they place too much amperage or load on the cord, thus creating a potentially unsafe situation.
- *Keep matches and lighters away from children,* locked up and out of reach.
- *Avoid all fireworks,* even those meant for consumer use.
- *Keep lit candles out of reach* of children.

Cardiopulmonary Resuscitation (CPR) and Mouth-to-Mouth Resuscitation

CPR can save your child's life if their heart stops beating or if they have stopped breathing for any reason, such as drowning, poisoning, suffocation, smoke inhalation, or choking. Become familiar with the CPR instructions in the Appendix of this book. However, reading about CPR is not enough to teach you how to perform it. **The American Academy of Pediatrics strongly recommends that all parents and anyone who is responsible for the care of children should complete a course in basic CPR and treatment for choking.**

This training is especially vital if you own a swimming pool or live near water, such as a lake or community swimming pool or spa. Contact your local chapter of the American Heart Association or the American Red Cross to find out where and when certified courses are given in your community. Most of the classes teach basic first aid, CPR, and emergency prevention, along with what to do for a choking infant or child.

Choking

Choking occurs when a person inhales something other than air into the windpipe or when food or other objects block the windpipe. Among children, choking often is caused by liquid that "goes down the wrong way." The child will cough, wheeze, gasp, and gag until the windpipe is cleared, but this type of choking rarely results in serious health problems.

Choking becomes life-threatening when a child swallows or inhales an object—often food—that blocks airflow to the lungs. This is an emergency that calls for immediate first aid. For specific and complete choking/CPR instructions, familiarize yourself with the chart in the Appendix on page 756, and take a course on CPR for children. A child who begins to breathe by themselves within two or three minutes after a choking incident probably will not suffer any long-term damage. The longer the child is deprived of oxygen, however, the greater the risk of permanent injury.

Occasionally a choking episode is followed by persistent coughing, gagging, wheezing, excessive salivation, or difficulty in swallowing or breathing. If this occurs, it may mean that an object is still partially blocking the airway—possibly in the lower breathing tubes. In this case, the object can cause continued breathing difficulty, irritation, and possibly pneumonia.

See your pediatrician or go to the emergency department if any symptoms persist, so that further tests, such as chest X-rays, can be done. If they show that your child has inhaled something, admission to the hospital may be needed for a procedure to remove the object. Any choking incident that lasts more than a few seconds warrants medical attention.

THE HAZARDS OF BUTTON AND COIN BATTERIES AND MAGNETS

Two other choking and swallowing hazards deserve special attention: button batteries, lithium coin batteries, and rare-earth magnets. The small circular batteries found in a variety of portable electronic devices can form acid that quickly erodes a hole in the airway or intestinal tract. If you suspect your child has swallowed or inhaled one of these batteries, seek care immediately. While waiting for help, you can give your child 2 teaspoons of honey at ten-minute intervals, as long as they are at least 1 year of age. This may help prevent damage while the battery remains stuck. Batteries that no longer can power a device still hold enough charge to be dangerous, so when you change batteries, always wrap the old batteries in tape and dispose of them promptly.

Likewise, the extra-strong little magnets used in toys, containers, and electronics can stick together when swallowed, cutting off circulation in the intestines and causing life-threatening complications. If you have any concern your child may have swallowed one of these magnets, get them care right away.

PREVENTION

Choking is a significant danger for children, especially until age 5. Objects such as small balls or marbles, balloon fragments, small parts from toys, and coins cause choking, but food is responsible for most incidents. You must be particularly watchful when children around the age of 1 are sampling new foods. Here are some additional suggestions to prevent choking.

- *Don't give young children hard, smooth foods* (e.g., peanuts, raw vegetables) that must be chewed with a grinding motion. Children don't master that kind of chewing until around age 4, so they may attempt to swallow the food whole. Do not give whole peanuts or other nuts to young children.

When your child does start to eat peanuts (and you know they don't have an allergy to peanuts), watch them very closely while they are chewing and give only one nut at a time.

- *Don't give your child round, firm foods* (like hot dogs, grapes, and carrot sticks) unless they are chopped completely. Cut them lengthwise and then into bite-size pieces (no larger than ½ inch [1.25 cm]), and encourage your child to chew thoroughly.
- *Do not give your child compressible foods* like marshmallows or fruit snacks until at least 4 years of age.
- *Supervise mealtime* for your infant or young child. Only permit eating while your child is seated and supervised, never while playing or running. Teach your child to chew and swallow their food before talking or laughing.
- *Chewing gum* is a choking hazard for young children.

Foods that pose particular risk include hot dogs; hard, gooey, or sticky candy or vitamins; grapes; and popcorn.

Because young children put everything into their mouths, small non-food objects are also responsible for many choking incidents. Look for age guidelines in selecting toys and follow the manufacturer's recommended ages, especially for children younger than 3 years. Also be aware that certain objects have been associated with choking, including uninflated or broken balloons, baby powder, items from the trash (e.g., eggshells, pop-tops from beverage cans), safety pins, coins, marbles, small balls, pen or marker caps, magnets, and small button or coin-type batteries.

If you're unsure whether an object or food item could be harmful, you can purchase a standard small-parts cylinder at juvenile products stores that you can use to determine whether any object is small enough to choke a child.

Cuts and Scrapes

Your child's natural curiosity and eagerness are likely to produce some scrapes and cuts along the way. Their reaction may be far more severe than the actual damage. In most cases, good treatment will require little more

than cleansing the injury, protecting it, and providing plenty of reassurance (and perhaps a kiss on the minor bump or bruise).

CUTS, LACERATIONS, AND BLEEDING

A cut or laceration is a wound that breaks through the skin and into the tissues beneath. The deeper the cut, the more likely there are to be problems, such as bleeding and the possibility of damage to nerves and tendons. The following simple guidelines will help you prevent serious bleeding and other problems such as scarring when your child gets a cut.

1. *Apply pressure.* Almost all active bleeding can be stopped by applying direct pressure with clean gauze or cloth over the site for five to ten minutes. The most common mistake is interrupting the pressure too early to peek at the wound. Doing this may result in more bleeding or the buildup of a clot that can make it harder to control the problem with further pressure. If bleeding starts again after five minutes of continuous pressure, reapply pressure and call your doctor for help. Do not use a tourniquet or tie-off on an arm or leg unless you are trained in its use, since this can cause severe damage if left on too long. However, if the cut is on an extremity, you can elevate the arm or leg to help decrease bleeding.
2. *Stay calm.* The sight of blood can be frightening, but this is an important time to stay in control. You'll make better decisions if you are calm, and your child will be less likely to get upset by the situation. Remember, by using direct pressure you will be able to control bleeding from even the most severe lacerations until help can arrive. Relatively minor cuts to the head and face will bleed more than cuts to other parts of the body because of the greater number of small, superficial blood vessels.
3. *Seek medical advice for serious cuts.* No matter how much (or how little) bleeding occurs, call your doctor if the laceration is deep (all the way through the skin and into the tissue below) or more than ½ inch (1.25 cm) long. Deep cuts can severely damage underlying muscles, nerves, tendons, and joints even if on the surface the wound does not appear serious. Long lacerations and those on the face, chest, and back are more likely to leave disfiguring scars. In these situations, if the wound is

properly closed, the scar probably will be much less apparent. In some circumstances a skin adhesive (a glue-like substance) may be used to close the wound. If in doubt about whether stitches, adhesives, or staples are needed, call your doctor right away for advice, as it's important for repair to occur within eight to twelve hours of the injury.

You should be able to treat short, minor cuts yourself as long as the edges come together by themselves or can be brought together with the aid of a butterfly bandage, and if there is no numbness beyond the wound and no reduction in sensation or movement. (A butterfly bandage is a strip of adhesive with ends that flare. It's used to keep the edges of a cut together during the healing process.) However, have your doctor examine your child if there is any possibility that foreign matter, such as dirt or glass, is trapped in the cut. Any injury that you cannot manage should be seen by your pediatrician or emergency medical services as soon as possible to maximize healing. Your child may not like to let you examine a laceration thoroughly because of the pain involved. The pediatrician, however, can use a local anesthetic if necessary to ensure a thorough exam. The doctor may also use topical skin adhesives.

4. *Clean and dress the wound.* If you feel comfortable handling the problem, wash the wound with plain water and examine it carefully to be sure it is clean. Apply an antibiotic ointment, then cover it with a sterile dressing. It's easy to underestimate the extent or severity of a cut, so even if you choose to treat it yourself, don't hesitate to call your pediatrician for advice. If any redness, swelling, or pus appears around the wound, or if bleeding recurs, consult your physician as soon as possible. Antiseptics such as iodine and alcohol are not necessary and increase your child's discomfort, so do not use them on cuts. If your child's immunizations are current, tetanus shots are not necessary after most abrasions and lacerations. However, if your child is not up to date on their tetanus booster or it is time for a booster dose, your pediatrician may recommend that one be given.

FIRST-AID SUPPLIES FOR YOUR HOME AND CAR

You should prepare a first-aid kit for your home as well as one for each of your cars. The kit should contain:

- Fever-or pain-reducing medication: acetaminophen or a non-steroidal anti-inflammatory medication such as ibuprofen
- Antihistamine for allergic reaction
- Antibiotic ointment
- Prescription medications that anyone in your family takes
- Sterile adhesive bandages (in various sizes)
- Gauze pads
- Medical tape
- Scissors
- Tweezers
- Soap or another cleansing agent
- Petroleum jelly or another lubricant
- Moistened towelettes
- Thermometer

SCRAPES

Most minor injuries in young children are scrapes, or abrasions, which means that the outer layers of skin literally have been scraped off. If the abrasion covers a large area, it may appear to be very bloody, although the actual amount of blood lost is small. The area should be rinsed first with cool water to flush away debris and then washed gently with warm water and soap. Avoid using iodine and other antiseptic solutions. They have little protective value and can add to the pain and discomfort.

If left alone, most abrasions scab over quickly, and formerly this was thought to be the best natural remedy. But scabs slow the healing process and can lead to more scarring. Treat large or oozing scrapes with an antibiotic ointment and then cover them with a sterile (germ-free) dressing. These can be obtained at your local pharmacy, in the form of either an adhesive bandage or a separate gauze pad that is held in place by rolled gauze or adhesive tape. Some dressings are made of certain non-stick materials that are less likely to adhere to the raw surface of a wound. Antibiotic ointment also helps prevent the dressing from sticking to the healing wound surface. The purpose is to prevent the injury from becoming infected while healing occurs. It is best to keep the bandage in place, except

for dressing changes, until the wound heals. Take care that dressings around such areas as fingers or toes are not so tight as to interfere with circulation.

Examine the wound daily during the dressing change, or whenever it becomes dirty or wet. If a bandage sticks when you try to remove it, soak it off with warm water. Most wounds require a dressing for only two or three days, but your child may be reluctant to stop applying bandages that quickly, because small children tend to regard bandages as badges or medals. There is no harm in leaving the area loosely covered as long as the bandage is kept dry and clean and the wound is checked daily.

Call your pediatrician if you can't get a wound clean or if you notice drainage of pus, increasing tenderness or redness around the site, or fever. These are signs that the wound may be infected. If necessary, the doctor can use a local anesthetic to prevent severe pain while cleaning out dirt and debris that you are not able to remove. If the wound is infected, they may prescribe antibiotics in the form of an oral medicine or an ointment or cream.

PREVENTION

It is almost impossible for a curious and active child to avoid some scrapes and minor cuts, but there are things you can do to decrease the number your child will have and to minimize their severity. Keep potentially dangerous objects like sharp knives, easily breakable glass objects, and scissors out of their reach. When your child gets old enough to use knives and scissors themselves, teach your child how to handle them properly and insist that they be used safely. At regular intervals make a safety check of your house, garage, and yard. If you find objects that are potentially dangerous because your child is older and can get into them, store them securely out of their reach.

Also see Chapter 18, *Keeping Your Child Safe*.

Dental Trauma

As children become more mobile and have increasing stumbles and falls, tooth injuries may occur. Most injuries are minor and will heal on their own, but there are some dental situations where you should reach out to

your pediatrician or pediatric dentist, such as if a tooth is knocked out, is pushed into the gum, or appears loose or wiggly after trauma.

If a tooth is knocked out of the mouth, retrieve it and handle the tooth carefully. Do not scrub it. Rinse it under cool water and place it in a glass of milk. Then call a pediatric dentist or your pediatrician for additional instructions. These will differ depending on whether the tooth is a primary ("baby") or permanent tooth. If a tooth is pushed into the gum, this is a situation for which you should ask for help from your pediatrician or dentist. Call a pediatric dentist or your pediatrician for additional instructions.

If a tooth is loose from trauma, have the child avoid hard foods for twenty-four hours, and if the tooth remains loose, call a pediatric dentist.

Drowning

Drowning is a leading cause of death among children, including infants and toddlers. Most infant drownings occur in bathtubs and buckets. Toddlers between 1 and 4 years most commonly drown in swimming pools. However, many children in this age group drown in ponds, rivers, and lakes. Children older than 5 years old are more likely to drown in rivers and lakes, but this varies from one area of the country to another. It is important to know that children can drown in even 1 inch of water, such as a bathtub or toilet. When a child is rescued before death, the episode is called a non-fatal drowning.

WHAT YOU SHOULD DO

Without putting yourself in harm's way, get your child out of the water immediately, then check to see if they are breathing on their own. If they are not breathing, begin CPR immediately (see Appendix). If someone else is present, send them to call for emergency medical help (911), but don't spend precious moments looking for someone, and don't waste time trying to drain water from your child's lungs. Concentrate instead on giving your child rescue breathing and CPR until they are breathing on their own. While you are doing CPR, it is very likely your child will vomit some of the swallowed water. Only when the child's breathing has resumed should you

stop and seek emergency help. Call 911 if you haven't already. Once the paramedics arrive, they will administer oxygen and continue CPR if necessary.

Any child who has come close to drowning should be given a complete medical examination, even if they seem all right. If they stopped breathing, inhaled water, or lost consciousness, they should remain under medical observation for at least twenty-four hours to be sure there is no damage to the respiratory or nervous system. A child's recovery from a non-fatal drowning depends on how long they were deprived of oxygen. If your child was underwater only briefly, they are more likely to recover completely. Longer periods without oxygen can cause damage to the lungs, heart, or brain. A child who doesn't respond quickly to CPR may have more serious problems, but it's important to keep trying, because sustained CPR has revived children who have appeared lifeless or who have been immersed in very cold water for lengthy periods.

PREVENTION

For newborn infants and all children under 5 years of age (and older children who are not strong swimmers), parents and caregivers should never —not even for a moment—leave children alone or in the care of another child while in or near bathtubs, pools, spas, or wading pools, or near irrigation ditches or other open bodies of water. With children of this age, use touch supervision; that means that a supervising adult should be within an arm's length of the child, with full attention focused on the child at all times, when they are in or near water. The supervising adult should not be engaged in distracting activities, such as using a phone, reading, socializing, or tending to household chores. If you are hosting a pool party, hire or designate an adult lifeguard, so that a supervising adult always has eyes on the water in case of emergency.

Home swimming pools should be surrounded by a fence that is not connected to the house to prevent a child from getting to the pool from the house. There is no substitute for a four-sided, non-climbable fence that is at least 4 feet (1.2 m) high, with a self-closing, self-latching gate that opens away from the pool. Parents, caregivers, and pool owners should know CPR

and how to swim and should keep a phone and equipment approved by the US Coast Guard (life preservers, life jackets, shepherd's crook) at poolside.

Toddlers, children with intellectual disabilities, and children with seizure disorders are particularly vulnerable to drowning, but all children are in danger if unsupervised in or near water. Even a child who knows how to swim may drown a few feet from safety. Remember, children should be supervised at all times. Swimming lessons should *not* be considered as "drownproofing" your child. (For more information on water safety, see page 414.)

Electric Shock

When the human body comes in direct contact with a source of electricity, the current passes through it, producing what's called an electric shock. Depending on the voltage of the current and the length of contact, this shock can cause anything from minor discomfort to serious injury and even death. Young children, particularly toddlers, experience electric shock most often when they bite into electrical cords or poke metal objects such as forks or knives into unprotected outlets or appliances. These injuries also can take place when electric toys, appliances, or tools are used incorrectly, or when an electric current makes contact with water in which a child is sitting or standing. Christmas trees and their lights are a seasonal hazard.

WHAT YOU SHOULD DO

If your child comes in contact with electricity, *always* try to turn the power off first. In many cases you'll be able to pull the plug or turn off the switch. If this isn't possible, consider an attempt to remove the live wire—but *not with your bare hands,* which would bring you in contact with the current yourself. Instead, try to cut the wire with a wood-handled ax or well-insulated wire cutters, or move the wire off the child using a dry stick, a rolled-up magazine or newspaper, a rope, a coat, or another thick, dry object that won't conduct electricity.

If you can't remove the source of the current, try to pull the child away. Again, *do not touch the child with your bare hands* when the child is attached to the source of the current, since their body will transmit the electricity to

you. Instead, use a non-conducting material such as rubber or those described previously to shield you while freeing them. (*Caution:* None of these methods can be guaranteed safe unless the power can be shut off.)

As soon as the current is turned off (or the child is removed from it), check the child's breathing, skin color, and ability to respond to you. If the child's breathing or heartbeat has stopped or seems very rapid or irregular, immediately use cardiopulmonary resuscitation (CPR; see page 567) to restore it and have someone call for emergency medical help. At the same time, avoid moving the child needlessly, since such a severe electrical shock may have caused a spinal fracture.

If the child is conscious and it seems the shock was minor, check them for burned skin, especially if their mouth was the point of contact with the current. Call 911. Electric shock can cause internal organ damage that may be difficult to detect without a medical examination. For that reason, *all* children who receive a significant electric shock should see a doctor. In the pediatrician's office, any minor burns from the electricity will be cleansed and dressed. The doctor may order laboratory tests to check for signs of damage to internal organs. If the child has severe burns or any sign of brain or heart damage, they will need to be hospitalized.

PREVENTION

The best way to prevent electrical injuries is to use outlet covers that are not a choking hazard, make sure all wires are properly insulated, tuck wires away from your child's reach, and provide adult supervision whenever children are in an area with potential electrical hazards. Small appliances are a special hazard around bathtubs, sinks, or pools. (See also Chapter 18, *Keeping Your Child Safe.*)

Fingertip Injuries

Children's fingertips get smashed frequently, usually getting caught in closing doors. Either the child is unable to recognize the potential danger or they fail to remove their hand quickly enough before the door is shut. Fingers also sometimes get crushed when children play with a hammer or other heavy object, or when they're around a car door. Because fingertips are

exquisitely sensitive, your child will let you know immediately that they've been injured. Usually the damaged area will be blue and swollen, and there may be a cut or bleeding around the cuticle. The skin, tissues below the skin, and the nail bed—as well as the underlying bone and growth plate—all may be affected. If bleeding occurs underneath the nail, it will turn black or dark blue, and the pressure from the bleeding may be painful.

HOME TREATMENT

When the fingertip is bleeding, wash it with soap and water, and cover it with a soft, sterile dressing. An ice pack or a soaking in cold water may relieve the pain and minimize swelling. If the swelling is mild and your child is comfortable, your doctor may recommend that you allow the finger to heal on its own. But be alert for any increase in pain, swelling, redness, or drainage from the injured area beginning twenty-four to seventy-two hours after the injury. These may be signs of infection, and you should notify your pediatrician. When there's excessive swelling, a deep cut, or blood under the fingernail, or if the finger looks as if it may be broken, call your doctor immediately. Do not attempt to straighten a fractured finger on your own.

PROFESSIONAL TREATMENT

If your doctor suspects a fracture, they may order an X-ray. If the X-ray confirms a fracture—or if there's damage to the nail bed, where nail growth occurs—a consultation with a hand surgeon may be necessary. A fractured finger may need to be straightened and set under local anesthesia. An injured nail bed also must be repaired surgically to minimize the possibility of a nail deformity developing as the finger grows. If there's considerable blood under the nail, the pediatrician may drain it by making a small hole in the nail, which should relieve the pain.

Although deep cuts may require stitches or skin glue, often all that's necessary are sterile adhesive strips (thin adhesive strips similar to butterfly bandages). A fracture underneath a cut is considered an open fracture and is susceptible to infection in the bone. In this case, antibiotics will be prescribed. Depending on your child's age and immunization status, the doctor also may order a tetanus booster.

Firearms

According to the CDC, firearm injury is now the leading cause of death for children in the United States. Most firearm deaths of young children are classified as homicide deaths, but accidental firearm injuries also occur. It is important to note that firearm injury has a very high case fatality rate, meaning that when a firearm is fired, death is common. Around 25 percent of firearm injuries result in death, compared to only 4 percent of accidental poisonings.

WHAT YOU SHOULD DO

If a child has been shot, call 911, or ask someone nearby to call. Ensure that the firearm has been secured or is no longer a danger and then apply lifesaving measures, including applying direct pressure to wounds, applying a tourniquet (see the organization Stop the Bleed, stopthebleed.org, for training), or by beginning CPR. Once emergency responders arrive, they will take over and transport the child to the nearest trauma center. Those surviving a firearm injury can be left with lasting physical injuries, ongoing medical care needs, and psychological trauma. The best approach is to prevent the firearm injury.

PREVENTION

To prevent firearm deaths, you can take action by doing the following:

SECURE YOUR FIREARMS. When not under an authorized user's active control, all firearms should be kept locked away from children by using one or more of the following: trigger lock, cable lock, gun safe, or firearm cabinet safe. Firearms should never be left unattended (e.g., left on the top of a nightstand, resting in a purse or bag, left in a drawer, or stored in a closet or attic).

ASK ABOUT SAFE FIREARM STORAGE. If your child is visiting another home for any length of time, ask about firearm storage. Given that firearm injury is the leading cause of death for children of all ages, parents and other

caregivers should check before allowing their children to spend any time in another home.

AVOID ALCOHOL AND DRUG USE. No authorized user should ever have a firearm under their active control when they have been drinking or using impairing drugs.

TRAINING HAS LIMITATIONS. All adults in a home with firearms should take a firearm safety training course. Firearm owners should understand that teaching children about firearm safety is not an effective method of preventing firearm injuries. Children do not have the level of brain development required to understand the risk of firearms.

REPORT FAMILY VIOLENCE. Women are most often the victims of firearm violence in the home, along with children. Seek help by reaching out to your local domestic violence hotline or call the national domestic violence hotline at 1-800-799-7233. They can help people navigate options for them and their children, including the use of laws in many states that authorize the removal of firearms from abusers.

Fractures/Broken Bones

Although the term "fracture" may sound serious, it is just another name for a broken bone. Fractures are the fourth-most-common injury among children under 6 years of age. Falls cause most of the fractures in this age group, but the most serious bone breaks usually result from car crashes.

A broken bone in a child is different from one in an adult, because young bones are more flexible and have a thicker covering, which makes them better able to absorb shock. Because children's bones are still growing, the bones have tremendous potential to repair themselves, so perfect alignment is often not necessary. Many fractures can be treated non-operatively. They usually just need to be kept free of movement, most often using a molded cast or splint.

Often children's fractures are either greenstick fractures, in which the bone bends like green wood and breaks only on one side, or torus fractures, in which the bone is buckled, twisted, and weakened but not completely broken. A fracture with plastic deformation is a bone that is bent but not broken and is relatively common among children as well. Complete fractures, in which the bone breaks all the way through, also occur in children.

Because your child's bones are still growing, they are vulnerable to an additional type of fracture that does not occur in adults. This involves damage to the growth plates at the ends of the bones, which regulate future growth. If this part of the bone does not heal properly after the fracture, the bone may grow at an angle or more slowly than the other bones in the body. Unfortunately, the impact on the bone's growth may not be visible for a year or more after the injury, so these fractures must be followed carefully by an orthopedist or sports medicine specialist for 12 to 18 months to make sure no growth damage has occurred. Fractures that involve injury to the growth plate sometimes need surgery to minimize the risk of future growth problems.

Fractures around the elbow often cause the arm to heal abnormally, resulting in a crooked position. Many require surgery to minimize this risk. Children with fractures near the elbow may be referred to an orthopedic specialist.

SIGNS AND SYMPTOMS

It's not always easy to tell when a bone is broken, especially if your child is too young to describe what they are feeling. Ordinarily with a fracture, you will see swelling and your child will clearly be in pain and unable—or unwilling—to move the injured limb. However, just because your child can move the limb doesn't necessarily rule out a fracture. Often with a fracture there is tenderness at one spot where the fracture is when you press along the limb. Anytime you suspect a fracture, notify your pediatrician immediately. If the limb is crooked, you should seek immediate treatment for your child at the emergency department or urgent care.

HOME TREATMENT

Until your child can be seen in the pediatrician's office, emergency room, or urgent care center, use an improvised sling or rolled-up newspaper or magazine as a splint to protect the injury from unnecessary movement. If you think your child may have a broken bone, do not give them anything to eat or drink (even pain medication) before going to the doctor in case they need to be sedated with general anesthesia to fix the fracture. For older children, you can use a cold pack or a cold towel, placed on the injury site, to decrease pain. Extreme cold can cause injury to the delicate skin of babies and toddlers, so do not use ice with children this young.

If your child has broken their leg, do not try to move them yourself. Call 911 for an ambulance; let the paramedics supervise their transportation and make the child as comfortable as possible. If part of the injury is open and bleeding, or if bone is protruding through the skin, place firm pressure on the wound (see *Cuts, Lacerations, and Bleeding,* page 569), then cover it with clean (preferably sterile) gauze. Do not try to put the bone back underneath the skin. After this injury has been treated, be alert to any fever, which may indicate that the wound has become infected.

PROFESSIONAL TREATMENT

After examining the break, the doctor will order X-rays to determine the extent of the damage. If the doctor suspects that the bone's growth plate is affected, or if the bones are out of line, an orthopedic consultation will be necessary. Because children's bones heal rapidly and well, a plaster or fiberglass cast, or sometimes just an immobilizing splint, is all that is needed for most minor fractures. For a displaced fracture, where the bones aren't aligned properly, an orthopedic surgeon may have to realign the bones. This may be done without surgery, with an orthopedic surgeon manipulating the bones until they're straight (closed reduction), and then applying a cast. If the break is more severe, your child may need to be given medication in the emergency department for them to set the fracture, or your child may need to be sedated under general anesthesia in the operating room. After the reduction, a cast will be used until the bone has healed, which usually takes less time than adult bones require. The nice thing about young bones is that they don't have to be in perfect alignment for them to remodel as they grow.

Your orthopedist may order periodic X-rays while the bone is healing, just to make sure they are aligning properly.

Usually casting brings rapid relief or at least a decrease in pain. Your child may experience pain for the first two to three days after the injury or after setting or surgery. It is important to elevate the broken limb for the first 2 to 3 days to decrease the swelling. Typically, pain can be treated with over-the-counter medications, as well as activities to distract your child from the pain. If your child has an increase in pain, numbness, or pale or blue fingers or toes, call your doctor immediately. These are signs that the extremity has swollen and requires more room within the cast. If the cast is not adjusted, the swelling may press on nerves, muscles, and blood vessels, which can produce permanent damage. To relieve the pressure, the doctor may split the cast, open a window in it, or replace it with a larger one.

Also let the doctor know if the cast breaks or becomes very loose, or if the plaster or fiberglass gets wet and soggy. Without a proper, secure fit, the cast will not hold the broken bone in position to mend correctly. Often, bones that have been broken will form a hard knot, known as a callus, at the site of the break during the healing process. Especially with a broken collarbone, this may look unsightly, but there is no treatment for this, and the knot will not be permanent. The bone will remodel and resume its normal shape in a few months.

Head Injury/Concussion

It's almost inevitable that your child will hit their head every now and then, especially when they're a toddler—falling off playground equipment or a bed, for example. These blows may upset you, but your anxiety is usually worse than the bump. Most head injuries are minor, causing no serious problems. Even so, it's important to know the difference between a head injury that warrants medical attention and one that needs only a comforting hug.

By definition, a concussion is a hard strike to the head resulting in temporary confusion or a change in behavior, and sometimes is accompanied by a loss of consciousness. Particularly if a child has significant memory loss, disorientation, altered speech, visual changes, seizure, or

nausea and vomiting after a head injury, call 911 and contact your pediatrician. In fact, if your child experiences head trauma with persistent pain or any other symptoms, your child should be examined by a doctor.

TREATMENT

If a child's head injury has been mild, they'll remain alert and awake after the incident, and their color will be normal. They may cry out due to momentary pain and fright, but the crying should last no more than ten minutes and then they'll go back to playing as usual.

If the injury seems minor and there's not a significant cut (one that's deep and/or actively bleeding) that might require immediate medical attention or possibly stitches (see *Cuts and Scrapes,* page 569), you may be able to treat your child at home. Just wash the cut with soap and water. If there's a bruise, apply a cold compress. This will help minimize the swelling if you do it in the first few hours after the injury. Even in these cases, however, it may be wise to call your pediatrician and explain the circumstances and your child's condition.

Even after only a minor head injury, you should observe your child for twenty-four to forty-eight hours to see if they develop any signs that the injury was more severe than it first appeared. Although it's very rare, children can develop a serious brain injury after a seemingly minor bump on the head that causes no immediate obvious problems. If your child develops any of the following symptoms, be sure to consult your pediatrician immediately or seek prompt attention from the nearest emergency room:

- *Your child seems excessively sleepy or lethargic* during their usual wakeful hours, or you cannot awaken them from sleep at night. It is normal for children to seem tired or less active after a head injury, but this should improve within a few hours; seek medical attention if it doesn't.
- *Your child vomits or has a headache that won't go away* (even with acetaminophen). Headache and vomiting occur commonly after head trauma, but they are usually mild and last only a few hours. (Small children may not be able to let you know they have a headache, so they may cry or be inconsolable.) Vomiting that occurs more than four to six

hours after the head trauma is less common, so call your doctor or take your child to the emergency department for an evaluation.

- *Your child is persistently or extremely irritable*. With an infant who cannot tell you what they're feeling, irritability may indicate a severe headache.
- *Any significant change* in your child's mental abilities, coordination, sensation, or strength warrants immediate medical attention. Worrisome changes would include weakness of arms or legs, clumsy walking, slurred speech, crossed eyes, or difficulty with vision.
- *Your child becomes unconscious again* after being awake for a while, or they have a seizure (convulsion) or start to breathe irregularly.

If your child loses consciousness *at any time* after hitting their head, notify the pediatrician. If your child doesn't awaken within a few minutes, they need *immediate medical attention*. Call 911 for help while you follow these steps.

1. Move your child as little as possible. **If you suspect that they might have injured their neck, do not attempt to move them. Changing the position of the neck might make the injuries worse.** One exception: Move them if they are in danger of being injured further where they are (e.g., on a ledge or in a fire), but try to avoid bending or twisting the neck.
2. Check to see if your child is breathing. If not, perform CPR (see page 567).
3. If your child is bleeding severely from a scalp wound, apply direct pressure with a clean cloth over the wound.
4. After calling 911, wait for the ambulance's arrival rather than taking your child to the hospital yourself.

Loss of consciousness following a head injury may last only a few seconds or as long as several hours. If you find the child after the injury happened and you are not sure if they lost consciousness, notify the pediatrician. (An older child who has had a concussion may say that they can't remember what happened just prior to and just after the injury.)

Most children who lose consciousness for more than a few minutes will be observed in the emergency department, and some may be hospitalized overnight for observation. Hospitalization is essential for children with severe brain injury and irregular breathing or convulsions. Fortunately, with modern pediatric intensive care, some children who have suffered serious head injury—and even those who have been unconscious for several weeks —eventually may recover completely.

Poisoning

About 2.2 million people swallow or have contact with a poisonous substance each year. More than half of these poison exposures occur in children under 6 years of age. Most children who are poisoned are not permanently harmed, particularly if they receive immediate treatment. If you think your child has been poisoned, stay calm and act quickly. You should suspect poisoning if you ever find your child with an open or empty container of a toxic substance, especially if they are acting strangely. Be alert for these other signs of possible poisoning:

- Unexplained stains on their clothing
- Burns on the lips or mouth
- Unusual drooling, or odd odors on their breath
- Unexplained nausea or vomiting
- Abdominal cramps
- Difficulty in breathing
- Sudden behavior changes, such as unusual sleepiness, irritability, or jumpiness
- Seizures or unconsciousness (only in very serious cases)

TREATMENT

If there's an emergency and you cannot find the Poison Help number, dial 911 or directory assistance and ask for the number. Keep the Poison Help number in your cellphone (1-800-222-1222). Poison Help will provide the immediate information and guidance you need. These centers are staffed

twenty-four hours a day with experts who can tell you what to do without delay. (Anytime your child has been exposed to a poison of any kind, you should notify your pediatrician as well.) The immediate action you need to take will vary with the type of poisoning. Poison Help can give you specific instructions if you know the particular substance your child has swallowed. However, carry out the following instructions before calling them.

POISON-PROOFING YOUR HOME

- Store drugs and medications in a medicine cabinet that is locked or in a locked medication box that is out of reach. Do not keep toothpaste, soap, or shampoo in the same cabinet. If you carry a purse, keep potential poisons out of your purse, and keep your child away from other people's purses.
- The best way to keep your child safe from substances like marijuana edibles is not to have them in your home. However, if you do, store these products securely out of reach, as you would medications. Avoid buying edibles that look like real candies. Teach your kids to ask permission first before eating food they find. This gives a chance for an adult to make sure the food is safe to eat.
- Buy and keep medications in their own containers with child safety caps. (Remember, however, that these caps are child-resistant, not childproof, so keep the containers in a locked cabinet.) Dispose of all expired or unused medicines. Many pharmacies and municipalities accept leftover medications and will dispose of them safely.
- Do not take medicine in front of small children; they may try to imitate you later. Never tell a child that a medicine is candy to get them to take it.
- Check the label every time you give medication, to be sure you are giving the right medicine in the correct dosage. Mistakes are most likely to occur in the middle of the night, so always turn on the light when handling any medication.
- Read labels on all household products before you buy them. Try to find the safest ones for the job and buy only what you need to use immediately.
- Store hazardous products in locked cabinets that are out of your child's reach. Do not keep detergents and other cleaning products under the kitchen or bathroom sink unless they are in a cabinet with a safety latch that locks every time you close the cabinet. (Most hardware stores and department stores sell these safety latches.) Detergent products packaged in single-load packets or "pods" offer convenience but often resemble candy or gummy treats and are tempting for children to put in their mouth. This can make them violently ill very quickly and lead to serious breathing or stomach problems, coma, and even death. It is best to use traditional liquid or powder detergent products until all children in the household are at least 6 years of age. If you do use concentrated detergent packets, keep them locked up out of sight and reach of children.
- Never put poisonous or toxic products in containers that were once used for food, especially empty drink bottles, cans, or cups.
- Always open the garage door before starting your car, and never run the car in a closed garage. Be sure that coal, wood, or kerosene stoves are properly maintained. If you smell

gas, turn off the stove or gas burner, leave the house, and then call the gas company.

- Post the Poison Help number, 1-800-222-1222, near every telephone in your home and in your cellphone contacts, along with other emergency numbers. Be sure that your childcare provider and anyone else caring for your child knows when and how to use these numbers.

Keep in mind that these guidelines should apply not only to your home but also to any other settings where your child visits, including the homes of grandparents and babysitters.

(For more information about poisoning, see *Food Poisoning and Food Contamination* in Chapter 19, page 440.)

Poison in the Eye

Flush your child's eye by holding their eyelid open and pouring a steady stream of lukewarm water into the inner corner. A young child is sure to object to this treatment, so get another adult to hold them while you rinse the eye. If that's not possible, wrap them tightly in a towel and clamp them under one arm so that you have one hand free to hold the eyelid open and the other to pour in the water.

Continue flushing the eye for fifteen minutes. Then call Poison Help, 1-800-222-1222, for further instructions. Do not use an eye cup, eye drops, or ointment unless Poison Help tells you to do so. If there is any question of continued pain or severe injury, seek emergency assistance immediately.

Poison on the Skin

If your child spills a dangerous chemical substance on their body, remove their clothes and rinse the skin with lukewarm—not hot—water. If the area shows signs of being burned, continue rinsing for at least fifteen minutes, no matter how much your child may protest. Then call Poison Help for further advice. Do not apply ointments or grease.

Poisonous Fumes

In the home, poisonous fumes are most likely to be produced by an idling automobile in a closed garage; leaky gas vents; wood, coal, or kerosene stoves that are improperly vented or maintained; or space heaters, ovens, stoves, clothes dryers, or water heaters that use gas. Regardless of whether you have any of these appliances, you should have carbon monoxide detectors in your home, since carbon monoxide has no odor. If your child is

exposed to fumes or gases from these or other sources, get them into fresh air immediately. If they are breathing, call Poison Help, 1-800-222-1222, for further instructions. If your child has stopped breathing, start CPR (see page 567), and don't stop until they breathe on their own or someone else can take over. If you can, have someone call 911 for emergency medical help immediately; otherwise, try one minute of CPR and then call for emergency assistance.

Swallowed Poison

First, get the poisonous substance away from your child. If your child still has some in their mouth, make them spit it out, or remove it with your fingers. Keep this material along with any other evidence that might help determine what they swallowed.

Next, check for these signs:

- Severe throat pain
- Excessive drooling
- Breathing difficulty
- Seizures
- Excessive drowsiness

If any of these are present, or if your child is unconscious or has stopped breathing, start emergency procedures such as CPR and get medical help immediately by calling 911. Take the poison container and remnants of material with you to help the doctor determine what was swallowed. *Vomiting may be dangerous, so do not make your child vomit*—even if the label on the container suggests it—as this may cause further damage. Strong acids (e.g., toilet bowl cleaner, bleach) or strong alkalis (e.g., lye, drain or oven cleaner, or dishwasher detergent) can burn the throat, and vomiting will only increase the damage by bringing these fluids back up into the esophagus and throat. Syrup of ipecac is a drug that was used in the past to make children vomit after they swallowed a poison; although this may seem to make sense, it is no longer considered a good poison treatment. If you have syrup of ipecac in your home, properly dispose of it and throw away the container. Do not make a child vomit by any means, whether by giving

them syrup of ipecac, making them gag, or giving them salt water. Instead, you may be advised to have your child drink milk or water.

If your child is not showing these serious symptoms, call Poison Help, 1-800-222-1222, which will direct your call to your regional poison center. The person answering the phone will need the following information to help you:

- Your name and phone number.
- Your child's name, age, and weight. Also be sure to mention any serious medical conditions your child has or medications they are taking.
- The name of the substance your child swallowed. Read it off the container, and spell it if necessary. If ingredients are listed on the label, read them, too. If your child has swallowed a prescription medicine and the drug is not named on the label, give the center the name of the pharmacy and its phone number, the date of the prescription, and its number. Try to describe the color and shape of the tablet or capsule and mention any imprinted numbers on it. If your child swallowed another substance, such as a part of a plant, provide as full a description as possible to help identify it.
- What time your child swallowed this poison (or when you found them), and the amount you think they swallowed.

If the poison is extremely dangerous, or if your child is very young, you may be told to take them directly to the nearest emergency department for medical evaluation. Otherwise, you will be given instructions to follow at home.

PREVENTION

Young children, especially those between ages 1 and 3, are commonly poisoned by things in the home such as medications—even those sold over the counter—and illegal drugs, cleaning products, plants, cosmetics, pesticides, paints, solvents, antifreeze, windshield wiper fluid, gasoline, kerosene, and lamp oil. This happens because tasting and mouthing things is a natural way for children to explore their surroundings, and because they imitate adults without understanding what they are doing.

Keep all poisons, medications, and toxins high out of children's sight and reach. The best way to prevent poisonings is to store all toxic substances in a locked cabinet where your child cannot possibly get to them, even when you are not directly watching them. Also, supervise them even more closely whenever you're visiting a store or a friend or relative's home that has not been childproofed. (See also Chapter 18, *Keeping Your Child Safe*.)

CHAPTER 27

Environmental Health

All children are potentially exposed to environmental toxins in the world in which we live. But while you can't protect your child from every environmental hazard that exists, whether indoors or out, you can prevent their exposure to some and decrease cumulative risk of exposure to others.

Air Pollution

The outdoor air contains several substances that could be harmful to children. One of the most worrisome is ground-level ozone, which is a colorless gas that is created when nitrogen oxides interact with volatile organic compounds. These compounds are released by cars and industry and react with sunlight to make ozone. Ground-level ozone is the main ingredient in smog. Ozone concentrations are likely to be at the highest, unhealthiest levels in the summer on warm, sunny days, peaking in the mid- to late afternoon. Ozone can be present at high levels in the winter, too. It can travel by wind, resulting in rural areas being affected by ozone as well. Because children spend more time playing outdoors than adults and are therefore more likely to experience increased exposure, they are particularly vulnerable to ozone's effects, with breathing difficulties most likely to occur in children with asthma. Children also have increased exposure to air pollution because they breathe more rapidly than adults and inhale more pollutants per pound of body weight.

Multiple health harms also occur to fetuses and children from particulate matter, especially those that are very tiny (called PM2.5), from power plants, vehicle exhaust, or forest fires. Wood-burning stoves and gas cookstoves in our homes also produce particulate matter and other air pollutants harmful to health. Breathing PM2.5, by children and those who

are pregnant, has been linked to preterm birth, small-for-age babies, and neurodevelopmental harms.

Other air pollutants that can cause harm include carbon monoxide, particulate matter released from cars and industry, sulfur dioxide, and other pollutants. Not all chemicals in our air are regulated by the Environmental Protection Agency. Parents and caregivers should pay attention to air alerts in the media or should assess data online before sending children out to play. Children with asthma or other chronic disease can be greatly affected by poor air quality and should be kept indoors when air quality alerts show danger.

PREVENTION

To protect your child from air pollution, limit their playtime outdoors when local agencies have issued health advisories or smog alerts—particularly if your child has a respiratory problem like asthma. When wildfire smoke is present, limit outdoor time in accordance with the AirNow.gov chart (airnow.gov/aqi/aqi-basics/). Refer to this webpage when needed to find out when it's best to keep your kids indoors. Newspapers and TV news programs also provide information about the air quality in the community.

To reduce the air pollution from automobiles on smoggy days, keep your car in the garage and use public transportation or car pools instead. Do not use gasoline-powered lawnmowers on high-pollution days and limit their use at other times. Turn off the car rather than letting it idle while you wait, as idling increases air pollution. Work with local, state, and national governments to enforce and tighten air pollution laws and regulations.

Exposure to indoor air pollution should be minimized if possible. HEPA filters in homes can help remove air pollution from indoor and outdoor sources. Weatherization of homes can decrease the amount of outdoor pollution entering the home.

Asbestos

Asbestos is a natural fiber that was widely used as a spray-on material for fireproofing, insulation, and soundproofing in schools, homes, and public buildings from the 1940s through the 1970s. It does *not* pose health risks

unless it deteriorates and becomes crumbly, at which point it can release microscopic asbestos fibers into the air. When asbestos fibers are inhaled, they can cause chronic health problems to the lungs, throat, and gastrointestinal tract, including a rare type of chest cancer (called mesothelioma) that can occur as long as five decades after asbestos exposure.

Today, schools are mandated by law to either remove asbestos or otherwise ensure that children are not exposed to it. However, it is still in some older homes, especially as insulation around pipes, stoves, and furnaces, as well as in walls and ceilings.

PREVENTION

Follow these guidelines to keep your child safe from asbestos.

- If you think there may be asbestos in your home, have a professional inspector check for it. State agencies have the most up-to-date listings of accredited professionals in your area. To locate your state's asbestos contact, go to epa.gov/asbestos/state-asbestos-contacts.
- Do not let your youngster play near any exposed or deteriorating materials that could contain asbestos.
- If asbestos is found in your home, it may be acceptable to leave it there if it is in good condition. But if it is deteriorating, or if it might be disturbed by any renovations you're planning, have a properly accredited and certified contractor remove the asbestos, which must be taken off in a safe manner. Again, ask your state's asbestos contact for information on finding a certified contractor in your community.

Carbon Monoxide

Carbon monoxide is a toxic gas that is a by-product of appliances, heaters, and automobiles that burn gasoline, natural gas, wood, oil, kerosene, and propane. It has no color, no taste, and no odor. It can become trapped inside your home if appliances are not working efficiently, if a furnace, stove, or fireplace has a clogged vent or chimney, or if a charcoal grill is used in an enclosed area. Carbon monoxide also might enter your home when an

automobile is left running in an attached garage. During power outages and storms, using electrical generators indoors increases the risk for carbon monoxide poisoning. These appliances should remain outdoors.

When your child breathes carbon monoxide, it harms the ability of their blood to transport oxygen. Although everyone is at risk for carbon monoxide poisoning, it is particularly dangerous for children because they breathe faster and inhale more carbon monoxide per pound of body weight. Carbon monoxide poisoning of those who are pregnant can also be very dangerous to fetal development. Symptoms may include headaches, nausea, shortness of breath, fatigue, confusion, and fainting. Persistent exposure to carbon monoxide can lead to personality changes, memory loss, severe lung injury, brain damage, and death.

PREVENTION

You can reduce your child's risk of carbon monoxide poisoning by:

- Buying, installing, and periodically checking the function of carbon monoxide detectors in your home, particularly near the bedrooms, or near a furnace or woodstove
- Never leaving your car running in an attached garage (even if the garage door is open)
- Never using a charcoal or propane grill, hibachi, or portable camping stove indoors or in an enclosed area
- Never using a fuel-burning electric generator inside your home, and even when using a generator outdoors, never running it near an open window or a fresh air intake vent for your home
- Scheduling an annual inspection and servicing of oil and gas furnaces, woodstoves, gas ovens and ranges, gas water heaters, gas clothes dryers, and fireplaces
- Never using your non-electric oven to heat your kitchen or your house

Drinking Water

Children drink much more water for their size than adults. Most of this water comes from the tap, and the quality of this water is regulated by

standards instituted by Congress, included in the Safe Drinking Water Act of 1974. Subsequent laws have set drinking water standards for chemicals that were known to be in some water supplies.

PLASTICS (BISPHENOL A [BPA] AND PHTHALATES)

Breastfeeding is safe and the most important way to nourish your baby. Many food and liquid containers, including some baby bottles, are made of polycarbonate, or have a lining that contains the chemical bisphenol A (BPA). BPA is used to harden plastics, keep bacteria from contaminating foods, and prevent cans from rusting. Other synthetic chemicals, called phthalates, are used in soft, flexible plastics. BPA and phthalates can leach from products and into the environment after repeated use, heating (such as during microwave cooking), and cleaning.

There are concerns over the possible harmful effects that BPA and phthalates may have on humans, particularly on infants and children. For example, animal studies have shown effects on endocrine function in animals related to BPA and phthalate exposure. BPA acts as a weak estrogen in animals and perhaps in humans, too.

RISK REDUCTION

As research continues, concerned parents can take the following precautionary measures to reduce babies' exposure to BPA and phthalates:

- Avoid clear plastic baby bottles or containers with the recycling number 7 and the letters "PC" imprinted on them. Many contain BPA, although newer bottles should be BPA-free.
- Consider using certified or identified BPA-free plastic bottles.
- Glass bottles can be an alternative, but be aware of the risk of injury to you or your baby if the bottle is dropped or broken.
- Because heat may cause the release of BPA and phthalates from plastic, do not heat polycarbonate bottles or other plastic food containers in the microwave, and do not wash polycarbonate bottles or other plastic food containers in the dishwasher.
- Breastfeeding is another way to reduce potential exposure to unwanted chemicals. The AAP recommends exclusive breastfeeding for about six months. Breastfeeding should be continued thereafter as long as it is mutually desired by mother and infant.
- Many parents are concerned about BPA in dental sealants or fillings. Science shows that the exposure to BPA in these dental materials is very minimal, and fears over BPA should not prevent your child from receiving necessary dental care.

Today the drinking water in the United States is among the safest in the world, although problems can occur from time to time. Violations in water safety standards are most likely to occur in small systems that serve fewer than 1,000 people. Also, keep in mind that private wells are not federally

regulated and should be tested for nitrates and other environmental toxins if appropriate.

The drinking water standards for lead are not health-based standards. Thus, the federal action level for lead, at 15 parts per billion (ppb), may result in elevated blood lead levels if that water is the only source of liquid. This can be very important for infants who are bottle-fed with reconstituted formula. The American Academy of Pediatrics recommends that lead in water be as low as possible (a maximum of 1 ppb) in drinking water, including school drinking fountains. Pipes connecting from water mains to homes, and pipes within homes, have been made with lead. In addition, before 1986 lead solder was typically used inside homes with copper pipes, and fixtures were made with brass with high lead content. Water companies often use corrosion control measures to decrease the amount of lead that enters water from the pipes. Recent events have shown this may not occur to the extent it should. Also, water treatment facilities are not responsible for the pipes in homes and leading up to the homes, which may also be lead. Flushing the lines before use for an appropriate amount of time together with using cold water rather than hot water may decrease the amount of lead exposure.

The addition of fluoride to municipal water supplies has resulted in a substantial decrease in dental caries in children. There can be too much fluoride in water, though, and care is needed to not let it get too high. However, science shows that fluoride in tap water is a safe and effective way to promote the development of healthy teeth and help prevent cavities. In many communities, tap water is better for children to drink than bottled water due to the fluoride that is added. Children who do not have access to fluoridated tap water may be at higher risk for cavities, and finding a dental home by 1 year of age is especially important for these children. Fluoridated tap water is safe to drink for those who are pregnant and is also safe to mix with formula for an infant.

Contaminants in drinking water that can cause illness in the immediate or longer term include germs, nitrates, synthetic chemicals, metals, radioactive materials, and by-products of the disinfecting process. In some communities, bottled water is being used or recommended due to contamination in the drinking water supply. It is important to note that

while bisphenol A and phthalates may not be used in the manufacturing of plastics, other chemicals used to make plastic serve the same functions. These "regrettable substitutes" have resulted in less knowledge about what chemicals have entered our bodies from plastics.

Although bottled water can be purchased in markets, most brands are just tap water that has been bottled for sale. Bottled water is generally much more expensive than tap water, and unless there are known contamination problems in your community's water supply, it is not necessary. Fluoride is not typically added to bottled water, and additional fluoride treatments may be needed for children who drink bottled water regularly. In summary, be careful about using bottled water with children on a regular basis.

PREVENTION

To ensure that your child is consuming safe drinking water, you can check the water quality by contacting the county health department, the state environmental agency, or the Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791). Local water companies are mandated to report what is in the water on an annual basis. Well water should be tested yearly.

Other guidelines include:

- Use cold water for cooking and drinking. Contaminants can accumulate in water heaters.
- If you are concerned about the quality of your plumbing, run the faucet each morning prior to using the water for cooking or drinking. Contact your local water utility to find out how long to run the water in your home. This will flush the pipes and lower the likelihood that contaminants will end up in the water you consume.
- Have well water tested for nitrates before giving it to infants under 1 year of age.
- Drinking water that may be contaminated with germs should be boiled and then allowed to cool before drinking. Boil for no more than one minute. However, it is important to remember that boiling water only kills bacteria and other germs; it does *not* remove toxic chemicals. If you don't like the taste or smell of your tap water, filters made with activated

carbon will remove the odd taste or smell. Such filters will also remove undesirable chemicals without removing fluoride needed to prevent tooth decay.

In the United States, more than 23 million families rely on private, unregulated wells for water to drink, cook with, and bathe in. Private wells, while convenient, also risk contamination from chemicals, germs, and minerals and require regular testing and maintenance to ensure the safety of everyone who relies on them. Daycares, schools, and vacation rentals may also rely on wells. If your child will be drinking well water in any setting, use the following tips to ensure it's safe:

- If you're buying a new home with a well, the builder should provide the results of coliform, nitrate, inorganic (total dissolved solids, iron, manganese, magnesium, calcium, chloride), fluoride, radon, perfluoroalkyl and polyfluoroalkyl substances, arsenic, chlorinated hydrocarbons, and lead testing. If the home is near agricultural operations, then additional testing for pesticide residues is important. If the home site is near natural gas extraction (fracking) operations, then chemical tests of the well water, including testing for benzene, should be performed. If the well was shock-chlorinated after drilling, it should be retested for coliforms after some period of time as recommended by the local health department or agricultural extension agent. Have the builder or agent provide a site plan with the well, its water lines, and the septic tank and field.
- If you're renting or leasing a home with a well, the well and septic field should be included in any general home inspection. If this cannot be performed, families should arrange for well inspection and testing as previously described and have the septic tank located and inspected to determine if it needs to be pumped. If there are filters, softeners, or other devices in the water supply lines, determine from the seller or landlord what they are treating and the maintenance needs for the equipment.
- If you're vacationing at a home with a well, the water source should be tested each season. Every well should be tested, and there are procedures for properly shutting down and restarting a water system that is only in use for part of the year. For a short stay, if the quality of the well water

cannot be ensured, it may be safer and more convenient to use commercially available bottled water for drinking and cooking.

- For an existing home with a well, the well should be examined every spring to make sure that there are no mechanical problems. Well water should be tested annually for coliforms and nitrate. Testing more than once per year may be warranted in the following special situations: (1) someone in the household is pregnant or nursing, (2) there are unexplained illnesses in the household, (3) neighbors find a dangerous contaminant in their well water (in which case the homeowner's well should be tested for that specific contaminant), (4) there is a change in the odor or taste of the well water, (5) there is a chemical spill in the proximity of the well, (6) there are new fracking operations, underground chemical storage tanks, or other commercial/industrial concerns in the vicinity that may pose a hazard of groundwater contamination, (7) there was a significant repair or replacement in the well, or (8) there was a flooding event or another disaster resulting in possible well contamination.
- Additional testing may be indicated if there is any damage to the well from a fallen tree, a flood, a fire, or similar circumstances, if there are concerns about elevated nitrate levels in the area, if there are any questions about the integrity or sealing of the well, or if a household member becomes sick with an intestinal illness from *E. coli* or giardia.

Fish

Fish is a protein-rich food that is healthy for both children and adults. It contains a good type of fat (omega-3 fatty acids), as well as nutrients such as vitamin D. It also is low in saturated fat. At the same time, a lot of attention has focused on the contaminants that may be in fish and that could pose health risks.

One of the most widely discussed contaminants is mercury, which at high levels can be toxic. It gets into oceans, rivers, lakes, and ponds, and can end up in the fish we eat. Mercury in bodies of water like lakes and streams —some of it discharged from industrial plants—can be converted by bacteria into mercury compounds such as methylmercury. As a result,

certain predatory fish (including shark and swordfish) can contain high quantities of mercury, which when consumed can have a serious negative effect on a developing fetus's and young children's developing nervous systems.

Other environmental pollutants have been found in fish and other foods, including polychlorinated biphenyls (PCBs) and dioxins. PCBs are chemicals that were manufactured primarily for use as fire retardants and in electrical transformers; they were banned in the United States in the late 1970s. However, they have remained in the environment in water, soil, and air, and have been found in fish. PCBs have been associated with thyroid problems, lowered IQ, and memory impairment in young children.

Dioxin is another pollutant that has been detected in fish. It is the by-product of burning certain chemicals and can interfere with the developing nervous system and other organs, particularly when the exposure is long-term. Fortunately, PCBs and dioxins have decreased significantly in recent years.

PREVENTION

Certain types of fish and shellfish are lower in mercury, including canned light tuna, salmon, shrimp, cod, flatfish, scallops, and pollock. These are the best choices of fish and shellfish for your child to consume. Nevertheless, you should limit your child's intake of even these safer selections to two to three servings per week. On average, a serving is about 1 ounce for children ages 1 through 3; for children ages 4 through 7, a serving is 2 ounces. Government agencies are recommending that young children reduce their intake of certain fish that may contain high levels of mercury. Specifically, young children should not consume king mackerel, swordfish, shark, halibut, sablefish, and tilefish.

For information about the safety of fish and shellfish caught in your area, contact state and local health departments. For current advisories issued by states, territories, or tribes, visit the advisory website of each state, territory, or tribe at fishadvisoryonline.epa.gov/Contacts.aspx. The health department in your state can provide any advisories issued about the presence of other toxins in fish in your area.

Lead Poisoning

Lead poisoning is caused most often by touching and then mouthing dusty toys, chips of old paint, or contaminated dirt; by breathing lead in the air; or by drinking water from pipes lined, made from, or soldered with lead or piped through lead-containing brass fixtures. There also may be lead in hobby materials such as stained glass, paints, solders, bullets, and fishing weights. It might be in miniblinds manufactured outside the United States prior to July 1997. If you buy new miniblinds, look for those that have a label that says "new formulation" or "non-leaded formula." Lead also might be in food cooked or stored in some imported ceramic dishes. Do not serve acidic substances (e.g., orange juice), hot/warm food, or liquids in these dishes, since this can cause the lead from the dishes to leach into the food. Although food cans with soldered seams could add lead to the food inside them, these cans generally have been replaced by seamless aluminum containers in the United States.

WHERE WE STAND

Lead causes serious damage to children's brains even at low levels of exposure, and the effects are difficult to overcome. The American Academy of Pediatrics supports widespread lead screening of children, as well as funding programs to remove lead hazards from the home, learning, and play environments. Primary prevention is the only way to combat lead poisoning. Knowing the environment where your child will live, learn, and play *and* removing the source of lead before your child encounters it will prevent lead exposure and the adverse effects that result from it.

Parents may work in places where lead is used, such as battery plants, shooting ranges, or oil fields, and dust or lubricants that contain lead may come home on clothes, cars, and hair. Parents should shower and change clothes at work. Any work clothes should be laundered separately.

Other sources of lead can include candy, ethnic remedies, and alternative sources of medicine from countries like Mexico, as well as some spices, cosmetics, items used for worship, and Ayurvedic treatments from India, the Middle East, and Southeast Asia. More recently in the United States, lead has been found in charcoal-containing toothpaste and infant teething

bracelets. Avoid toothpastes that are not ADA approved. Infant teething bracelets and necklaces may also present a choking and strangulation hazard, so potential lead contamination is yet another reason to avoid their use; better alternatives include a frozen banana, a teething ring, or a cold, wet, clean washcloth to chew on. Recalls and warnings about lead-contaminated products are available on the Consumer Product Safety Commission (cpsc.gov) and FDA (fda.gov) websites.

Lead was an allowable ingredient in house paint before 1978 and so may be on the walls, door jambs, and window frames in many older homes. The EPA's Federal Lead Disclosure Rule outlines requirements for informing renters and buyers about the possibility of lead paint existing in a pre-1978 residential property. As the paint ages, it chips, peels, and comes off in the form of dust. Toddlers may be tempted by such bite-size pieces and will taste or eat them out of curiosity. Even if they don't intentionally eat the material, the dust can get on their hands and into their food. Sometimes the lead-containing finish has been covered with other layers of newer, safer paints. This can give you a false sense of reassurance, however, since the underlying paint still may chip or peel off with the newer layers and fall into the hands of toddlers.

There is no safe level of lead in the human body. Although there has been a decline in high lead levels in children's blood, somewhere between 500,000 and 1 million children in the United States have unacceptably high levels. Living in a city, being poor, being an immigrant, and being African American or Hispanic are all risk factors that increase the chances of having an elevated blood lead level. But even children living in rural areas or who are in well-to-do families still can be at risk.

In a child who continues consuming lead, the substance will accumulate in the body. Although it may not be noticeable for some time, ultimately it can affect many areas of the body, including the brain. Lead poisoning can cause learning disabilities and behavioral problems. Very high levels will likely cause the most severe problems, but the extent of damage for any individual child cannot be predicted. Lead also can cause stomach and intestinal problems, loss of appetite, anemia, headaches, constipation, hearing loss, and even short stature. Iron deficiency increases the risk for

lead poisoning in children, which is why these two disorders are often found together in children. (See *Abdominal Pain,* page 423.)

PREVENTION

If your home was built after 1977, when federal regulations restricted the amount of lead in paint, the risk of having dangerous amounts of lead in the dust, paint, or soil of your residence is low. However, if your home is older, the likelihood of having dangerous amounts of lead there can be very high, especially for the oldest homes (those built before 1960). This is because of the myriad of other sources that may contain lead. It is imperative that you assess your home and goods for the possibility of lead contamination. If you think your home may contain lead, clean up any paint dust or chips using water. During this cleanup, if you add a detergent to the water, it will help bind the lead into the water. Also, keeping surfaces (floors, window areas, porches, etc.) clean may lower your child's chance of being exposed to lead-containing dust. Older windows are of particular concern since paint on wood frames frequently is damaged and the action of opening and closing windows can produce lead-containing dust. Do not vacuum the chips or dust using a regular vacuum because that will spread the dust through its exhaust hole. The National Center for Healthy Housing, the EPA, and many state agencies suggest the HEPA vacuum as an effective tool for removing lead paint chips. It's also a good idea to have your child leave their shoes at the door and wash their hands often, particularly before they eat.

Another step is to identify surfaces in your home with lead-contaminated paint, or areas with dangerous amounts of lead in the dust or dirt. A home inspection is necessary to do this, and you can get help from your local or state health department to find a lead inspector in your area.

DIAGNOSIS AND TREATMENT

Children who have lead poisoning rarely show any physical symptoms. However, learning and behavior problems from lead may show up in the preschool child, or they may not show up until the child reaches school age. At that point children need to learn more complicated tasks like reading or arithmetic and may have trouble keeping up with class work. Some may even seem overly active or inattentive due to the effects of the lead. For this

reason, the only sure way to know if your child has been exposed to excessive lead is to have them tested. In fact, a blood test for lead around ages 1 and 2 years is recommended for all children. The CDC's advisory committee now recommends performing interventions for children who test at 3.5 µg/dL or higher. This recommendation dropped the level for action from 10 µg/dL to 3.5 µg/dL.

The most common screening test for lead poisoning uses a drop of blood from a finger prick. If the results of this test indicate that a child has been exposed to excessive lead, a second test will be done using a larger sample of blood obtained from a vein in the arm. This test is more accurate and can measure the precise amount of lead in the blood.

ORGANIC FOODS

The US Department of Agriculture has established a certification program that requires farmers to meet government guidelines for growing and processing foods before the "organic" label can be attached to them. When foods like fruits, vegetables, and grains are organic, they are grown in soil fertilized with manure and compost, and without the use of synthetic pesticides, herbicides, dyes, or waxes; these standards prohibit the use of non-organic ingredients for at least three years before crops are harvested. Organically produced meats must be raised free of growth hormones or antibiotics.

But does it really make a difference to buy organic? Are these foods actually safer and more nutritious—and are they worth the premium prices often charged for them? Several studies have examined whether health risks can be reduced by limiting or eliminating exposure to pesticides. These pesticides are sprayed on crops to safeguard them from insects and molds, and their residue can be left on fruits and vegetables and then later consumed. But the fact is that any risk to children and adults when eating these foods is minimal. The traces of pesticides found on produce are usually much lower than the safety levels established by government agencies.

To complicate the issue of whether to buy organic, even organic foods may not be completely chemical-free. Although they haven't been treated with synthetic pesticides, small amounts of these chemicals can be carried by the wind or water and end up on organic crops. Similar concerns surround other chemicals as well, such as nitrates; the levels of nitrates in organically grown plant foods vary from one producer to another and are dependent on factors like the season in which they're grown, the geographic location, and the post-harvest processing.

No matter what you decide, don't let any concerns about chemicals keep you from feeding your children a healthy diet rich in fruits, vegetables, whole grains, and low-fat dairy products, whether those are conventional or organic foods. In fact, there are greater risks in *not* making fruits and vegetables part of your child's meals, compared with any hazards posed by pesticides or herbicides.

So, are organic foods more nutritious for your child? Bear in mind that there is *no* convincing evidence that the nutritional content of organic foods differs in any significant way from conventional foods—in other words, there's no persuasive research showing that organic foods are more nutritious or even tastier than conventional foods. Remember that foods labeled as organic may still be unhealthy for other reasons, such as fruit snacks or juices that contain a lot of sugar and may cause dental cavities and which are less healthy than fresh fruits and vegetables. If you have easy access to organic foods in local farmers' markets or stores, and their higher prices fit into your budget, there is certainly little downside to choosing organic items.

Children who are found to have elevated blood lead levels should receive an assessment of their home to evaluate the source. At higher levels, the child may need to stay in a lead-safe home while the original home is assessed and remediated. In rare instances, they may require treatment with a drug that binds the lead in the blood and greatly increases the body's ability to eliminate it. When treatment is necessary, usually oral medicines are used on an outpatient basis. Much less frequently, the treatment may involve hospitalization.

Some children with lead poisoning require more than one course of treatment. Unfortunately, standard treatments for lead-poisoned children produce only a short-term or marginal lowering of the child's body lead levels and do not lower the child's chance of developing lead-related behavioral or learning problems. Children who have had lead poisoning will need to have their physical health, behavior, and academic performance monitored for many years and should receive special schooling and therapy to help them overcome learning and behavior problems.

The best treatment for lead poisoning is prevention. If you are considering the purchase of an older home, have it tested first by the health department or a commercial lead testing firm. In the same way, children who spend time in older buildings for daycare or other reasons may be at risk.

Pesticides/Herbicides

Pesticides and herbicides are used in a variety of settings, including homes, schools, parks, lawns, gardens, and farms. While they may kill insects,

rodents, and weeds, many are toxic to people when consumed in food and water.

More research is needed to determine the short-and long-term effects of pesticides and herbicides on humans. Although some studies have found connections between some childhood cancers and an exposure to pesticides, other studies have not reached the same conclusions. Many pesticides disrupt the nervous system of insects, and research has shown that they have the potential to damage the neurological system of children.

PREVENTION

Try to limit your child's unnecessary exposure to pesticides or herbicides. To reduce such exposure:

- Minimize using foods in which chemical pesticides or herbicides were used by farmers.
- Wash all fruits and vegetables with water before your child consumes them.
- For your own lawn and garden, use non-chemical pest control methods whenever possible. If you keep bottles of pesticides in your home or garage, make sure they're out of the reach of children to avoid any accidental poisoning.
- Consider that children and adults who eat organic foods have lower levels of pesticide metabolites in their system, so choose organic (when possible) to decrease your family's risk.
- Avoid routinely spraying homes or schools to prevent insect infestations.
- Consider integrated pest management, which focuses on the use of baits and blocking the sources of entry.

Radon

Radon is a gas that is a product of the breakdown of uranium in soil and rock. It also may be in water, natural gas, and building materials.

High levels of radon are found in homes in many regions of the United States. It makes its way into homes through cracks or openings in the

foundation, walls, and floors, or occasionally in well water. It does not cause health problems immediately upon inhalation. Over time, however, it can increase the risk of lung cancer and some other forms of cancer. In fact, next to cigarette smoking, radon is thought to be the most common cause of lung cancer in the United States.

PREVENTION

To reduce your child's risk of radon exposure:

- Ask your local health department whether radon levels are high in your community.
- Have your home tested for radon, using an inexpensive radon detector. (Hardware stores sell these detectors.) A certified laboratory should analyze the results of this test.
- If the levels are too high in your home, call the Radon Fix-It Hotline at 1-800-644-6999; this is a good resource for information on reducing the radon risk in your home.

Smoke Exposure

According to the Centers for Disease Control and Prevention, almost 38 percent of children ages 3 to 11 years old live in a household with at least one person who smokes cigarettes. Secondhand (or environmental) cigarette smoke is exhaled smoke from burning tobacco or smoke from the mouthpiece end or filter of a cigarette, cigar, or pipe. If you or others in your home use cigarettes, pipes, or cigars, your child is being exposed to this smoke. Tobacco smoke contains thousands of chemicals, some of which have been shown to cause cancer, heart disease, and other illnesses, including respiratory infections, bronchitis, and pneumonia. Children exposed to cigarette smoke also have a greater likelihood of developing ear infections and asthma, and they may have a more difficult time getting over colds. They are more susceptible to headaches, sore throats, hoarseness, irritated eyes, dizziness, nausea, lack of energy, and fussiness. For these reasons, many parents have designated their homes as non-smoking areas.

Thirdhand smoke exposure is usually defined as the smoke, residual nicotine, and other chemicals that tobacco smoke leaves behind on clothes, furniture, carpets, a person's hair, and their skin after a cigarette has already been extinguished. Newer tobacco products, including e-cigarettes and vaping devices, can also cause harm through secondhand exposure to aerosols. E-cigarette aerosols can contain substances that harm the body, such as cancer-causing chemicals and tiny particles that reach deep into the lungs.

If a parent or caregiver smokes around a newborn, the baby has a greater risk of dying from sudden infant death syndrome (SUID/SIDS). In addition, babies can be exposed to nicotine and dangerous chemicals from cigarettes through breast milk.

One other important point: The risk of fires is increased when you smoke in your home. Children can suffer burns if they find and play with a lit cigarette or with matches or a lighter. According to a 2006 Surgeon General's report, there is no risk-free level of tobacco exposure. One study showed that when just one cigarette was smoked in a bedroom with a closed door, two hours were needed for particulates in the air to return to a threshold lower than harmful levels; even after that time, thirdhand smoke is still a risk.

E-CIGARETTES

While e-cigarettes don't have the same second-and thirdhand smoke exposure profile, they are also dangerous to children. The aerosols generated by e-cigarettes are inhaled and then exhaled by the user, and some of the generated aerosols may be discharged directly into the surrounding environment and deposited on surface areas. Children can be exposed to these second- and thirdhand aerosols in a manner similar to that of second- and thirdhand cigarette smoke. Known toxic substances and carcinogens have been found in e-cigarette emissions.

MARIJUANA USE

Current data are insufficient to assess the effects of exposure of infants to maternal marijuana use during breastfeeding. As a result, maternal marijuana use while breastfeeding is discouraged. Because the potential

risks of infant exposure to marijuana metabolites are unknown, women should be informed of the potential risk of exposure during lactation and encouraged to abstain from using any marijuana products and avoid second-hand marijuana smoke exposure.

PREVENTION

As your child grows, keep in mind that you are a role model. If your child sees you smoking or using an electronic cigarette, vape product, or marijuana, they may want to try it as well.

Unintentional exposures to and poisonings from e-cigarette solutions containing nicotine have increased dramatically in the United States since 2011. The Child Nicotine Poisoning Prevention Act of 2015, which was enacted nationally in January 2016, requires containers of liquid nicotine to be in child-resistant packaging; nonetheless, the National Poison Data System continues to receive thousands of reports of exposure to e-cigarette liquid nicotine yearly. In addition, the lithium-ion batteries used in e-cigarettes have exploded, leading to burns and fires.

To reduce your child's exposure to environmental tobacco smoke, here are some additional steps you can take:

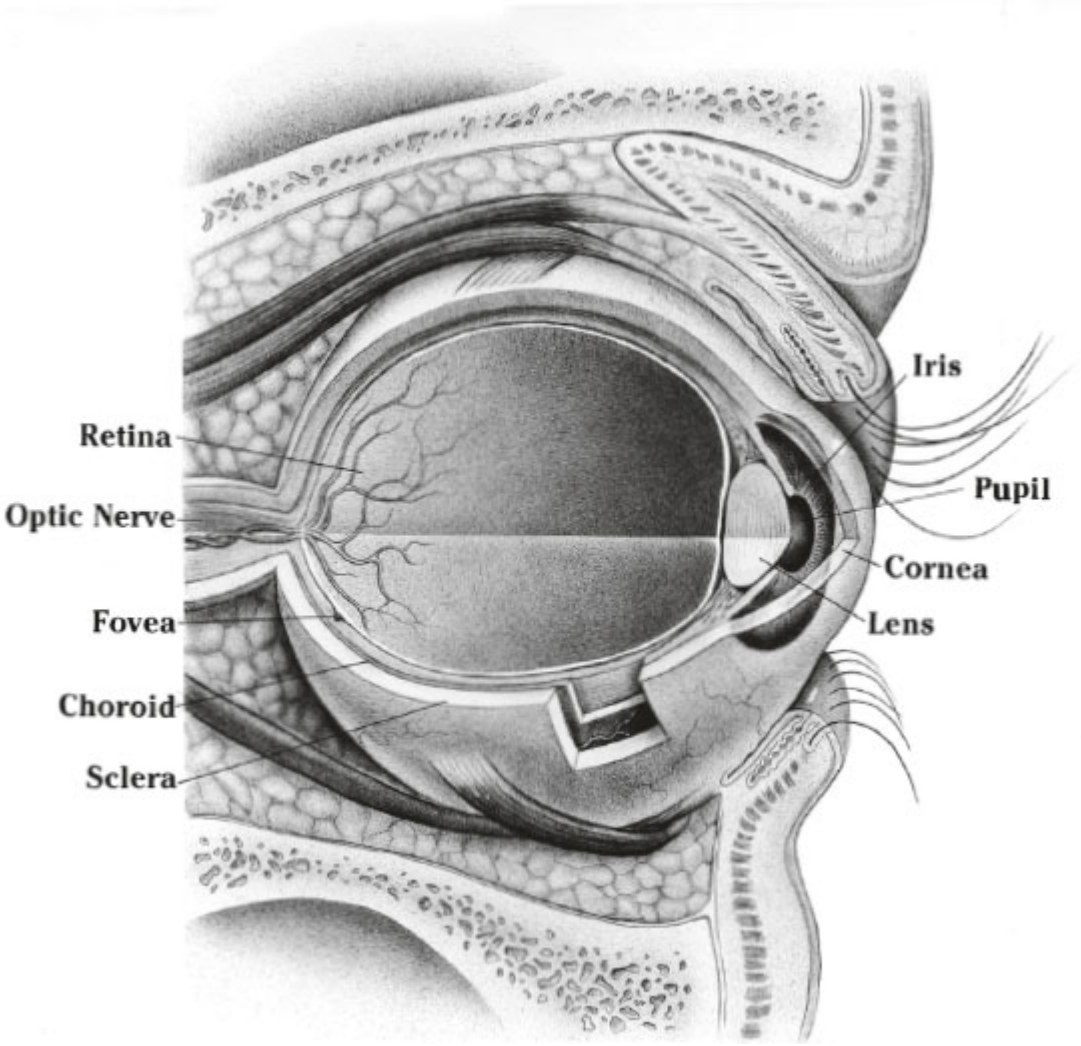
- If you or other family members smoke or use electronic cigarettes, stop! If you've been unable to stop, talk to your doctor. There are a number of medications available that can help you quit tobacco use. Contact 1-800-QUIT-NOW (1-800-784-8669) or smokefree.gov for free help to assist you in stopping smoking.
- Don't allow anyone to smoke or vape in your home or your car, particularly when children are present. It's important to know that harmful chemicals can be brought into the house or car on the clothes of people who have smoked or vaped. Your home and car should always remain smoke-free.
- Store matches, lighters, e-cigarettes (including solution or other parts), and cigarettes out of reach of children.
- When selecting a babysitter or childcare provider, make it clear that no one is permitted to smoke or vape around your child. In addition, nobody should leave your child unattended to go outside to smoke or vape.

- When you're in public places with your child, ask others not to smoke or vape around you and your child.

CHAPTER 28

Eyes

Your child relies on the visual information they gather to help them develop throughout infancy and childhood. If they have difficulty seeing properly, they may have problems in learning and relating to the world around them. For this reason, it is important to detect eye deficiencies as early as possible. Many vision problems can be corrected if treated early but become much more difficult to care for later.



The Eye

Your infant should have their first eye examination at your first visit with your pediatrician. Routine vision checks then should be part of every visit to the pediatrician's office. If your family has a history of serious eye diseases or abnormalities, your pediatrician may refer your baby to an ophthalmologist (an eye specialist with a medical degree) for an early examination and follow-up visits if necessary.

If a child is born prematurely, they will be checked for a vision-threatening condition called retinopathy of prematurity (ROP), especially if they required oxygen over a prolonged period during their early days after birth. The risk is greater in premature infants with a birth weight of less than 3.3 pounds (1,500 g). This condition may not be prevented even with ideal neonatal care, but in many cases, if detected early, it can be treated

successfully. All neonatologists are aware of potential problems resulting from ROP and will let parents know about the necessity for evaluation by an ophthalmologist. Parents also should be told that all premature children are at greater risk for developing astigmatism, nearsightedness, and strabismus (these eye conditions are described later in this section) and that they therefore should be screened regularly throughout childhood.

How much does a newborn baby see? Even during the early weeks after birth, an infant can see light and shapes and can detect movement. Distance vision remains quite blurry, with the optimal viewing length being 8 to 12 inches (20.3 to 30.4 cm), which is roughly the distance from their eyes to yours as you are nursing or feeding your baby.

Until your baby learns to use both eyes together, their eyes may "wander," or move randomly. This random movement should be decreasing by 2 to 3 months of age. Around 3 months old, your baby should be able to focus on faces and close objects and follow a moving object with their eyes. By 4 months of age, they should be using their vision to detect various objects close to them, which they probably will reach for and grasp. By 6 months old they should be able to visually identify and distinguish between objects.

Between 1 and 2 years of age, your child's ability to see will develop rapidly, and by ages 3 to 5, the child with normal vision will reach typical adult visual acuity levels. By the time your child is 10, their visual system will be fully mature. At this point, many early-onset eye and vision problems may no longer be able to be reversed or corrected. Therefore, early detection and treatment of eye problems in children is so important and why your pediatrician will examine your baby's eyes at every routine physical examination.

VISION SCREENING RECOMMENDATIONS

Vision screening is a very important factor in identifying vision-threatening conditions. Regular eye checks during pediatric visits are done to determine if your baby's eyes are developing normally. The American Academy of Pediatrics recommends that children be screened at each well-child visit.

1. *In the newborn nursery.* Pediatricians should examine all infants prior to their discharge from the nursery to check for infections (page 604) and ocular defects, cataracts (page 603), and congenital glaucoma. If a problem is suspected, a pediatric ophthalmologist should see the newborn. All children with multiple medical problems or with a history of prematurity should be examined by an ophthalmologist.
2. *By the age of 6 months.* Pediatricians should screen infants at the time of their well-baby visits to check for ocular alignment (eyes working together) and the presence of any eye disease. From 12 months on, photo screening may be electively performed for earlier detection of amblyopia or its risk factors.
3. *At the age of 3 to 5 years.* Vision screening by a pediatrician should be done annually during these ages. When children are able to follow directions and describe what they see, their visual acuity can be checked. Like at earlier well-child visits, the eyes are again examined for any other abnormality that may cause a problem with the child's educational development. Any abnormality requires referral to an ophthalmologist.
4. *At 6 years and older.* Pediatricians should screen children annually until the age of 6, and every other year thereafter. These tests measure visual acuity and evaluate other ocular functions.

Your pediatrician may use eye charts with shapes rather than letters to assess your preschool-age child's visual acuity. At age 3, visual acuity testing using an eye chart should have reached the 20/50 level in each eye, and any child with less than 20/50 vision should be referred to an ophthalmologist to determine the cause of the visual deficiency. At age 4, visual acuity should be 20/40 to pass a vision screening. From age 6 years onward, normal visual acuity results in each eye of 20/30 or better are expected.

Your pediatrician may use a newer method for screening vision, especially in younger children, called photo screening, in which a specially designed camera is used to help detect potential abnormalities with your child's vision. These devices are an accepted method for screening infants and children, especially for those who are either too young or otherwise unable to have their vision reliably tested with a symbol or letter eye chart.

WHEN TO CALL THE PEDIATRICIAN

As noted above, vision screening is a very important factor in identifying vision-threatening conditions. These routine eye checks can detect hidden eye problems, but occasionally you may notice obvious signs that your child is having trouble seeing or that their eyes are not normal. Notify the pediatrician if your child shows any of the following warning signs:

- A white appearance of the pupil (a condition called leukocoria) in one or both eyes
- Persistent (lasting more than twenty-four hours) redness, swelling, crusting, or discharge in their eyes or eyelids
- Excessive tearing
- Sensitivity to light, especially a change in the child's light sensitivity
- Eyes that look crooked or crossed, or that don't move together
- Head consistently held in an abnormal or tilted position
- Frequent squinting
- Drooping of one or both eyelids
- Pupils of unequal size
- Continuous eye-rubbing
- Eyes that "bounce" or "dance"
- Inability to see objects unless they hold them close
- Eye injury (see page 604)
- Cloudy cornea

You also should take your child to the pediatrician if they complain of any of the following:

- Seeing double
- Frequent headaches
- Persistent eye pain or mild headaches after doing close-up eye work (reading, watching television)
- Blurred vision
- Itching, scratching, or burning eyes

- Difficulty with color vision

Depending on the symptoms your child displays, your pediatrician probably will check for vision difficulties and/or some of the other problems discussed in the remainder of this chapter.

Amblyopia

Amblyopia, or lazy eye, is a common eye problem (affecting about 2 out of 100 children) that develops when a child has one eye that doesn't see well and they use the other eye almost exclusively. In general, this problem must be detected as early as possible to treat and restore normal vision in the affected eye. If this situation persists for too long (past 7 to 10 years of age), vision is often lost permanently in the unused eye.

Once an ophthalmologist diagnoses the problems in the weaker eye, your child may need to wear a patch over the "good" eye for periods of time. This forces them to use and strengthen the eye that has become "lazy." Patching therapy will be continued for as long as necessary to bring the weaker eye up to its full potential and maintain it there. This could take weeks, months, or even a few years. As an alternative to the patch, the ophthalmologist might prescribe eye drops to blur the vision in the good eye, thereby stimulating your child to use the amblyopic eye.

Cataracts

Although we usually think of cataracts as affecting elderly people, they also may be found in infants and young children and are sometimes present at birth. A cataract is a clouding of the lens (the transparent tissue inside the eye that helps bring light rays into focus on the retina). While rare, congenital cataracts are nonetheless a leading cause of visual loss and blindness in children.

Cataracts in children need to be detected and treated early so their vision can develop more appropriately. A cataract usually shows up as a white discoloration in the center of the child's pupil. If a baby is born with a cataract that blocks most of the light entering the eye, the affected lens must

be removed surgically to permit the baby's vision to develop. Most pediatric ophthalmologists recommend that this procedure be performed during the first month after birth. After the clouded lens is removed, the baby must be fitted with a special contact lens or with an eyeglass correction. At the age of about 2 years, the placement of a lens implant within the eye is recommended. In addition, visual rehabilitation of the affected eye will almost always involve use of a patch on the opposite eye until the child's eyes are fully mature (at about age 10 years).

Occasionally a child will be born with a small pinpoint cataract that will not initially impede visual development. These tiny cataracts often do not require treatment; however, they need to be monitored carefully to ensure that they do not become large enough to interfere with normal vision development.

In many cases, the cause of cataracts in infants cannot be determined. Cataracts may be attributed to a tendency inherited from parents; they may result from trauma to the eye; or they may occur because of viral infections such as German measles and chickenpox or an infection from other microorganisms, such as those that cause toxoplasmosis and Zika. To protect the unborn child from cataracts and from other serious disorders, pregnant women should take care to avoid unnecessary exposure to infectious diseases. In addition, as a precaution against toxoplasmosis (a disease caused by parasites), pregnant women should avoid handling cat litter or eating raw or improperly cooked meat, both of which may contain the organism that causes this disease.

Eye Infections

If the white of your child's eye and the inside of their lower lid become red, they probably have a condition called conjunctivitis. Also known as pinkeye, this inflammation, which can be painful and itchy, usually signals an infection, but may be due to other causes, such as irritation from smoke or fumes, an allergic reaction, or (rarely) a more serious condition. It's often accompanied by tearing and discharge, which is the body's way of trying to heal or remedy the situation.

If your child has a red eye, they need to see the pediatrician as soon as possible. Eye infections typically last seven to ten days. The doctor will make the diagnosis and prescribe necessary medication if it is indicated. Never put previously opened medication or someone else's eye medication into your child's eye. It could cause serious damage.

In a newborn baby, serious eye infections may result from exposure to bacteria or viruses during pregnancy or during passage through the birth canal—which is why all infants are treated with antibiotic eye ointment or drops in the delivery room. Such infections must be treated early to prevent serious complications. Eye infections that occur after the newborn period may be unsightly, because of the redness of the eye and the yellow discharge that usually accompany them, and they may make your child uncomfortable, but they are rarely serious. If your pediatrician feels the problem is caused by bacteria, antibiotic eye drops are the usual treatment. Viral causes of conjunctivitis do not respond to antibiotics, but antibiotic eye drops may still be used if a bacterial infection is suspected.

Eye infections can be very contagious. Except to administer drops or ointment, you should avoid direct contact with your child's eyes or drainage from them until the medication has been used for several days and there is evidence of clearing of the redness. Carefully wash your hands before and after touching the area around the infected eye. If your child is in a childcare or nursery school program, you should keep them home until the pinkeye is no longer contagious, usually twenty-four hours after starting drops and/or discharge and redness have disappeared. Your pediatrician will tell you when you can safely send them back to childcare or nursery school.

Eye Injuries

When dust or other small particles get in your child's eyes, the cleansing action of tears usually will wash them out. If that fails to occur, or if a serious injury affecting the eye takes place, call your pediatrician, or take your child to the nearest emergency department after heeding the following emergency guidelines.

PREVENTING EYE INJURIES

Nine out of ten eye injuries are preventable, and almost half occur around the home. To minimize the risk of such injuries in your family, follow these safety guidelines.

- Keep all chemicals out of reach and separate from medications. That includes detergents, ammonia, spray cans, superglue, and all other cleaning fluids.
- Choose your child's toys carefully. Newer toys must meet a standard that prevents any sharp or pointed parts, but if you have any vintage, antique, or other old toys, they should be kept out of sight and out of reach at least while your child is too young to understand their danger. Avoid letting your child walk or play with metal straws, pointy pencils, and other sharp or pointy items that could injure an eye.
- Keep your child away from darts and pellet and BB guns.
- Teach your preschooler how to handle scissors and pencils properly. If they're too young to learn, don't allow them to use the items.
- Keep your child away from power lawnmowers and trimmers, which can hurl stones or other objects.
- Don't let your child near you when you're lighting fires or using tools. If you want them to watch you hammer nails, make them wear protective goggles. Safety glasses should also be worn for your safety and to set a good example for your child.
- If your child begins participating in youth sports, have them wear eye protection appropriate for their sport. Baseball is the leading cause of sports-related eye injuries in children, with many such injuries resulting from being struck by a pitched ball. Eye protection (made of polycarbonate) should be seriously considered for use as part of their batting helmet. Protective sports eye equipment (again using polycarbonate lenses) also should be worn during youth sports such as soccer or basketball, as well as other recreational sports such as skiing. Prescription sports goggles are also available and are a good way to protect the eye while providing vision help.
- Tell your child not to look directly into the sun, even with sunglasses. Doing so can cause severe and permanent eye damage. Never allow a child to look directly at an eclipse of the sun or at a laser pointer.
- Never allow your child near fireworks of any kind. The American Academy of Pediatrics encourages children and their families to enjoy fireworks at public fireworks displays rather than purchasing fireworks for home use. In fact, the Academy would support a ban on public sales of all fireworks.

Black Eye

To reduce swelling, apply a cold pack wrapped in a towel to the area for ten to twenty minutes. Then consult the doctor to make sure there is no internal damage to the eye or the bones surrounding the eye.

Chemicals in the Eye

Flush the eye extensively with lots of water (a quart to a half gallon [1 to 2 liters]), making sure you get the water into the eye itself. Then take the child to the emergency department. (See also page 582 in Chapter 26.)

Cut Eyelid

Minor cuts usually heal quickly and easily, but a deep cut requires emergency medical attention and probably will need stitches. (See *Cuts and Scrapes,* page 569.) Cuts on the border of the eyelids by the eyelashes, or near the tear duct openings, can be of special concern. If the cut is located in these areas, call your pediatrician right away for advice on how to handle the situation.

Large Particle in the Eye

If there's a particle in the eye that won't come out with tears or by flushing with water, or if your child is still complaining of pain after an hour, call your pediatrician. The doctor will remove the object or, if necessary, refer you to an ophthalmologist. Sometimes such particles cause scratches on the cornea (corneal abrasions), which are quite painful but heal rapidly with proper treatment. Corneal injuries also can be caused by blows or other injuries to the eye.

Eyelid Problems

Droopy eyelid (ptosis) may appear as a weak or heavy upper lid; if it is very slight, it may be noticed only because the affected eye appears somewhat smaller than the other eye. Ptosis usually involves only one eyelid, but both may be affected. Your baby may be born with ptosis, or it may develop later. Ptosis may be partial, causing your baby's eyes to appear slightly asymmetrical, or total, causing the affected lid to cover the eye completely. If the ptotic eyelid covers the entire pupillary opening of your child's eye, or if the weight of the lid causes the cornea to assume an irregular shape (astigmatism), it will threaten normal vision development and must be corrected as early as possible. If vision is not threatened, surgical intervention, if necessary, is usually delayed until the child is 4 or 5 years of age or older, when the eyelid and surrounding tissue are more fully developed and a better cosmetic result can be obtained.

Most *birthmarks and growths* involving the eyelids of the newborn or young child are benign; however, because they may increase in size during the first year, they sometimes cause parents to become concerned. Most of these birthmarks and growths are not serious and will not affect your child's vision. However, any irregularity should be brought to the attention of your child's pediatrician so that it can be evaluated and monitored.

Some children will develop lumps and bumps on their lids that can impair development of good eyesight. In particular, a blood vessel tumor called a capillary or strawberry hemangioma can start out as a small swelling and rapidly enlarge. It may enlarge over the first year after birth, and then start to shrink in size without any treatment over the next few years. If it becomes large enough, it can interfere with your baby's development of good vision in the affected eye and will need to be treated. Because of their potential to cause vision problems, any child who starts to show any rapidly enlarging lumps or bumps around either eye should be evaluated by your pediatrician and perhaps an ophthalmologist as well.

A child might also be born with a flat, purple-colored lesion on their face called a port wine stain, because of its resemblance to a dark red wine. If this birthmark involves the eye, especially the upper lid, the child may be at risk for development of glaucoma (a condition where pressure increases inside the eyeball) or amblyopia (weak vision). Any child born with this birthmark needs to be examined by an ophthalmologist shortly after birth.

Small dark moles, called *nevi,* on the eyelids or on the white part of the eye itself rarely cause any problems or need to be removed. Once they have been evaluated by your pediatrician, these marks should cause concern only if they change in size, shape, or color.

Small, firm, flesh-colored bulges underneath your child's eyebrows are usually *dermoid cysts*. These cysts are non-cancerous tumors that usually are present from birth. Because they tend to increase in size during early childhood, their removal is preferred in most cases before they rupture under the skin and cause inflammation.

Two other eyelid problems—*chalazae* and *hordeola (sties)*—are common but not serious. A chalazion is a cyst resulting from a blockage of an oil gland. A hordeolum, or stye, is a bacterial infection of the cells surrounding the sweat glands or hair follicles on the edge of the lid. Call your pediatrician

regarding treatment of these conditions. They probably will tell you to apply warm compresses directly to the eyelid for twenty or thirty minutes three or four times a day until the chalazion or stye clears. The doctor may want to examine your child before prescribing additional treatment, such as an antibiotic ointment or drops.

Once your child has had a stye or chalazion, they may be more likely to get them again. When they occur repeatedly, it's sometimes necessary to perform lid scrubs to reduce the bacterial colonization of the eyelids and open the glands and pores in the eyelids.

Impetigo is a very contagious bacterial infection that may occur on the eyelid. Your pediatrician will advise you on how to remove the crust from the lid and then prescribe an antibiotic eye ointment and oral antibiotics. (See *Impetigo,* page 711.)

Glaucoma

Glaucoma is a serious eye disorder caused by increased pressure within the eye. It may be due to either overproduction or inadequate drainage of the fluid within the eye. If this increased pressure persists too long, it can damage the optic nerve, resulting in permanent loss of vision.

Although a child can be born with glaucoma, this is quite rare. More often it develops later in life. The earlier it is detected and treated, the better the chance of preventing permanent loss of vision. Warning signs of glaucoma in infants include:

- Excessive tearing associated with extreme sensitivity to light (the child will turn their head into the mattress or blankets to avoid light)
- Hazy or overly prominent appearance of either eye
- Increased irritability (typically due to persistent eye pain and redness)

Call your pediatrician promptly if you are concerned about any of these signs.

Usually, glaucoma must be treated surgically to create an alternative route for fluid to leave the eye. Any child who has this disease must be

watched very carefully throughout their life so that the pressure is kept under control and the optic nerve and cornea stay as healthy as possible.

Strabismus

Strabismus is a misalignment of the eyes caused by an imbalance in the muscles controlling the eye. This condition makes it impossible for the eyes to focus on the same point at the same time. Strabismus occurs in about 4 out of 100 children. It may be present at birth (infantile strabismus), or it may develop later in childhood (acquired strabismus). Strabismus can develop if your child has another visual impairment, sustains an eye injury, or develops cataracts. Always report the sudden onset of strabismus to your pediatrician immediately. Although very rare, it may indicate the development of a tumor or other serious nervous system problem. In all cases, it is important to diagnose and treat strabismus as early in your child's life as possible. If a turned eye is not treated early, the child may never develop the ability to use both eyes together (binocular vision), and if both eyes are not used together, it is common for one to become "lazy," or amblyopic (see page 603). Amblyopia often coexists with strabismus and must be treated separately with patching or the use of eye drops in the opposite eye.



Left eye turning inward

It is important to note that a newborn baby's eyes commonly and normally wander. Within a few weeks, they learn to move their eyes together, and this strabismus should disappear within a few months. However, if this intermittent wandering continues, or if your baby's eyes don't turn in the same direction (if one turns in, out, up, or down), they need to be evaluated by your pediatrician, and often a pediatric ophthalmologist as well.

If your child is born with strabismus and it does not resolve on its own in a few months, it's important for their eyes to be realigned as soon as possible so they can focus them together on a single object. Eye exercises alone cannot accomplish this, so the treatment usually involves eyeglasses or surgery. If your child needs an operation, this surgery is frequently done between 6 and 18 months of age. The operation is usually safe and effective, although it's not uncommon for a child to need more than one procedure. Even after surgery, your child still may need glasses.

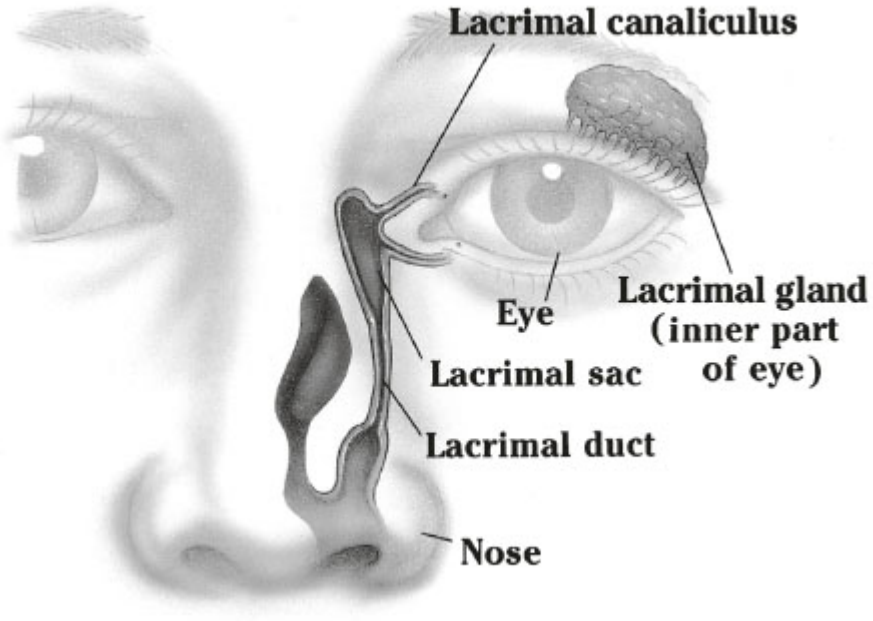
Some children look as if they have strabismus because of the way their faces are structured, but in fact their eyes may be well aligned. These children often have a flat nasal bridge and broad skin folds alongside the

nose (epicanthus), which can distort the appearance of the eyes, making these children appear cross-eyed when they really aren't. This condition is called pseudostrabismus. The child's vision is not affected, and, in most cases, as the child grows and the nasal bridge becomes more prominent, the child loses the appearance of crossed eyes.

Because of the importance of early diagnosis and treatment of a true misalignment (or true strabismus), if you have any suspicion that your baby's eyes may not be perfectly aligned and working together, you should bring it to the attention of your pediatrician, who can best determine whether your baby has an actual problem.

Tear (or Lacrimal) Production Problems

Tears play an important role in maintaining good eyesight by keeping the eyes wet and free of particles, dust, and other substances that might cause injury or interfere with normal vision. The lacrimal system maintains the continuous production and circulation of tears, and depends on regular blinking to propel tears from the lacrimal gland across the surface of the eye, finally draining through the tear ducts and into the nose.



This lacrimal system develops gradually over the first three or four years. Thus, while a newborn will produce enough tears to coat the surface of the eyes, it may be several months after birth before they cry real tears.

Blocked tear ducts, which are very common among newborns and young babies, can cause the appearance of excessive tearing in one or both eyes, because the tears run down the cheek instead of draining through the duct and into the nose. In newborns, blocked tear ducts usually occur when an internal membrane covering them fails to disappear around birth. Your pediatrician will demonstrate how to massage the tear duct. They'll also show you how to clean the eye with moist compresses to remove all secretions and crusting. Until the tear duct finally opens, the sticky mucous discharge may not go away. Since this is not typically a true infection or pinkeye, antibiotics are usually not necessary or helpful.

Sometimes a persistent membrane (or even a small cyst) can cause a blocked tear duct that does not resolve on its own or with massaging. When this occurs and the methods described above are unsuccessful, the ophthalmologist may decide to probe open the blocked tear duct surgically. Rarely, this procedure must be repeated more than once.

Vision Difficulties Requiring Corrective Lenses

Astigmatism

Astigmatism is an uneven curvature of the surface of the cornea and/or lens. If your child has an astigmatism, vision both near and far may be blurred. Astigmatism can be corrected with either glasses or contact lenses, and, like farsightedness, may cause amblyopia if one eye is affected more than the other.

Farsightedness

This is a condition in which the eyeball is shorter than ideal to allow for best focusing, causing difficulty focusing on near objects. Most infants are born farsighted but can compensate for small amounts of it on their own. As they grow, their eyeballs get longer and the farsightedness diminishes. Glasses or contact lenses rarely are needed unless the condition is excessive. If your child has eye discomfort or frequent mild headaches related to prolonged

reading, they may be suffering from a severe degree of farsightedness and should be examined by your pediatrician or pediatric ophthalmologist. Excessive farsightedness also may lead to crossed eyes (see *Strabismus,* page 608) and amblyopia (see page 603), both of which require treatment in addition to glasses.

Nearsightedness

The inability to see distant objects clearly is the most common visual problem in young children. This inherited trait occasionally is found in newborns, especially premature infants, but it more often develops after 6 to 9 years of age.

Contrary to popular belief, reading too much, reading in dim light, or poor nutrition cannot cause or affect nearsightedness. That said, recent research shows that increasing the amount of time a child spends outdoors can reduce the risk of developing myopia and/or slow its progression. Usually, nearsightedness is the result of an eyeball that is longer in shape, causing the image to be focused improperly. Less frequently, it is due to a change in the shape of the cornea or lens.

The treatment for nearsightedness is corrective lenses—either eyeglasses or contact lenses. Keep in mind that when your child grows, so do their eyes, so they may need new lenses as often as every six to twelve months. Nearsightedness usually changes rapidly for several years and then stabilizes during or after adolescence.

CHAPTER 29

Family Issues

Adoption

If you are about to adopt or have just adopted a child, you are likely experiencing a mix of emotions. Along with excitement and delight, you also may feel some anxiety and apprehension. These are emotions common to all parents, regardless of whether a child joins their family by birth or by adoption. Choosing an understanding, supportive, and collaborative pediatrician will be helpful as you begin your new job as a parent. Even before a child joins your family, a pediatrician can discuss your feelings about impending parenthood. If you are adopting a child internationally or domestically, a pediatrician will also be able to address any medical issues that may arise.

Once your child is home with you, schedule a visit to a pediatrician as soon as possible. Similar to an initial newborn exam, this initial post-adoptive visit can provide an opportunity to ask any questions you have about your child's physical and mental health and development. Schedule future exams as required by the child's age and medical needs. Many families find that they benefit from additional visits with their pediatrician during the first year or so to help address concerns that may arise as parents and child start to develop a relationship.

In addition to the typical challenges of parenting, adoptive parents also face several issues and questions that non-adoptive parents do not.

How and When Should I Tell My Child They Are Adopted?

Your child should learn the truth about their birth family and their adoptive family as early as they are able to understand, which probably will be between ages 2 and 4. It is important to adjust the information to their maturity level, so that they make sense of it. For example: "Your birth

parents loved you very much, but they knew they could not take care of you. So they looked for someone who also loved little children and wanted to have a bigger family." As they get older and ask more specific questions, give honest answers, but do not press information on your child if they seem uncomfortable, fearful, or disinterested about it. Children should come to know about and understand adoption gradually, as they mature, just as they come to understand many other complicated ideas.

Are There Special Concerns to Watch For?

Adopted children have the same problems that other children of the same age and background have. Children with a history of living in an orphanage or in foster care have often experienced significant adversity or trauma and may benefit from specific parenting strategies to address those. They may also benefit from counseling at the time of placement, or at different times in their lives. A specific kind of counseling, called trauma-informed care, has been shown to be most helpful to children who have experienced displacements and other major stresses. Ask your pediatrician to help you find a trauma-informed care provider if needed.

Should I Tell Others That My Child Is Adopted?

If you are asked, answer the question honestly, with as much detail as seems appropriate for the situation. Recognize that the most important audience for your answer is your child. Many professionals believe that your child's adoption story is theirs to own and share as they desire as they get older. You may wish to share general information with friends and family, but hold sensitive details privately until your child is old enough to understand them and decide for themselves how and with whom they would like them to be shared.

What If My Child Wants to Find Their Birth Parents?

Many adoptions today include some degree of openness, or ongoing identified contact between birth parent, adoptee, and adoptive parents, and there is a lot of evidence that this arrangement is helpful to children in many ways. If your adoption is not open, though, it is still very natural for children to wonder about birth parents, and this in no way diminishes the love that your child has for you. Talking with your child about their birth parents

helps them to know that you understand this, and that they can share those thoughts and feelings with you. Circumstances will vary, but let your child know that when they are old enough, you will help them to search for their birth parents if they want to. Your adoption agency and adoption search specialists can help.

WHERE WE STAND

Increasing numbers of children have been adopted by gay or lesbian individuals or couples in recent years. In some states this has stimulated political debate and public policy change. A strong and growing body of scientific literature reveals that children who grow up with one or two gay or lesbian parents will develop emotionally, cognitively, socially, and sexually just as well as children whose parents are heterosexual. Parents' sexual orientation is much less important than having loving and nurturing parents.

The American Academy of Pediatrics recognizes the diversity of families. We believe that children who are born to, or adopted by, one member of a gay or lesbian couple deserve the security of two legally recognized parents. Therefore, we support statutory and legal means to enable children to be adopted by the second parent or co-parent in families headed by gay and lesbian couples. The AAP supports the right that gender identity and sexual orientation should not affect an individual's right to adopt or foster a child.

Your pediatrician may be able to help you with more detailed answers to these and other questions that arise in adoptive families.

Child Abuse and Neglect

Child abuse, also known as child maltreatment (a term that encompasses both abuse and neglect), is common. Child maltreatment is defined as "behavior toward a child that is outside the norms of conduct and entails a substantial risk of causing physical or emotional harm." The types of child maltreatment generally recognized are physical abuse, sexual abuse, and neglect including emotional maltreatment. It is important to understand and reduce the risks of abuse for your child and familiarize yourself with the signs of abuse. Recent statistics show that there are about 4 million reports of suspected child maltreatment, involving almost 7 million children, per year. The highest rate of child abuse is in babies less than 1 year of age, and

25 percent of victims are less than 3. There is considerable overlap among children who are abused, with many suffering a combination of physical abuse, sexual abuse, and/or neglect. Most cases reported to child protection agencies involve neglect, followed by physical and sexual abuse.

According to Prevent Child Abuse, "Child neglect occurs when children's basic needs are not adequately met, resulting in actual or potential harm. Basic needs include adequate food, clothing, education, healthcare, nurturing and emotional support, and housing." Child neglect can include physical neglect (failing to provide food, clothing, shelter, or other physical necessities), emotional neglect (failing to provide love, comfort, or affection), medical neglect (failing to provide needed medical care), educational neglect (failing to give access to education), or supervisory neglect (failure to appropriately supervise). Psychological or emotional abuse results from all the above but also can be associated with verbal abuse, which can harm a child's self-worth or emotional well-being.

Physical abuse occurs when a child's body is injured because of hitting, kicking, shaking, burning, or other show of force. One study suggests that about one in twenty children has been physically abused in their lifetime. Sexual abuse is any sexual activity that a child cannot comprehend or give consent to. It includes acts such as fondling, oral-genital contact, genital and anal intercourse, exhibitionism, voyeurism, and exposure to pornography. Studies have suggested that up to one in five girls and one in twenty boys have been sexually abused before the age of 18. More than 90 percent of child sexual abuse victims know their abuser, and most of the abuse occurs within the family, which may make it difficult for a child to disclose the abuse. Teach your child that it is not okay for adults to touch them if they do not want them to or if it makes them feel uncomfortable, and teach them to always tell a trusted grown-up if something like that happens.

Child maltreatment is more likely in households where parents are depressed or have other mental health issues or untreated substance use disorder or who themselves are victims of intergenerational trauma, neglect, or domestic violence. Parents who do not have the social supports nor the modeling of strong parenting behaviors may not be attuned to their children's needs and may struggle to develop attentive parenting behaviors. Such situations reduce parents' abilities to be strong caregivers.

SIGNS AND SYMPTOMS

It is not always easy to recognize when a child has been abused. Children who have been maltreated are often afraid to tell anyone, fearing they will be blamed or that no one will believe them. Sometimes they remain quiet because the person who abused them is someone they love very much, or because of fear, or both. Some children simply don't understand that what has happened to them is wrong. Children who have not learned the correct terms for private body parts may lack the language to describe what happened.

Parents may overlook signs and symptoms of abuse because it is hard to believe it could happen or they are fearful of repercussions. A child who has been abused needs special support and treatment as early as possible. The longer children continue to be abused or are left to deal with the situation on their own, the harder it is for them to be able to heal and develop optimally physically and mentally.

Parents should always be alert to any unexplainable changes in the child's body or behavior. While physical abuse may cause certain physical injuries, acute and chronic stressful situations including child abuse and neglect may result in a child being anxious and fretful. There are no behaviors that specifically relate to a particular type of child abuse or neglect. Here is a short list of physical signs and behavioral changes that may indicate a child has experienced abuse or neglect:

Physical Signs

- Non-mobile infant with any injury
- Bruises to the torso, ears, or neck in a child less than 4 years of age
- Any injury (bruise, burn, fracture, or abdominal, chest, or head injury) that is not consistent with the way the injury is said to have happened, that cannot be adequately explained, or that is inconsistent with the child's developmental capabilities
- The child discloses abuse or neglect
- Failure to gain weight (especially in infants) or sudden dramatic weight gain
- Genital pain, bleeding, or discharge

- A sexually transmitted infection and/or disease
- Pregnancy

Behavioral and Mental Health Changes That Raise Concern About Possible Abuse or Neglect

It is important to remember that the following changes are seen in many children because of many different kinds of stressful situations and are not specific to child abuse and neglect. The reason for the appearance of these behaviors should always be investigated.

- Fearful behavior (nightmares, depression, unusual fears)
- Unexplained abdominal pain, sudden onset of bed-wetting, or regression in toileting (especially if the child has already been toilet trained)
- Attempts to run away
- Extreme sexual behavior that seems developmentally inappropriate for the child's age, such as using sexual terms in conversation, or playing with others in a sexualized manner
- Sudden change in self-confidence
- Headaches or stomachaches with no medical cause
- School failure
- Extremely passive or aggressive behavior
- Desperately affectionate behavior or social withdrawal
- Big appetite and/or stealing food

Long-Term Consequences

In most cases, children who are abused or neglected suffer from greater long-term mental health issues than physical health damage. Emotional and psychological abuse, physical abuse, and neglect deny the child the tools needed to cope with stress and the opportunity to learn the skills needed to become resilient, strong, and successful. A child who is maltreated or neglected may have a wide range of reactions and may even become depressed or develop withdrawn, suicidal, or violent behavior. As they get older, they may display learning difficulties, use drugs or alcohol, try to run away, refuse discipline, or abuse others. As an adult, they may develop marital and sexual difficulties, criminal behaviors, depression, or suicidal

behavior, or may have trouble parenting effectively. Identifying a child victim as early as possible is the first step to helping them recover. Recognizing the important influence of early trauma on future development is crucial to assisting the child.

Not all children who are abused have obvious physical or mental health consequences. Abuse or neglect can also present in children through difficulty sleeping, constipation, or overeating. Usually the younger the child, the longer the abuse continues, and the closer the child's relationship with the abuser, the more serious the mental health effects will be. A close relationship with a very supportive adult can increase resiliency, reducing some of the impact.

GETTING HELP

If you suspect your child has been abused, get help immediately through your pediatrician, a school social worker, or the local child protection agency. Physicians are legally obligated to report all suspected cases of abuse or neglect to state authorities. Your pediatrician will also examine your child to detect and treat any medical injuries or conditions, recommend a therapist, and provide necessary information to investigators. The doctor also may testify in court if necessary to obtain legal protection for the child or criminal prosecution of the person suspected of perpetrating the abuse or neglect.

If they have been abused, your child will benefit from services including mental health professionals, speech and other therapists, and/or a developmental or behavioral pediatrician depending on the child and situation. You and other members of the family may be advised to seek counseling so that you'll be able to provide the support and comfort your child needs. If someone in your family is responsible for the abuse, a mental health professional may be able to help that person as well.

If your child has been abused, you may be the only person who can help them get the help that they need. Many times this is a complicated process due to multiple family dynamics, especially if the abuser is still emotionally or financially involved with the family. Discuss the situation with a professional, such as your pediatrician, teacher, school social worker, or religious leader, who can then assist and support you through this process.

Failure to report can also make it appear you are failing to protect your child and decreases your child's chance for optimal physical and mental health. In any case of abuse or neglect, the child's safety is of primary concern. They need to be in a safe environment free of the potential for continuing abuse and neglect.

PREVENTING ABUSE AND NEGLECT

The major reasons for physical and psychological maltreatment of children within the family are parental feelings of isolation, stress, and frustration. Parents need support and as much information as possible to raise their children responsibly. They need to learn how to cope with their own feelings of frustration and anger without venting them on children. They also need the companionship of other adults who will listen and help during times of crisis. Support groups through local community organizations often are helpful first steps to diminish some of the isolation or frustration parents may be feeling.

If you are worried about your health or how everyday stressors may be affecting the relationship with your child, talk with your primary care physician. They can assess your health and either connect you with community resources or treat/refer you to a physician that can provide you with the necessary healthcare.

Parents who were themselves abused as children are in particular need of support. Confronting, addressing, and healing parental mental and emotional health takes uncommon courage and insight, but this is often the best way to reduce the chances that past abuse will be passed on to the next generation of children.

Personal supervision of and involvement in your child's activities are the best ways to prevent physical and sexual abuse outside the home. Any school or childcare program you select for your child should allow unrestricted and unannounced parental visits without prearrangement. Parents should be allowed to help in the classroom on a volunteer basis and be informed about the selection of or changes in staff members. Parents should pay careful attention to their child's reports about and reactions to their experiences at childcare and school. Always investigate if your child tells you they've been maltreated or if they undergo a sudden unexplained change in behavior.

Although you don't want to frighten your child, you can teach them some basic rules of safety in a non-threatening manner. Teach them to keep their distance from strangers, not to wander away from you in unfamiliar territory, to say no when someone asks them to do something against their will, and always to tell you if someone hurts them or makes them feel bad, even if that person is someone they know. Early in life, it is important for children to know the correct names of their body parts so that they can come to an adult to mention if something feels unusual or makes them uncomfortable, or if they have any questions. Always remember that open, two-way communication with your child provides the best chance that you will know early if a problem occurs. Emphasize that they will not get in trouble if they tell you about abuse or other confusing events. Emphasize that you need to know this to be able to keep them safe and that they will be okay if they tell you. Instead of teaching them that they're surrounded by danger, teach them that they are strong, are capable, and can count on you to keep them safe, as long as they can tell you about it.

Grief Reactions

Losing a parent is one of the most traumatic events that can happen to any child, and grief is the natural response. Your child may experience grief not only if a parent dies but also if one becomes chronically or seriously ill or if there is a divorce or separation. (Even if they remain in touch with both parents following divorce or separation, they may mourn the loss of the family as they've known it.) Children also may grieve for siblings, grandparents, a beloved caregiver, or a pet.

When a Child Loses a Parent

For a young child, losing a parent is an overwhelming crisis that is impossible for the child to understand. Developmentally, children under 5 cannot grasp the permanence of death. Because of this, the first stage of grief is often a period of protest and hope that the lost parent will return. Many children will try to use fantasy to make this happen, imagining the missing parent in familiar situations or places.

Once the child begins to realize that their parent is truly gone forever, despair sets in. Infants, with their limited communication skills, generally

express their distress by crying, feeding poorly, and being difficult to console. Toddlers will cry and be easily excitable and uncooperative and may regress to infantile behavior. Older children may become withdrawn. A preschooler might have a sad look on their face or be less creative and less enthusiastic about play during this period. The more anguished or emotionally distant the other members of the family are, the more intense a young child's despair is likely to be.

Eventually they will emerge from this mood of despair and begin to shift their love and trust to others. This does not mean that they've forgotten the missing parent or that the hurt has gone away. Throughout their life there will be times when they will experience conscious and unconscious feelings of loss, especially on birthdays and holidays, during special occasions such as a graduation, and when they're ill. At these times the child may voice their sadness and ask about their missing parent.

In the best of outcomes, these remembrances will be brief and positive and will not create serious distress. If they are prolonged or if they noticeably disturb the child, you should discuss them with the pediatrician.

When a Child Loses a Sibling

Losing a sibling also is a devastating experience. Many children, even those old enough to understand how their sibling died, may feel that in some way they are to blame. These feelings may be intensified if parents, deep in their own feelings, become withdrawn or angry and unwittingly shut themselves off from the child.

The surviving sibling often watches helplessly as their parents go through the same agony of grief that they would experience if the child lost them. First, the child will see the shock and emotional numbness, then denial, then anger that such a thing could possibly happen. Through it all, they are likely to hear guilt in their parents' words and voices. The child may interpret this guilt to mean that they were devoting time or attention to them that should have been given to their lost sibling.

The child's parents may feel driven to talk about their lost child, how the death occurred, and what the parents could have done to prevent it. The surviving child may try to comfort their parents even though that is not an appropriate role for them; it is more appropriate for the child to learn to

cope effectively with what has happened. The realization that the surviving child cannot make their parents happy, no matter what they do, may seriously damage their own feelings of security and self-esteem. If parents unwittingly react by becoming restrained, short-tempered, and preoccupied with distractions outside the family, the surviving sibling may feel frightened and rejected by them.

In a household where one parent intensely feels the need to talk and the other avoids talking, the essential mutual support and understanding each needs is difficult to achieve. As a result, the relationship between the parents may suffer. The surviving child feels this stress as keenly as their grief for the sibling they've lost and may assume that they're responsible for their parents' disputes as well as for their sibling's death. The entire family will benefit from professional counseling after a child dies. Your pediatrician can recommend a qualified family therapist, psychologist, or child psychiatrist to help you all cope with your grief and help your family learn to cope, heal, and rebuild healthy and supportive relationships and interactions.

Helping Your Grieving Child

When you are grieving for your spouse, partner, or child, it is easy to overlook your surviving child's needs. The following suggestions can help you provide the love, comfort, and trust your child needs during and after the grieving process:

1. Maintain your child's familiar day-to-day routine as much as possible. Ask the people they love and trust—family members, familiar care providers, or preschool teachers—to be there for them when you are unavailable.
2. Offer frequent, calm explanations, keeping in mind your child's level of understanding and possible feelings of guilt. Keep the explanations as simple as possible, but be truthful. Do not construct fairy tales that will leave them more confused or hopeful that the death can be reversed. If your child is older than 3, reassure them that nothing they did or thought caused the death and that no one is angry with them. To help ensure that they understand, it may help to ask them to repeat what you've said.

3. Get help from loved ones. It is difficult to give your grieving child all the attention and support they need when you are grief-stricken yourself. Close friends and family members may be able to give you some relief while at the same time providing a comforting sense of family and community when your child may feel alone and lost. In two-parent families that have lost a child, it is especially important for the family's sake that spouses or partners try to be mutually supportive during this time.
4. Be open to discussions about the loss over the ensuing weeks, months, and years. Even if your child appears to recover from grief faster than you do, their grieving process will go on below the surface for many years—possibly, in a quiet way, for a lifetime. They will need your continuing support and understanding as they try to come to terms with the loss. As they grow older, they will ask more sophisticated questions about the circumstances and reasons for the death. As painful as it may be for you to recall these events, try to answer honestly and directly. The more they understand what happened, the easier it will be for them to make peace with it.

Should Your Preschooler Attend the Funeral?

Whether a young child attends a funeral for a loved one depends on the child's individual level of understanding, emotional maturity, and desire to participate in this ritual. If they seem very fearful and anxious, and cannot understand the purpose of the ceremony, then they probably should not attend. On the other hand, if they seem able to understand the situation to some degree and wish to be there to say goodbye one last time, attending may be consoling and help them deal with their grief.

If you decide to have them at the funeral, prepare them for what will happen. Also, make arrangements ahead of time for a close family member or caregiver to take the child if they need to leave, so that you can remain at the funeral. Having this extra help also will free you to meet your own emotional needs during the ceremony.

If you decide not to have your child at the funeral, you might arrange a private, less formal visit later to the gravesite. Although this, too, could be stressful, it may make it easier for them to understand what has happened. If

there is one, you might also consider having them attend a family gathering afterward, where they may find it comforting to be around family members.

WHEN TO GET PROFESSIONAL HELP

You may want to consult your pediatrician for advice soon after the death has occurred. With the experience and knowledge to help you guide your child through the grieving process, the physician can help you decide how and what to tell your child and can discuss how your child may be feeling and behaving in the months to come.

It is not possible to say how long your child will continue to grieve. Ordinarily, a grieving child will show signs of gradual recovery; there will be hours, then days, and weeks when they act pretty much as they did before the death. If they do not start to have these periods of normalcy within four to six weeks, or if you feel that their initial feelings and behaviors are too intense or are lasting too long, talk with your pediatrician.

Although it is normal for a child to miss a deceased parent or sibling at times, it is not normal for the event to overshadow the child's entire life for years to come. If your child seems to be thinking constantly about the death, with their grief dominating every family occasion and interfering with their social and psychological development, they need psychological counseling. Your pediatrician can refer you to a qualified mental health professional. If a dying relative is in hospice care, the facility or program often has grief counseling expertise that would be of help to parents and to children.

Your child also needs you to return gradually to normal functioning. After you have lost a child, spouse, or partner, it may take many months before you are able to return to your usual daily routine and much longer before your strong sad feelings begin to subside. If a year has passed since the death and you still do not feel that you can resume your former activities, or if your grieving is replaced by ongoing depression, it's good to seek help from a mental health professional, not only for your benefit but for your child's as well.

Separation and Divorce

Every year more than 1 million children in the United States are involved in a divorce or a parental separation. Even those children who lived with parental conflict and unhappiness for a long time may find the changes that follow separation and divorce more difficult than anything they have experienced before. At the very least, the child must adjust to living apart from one parent or, if in shared custody, to dividing their life between two homes. Because of financial changes, they also may have to move to a different home and a different neighborhood. A parent who stayed at home before now may have to go to work. Even if the parent doesn't have to go to work, the stress and depression that often accompany divorce may make some parents less attentive to and loving with their children.

No one can predict specifically how separation or divorce will affect your child. A child's response will depend on their own sensitivity, the quality of their relationship with each of their parents, and the parents' ability to work together to meet their child's emotional needs during this time. It also will depend to some extent on their child's age and on the resiliency or vulnerability that their child's previous life experiences have given the child. In a very general way, you can anticipate how your child will react to divorce based on their child's age at the time it occurs:

Children under 2 often revert to more infantile behavior. They may become unusually clingy, dependent, or frustrated. They may refuse to go to sleep and may suddenly start waking up during the night. Under the age of 3, they may show signs of sadness and fear of others. They may have angry outbursts and tantrums, lose interest in eating, and have problems with toilet training.

Children between 3 and 5 years may act more like toddlers. They may feel that they are responsible for their parents' breakup. At this age, children do not fully understand that their parents' lives are separate from their own. They believe that they are the center of their family's universe and therefore blame themselves when significant events happen in their lives. Children may become more aggressive and defiant toward one parent. The less contact the child has with the non-custodial parent, or the more tense the relationship between parents, the more serious these reactions are likely to be. In the process, the child's self-worth may be impacted negatively.

Your child's response to separation or divorce probably will be most intense during and immediately following the physical separation. As they grow older, they may continue to think about the past and struggle to understand why their parents separated. For years they may have some sense of loss, which might become especially painful during holidays and on special occasions like birthdays and family reunions.

Many children of separation and divorce may wish desperately for their parents to get back together. However, it is much more difficult for them if the parents repeatedly attempt to reconcile and then part again than if the initial separation is final. When the parents act indecisively, the child is likely to become suspicious, confused, and insecure.

In some cases, a child's behavior and self-esteem improve after the parents' separation or divorce. Sometimes this is because the parents are relieved of the tension and sadness of an unhappy marriage and now can give their child more affection and attention. Sometimes it is because the divorce ends an emotionally or physically abusive situation. Often, however, even children who have been abused by a parent still yearn for that abusive parent's love and for the family to be restored.

In summary, some children have serious and lasting psychological aftereffects from a separation or divorce, but many others do well once the initial impact has been experienced and coped with and the child and other family members have learned how to successfully adapt and support each other with their new life circumstances.

HOW PARENTS CAN HELP THE CHILD

A child integrates and mirrors their parents' emotions. If their parents are angry, depressed, or violent during the separation process, a child is likely to absorb these disturbing feelings and may turn them against themselves. If parents argue about their child, or if their child hears their name during disputes, they may believe even more strongly that they are to blame. Secrecy and silence probably won't make them feel much better, however, and actually may intensify the unhappiness and tension they feel around them. If you're separating or divorcing, the best approach is to be honest about your feelings but make a special effort to be loving and reassuring with your child. Your child will have to accept that their parents are no

longer a couple—and you shouldn't try to pretend otherwise—but make sure they understand that both parents love them just as much as ever and want to help them through this process.

When parents are sensitive to what their child is going through, the child has a greater likelihood of coping and rebounding from the uncertainty and anxiety that are often present due to the life change. But each child is different. Children have their own way of reacting to the situations around them—some respond with resilience and a sense of optimism, while others tend to think negatively and disastrously about the present and the future. One of your tasks is to help your child deal with the separation or divorce realistically and help them address any thoughts that these major life changes will negatively impact their life.

To help in the adjustment process, emphasize and reemphasize that even though your child may be spending time in two homes now, they will continue to be loved just as much as always by both parents. They will continue to be safe. In fact, explain that you and your co-parent will each have more special time to devote to them. Also, point out that you and your co-parent expect to be happier because of the change, and the household will be a more pleasant place.

In the weeks, months, and years after a separation or divorce, keep the dialogue with your child open and appropriate for their age level. Repeatedly encourage them to talk about their feelings. Respond to their questions with clear and simple answers, and don't hesitate to bring up issues that they may have never raised on their own but are common among children of separation and divorce. (They may be thinking, "Is it my fault that my parents are going to be apart?" or "If I'm a good kid, will my parents get together again?" or "Will my parents always love me?")

If your child is younger than 2 years, you can't get these messages across very well with words. You will have to convey them through your actions. When you are with your child, try to put your own issues and worries aside and concentrate on their needs. Keep the daily routine as consistent as possible, and do not expect them to make any other major changes (e.g., toilet training, moving from a crib to a bed, or, if avoidable, adjusting to a new care provider or home arrangement) during this transitional period. In the beginning, try to be understanding and patient if your child's behavior

regresses, but if this regression continues even after the separation or divorce is completed and your life has settled back into a regular routine, ask your pediatrician for advice.

If your child is older, they need to feel that both of their parents care about them and that they are willing to put their differences aside when it comes to their welfare. This means that both parents must maintain an active involvement in their life. In the past, it was difficult for many fathers to remain involved in their children's lives when no longer living with them. Today courts and psychologists are trying to correct this pattern, in part by making a distinction between physical and legal custody. In this way, one parent can be granted physical custody, so that the child can have a home base, while legal custody can be awarded jointly, so that both parents remain involved in decisions about the child's education, medical care, and other basic physical, mental, and social needs. The child can visit regularly with the parent who does not have physical custody.

It is also possible to have both joint physical custody and joint legal custody. This arrangement has the advantage of keeping both parents fully involved with the child. Parents have to work together constructively in order to manage all of the day-to-day decisions about scheduling, birthday parties, lessons, and schoolwork. Unless both parents are fully committed to making this arrangement work, it can lead to more conflict, confusion, and stress for the child. Any custody arrangement should give a high priority to the child's mental health, as well as their emotional and developmental needs.

Whatever your custody arrangement, both of you, as your child's parents, will continue to play key roles in your child's life. Try to support each other in these roles. As much as possible, avoid criticizing each other in front of your child. There's no place for your child to witness anger and hostility between you and your spouse or choose sides in an argument; it can only confuse and upset them. Your child needs reassurance that it is still okay for them to love both of you. They need you to help them feel that they're safe with either of you and that there is no need for secrets or guilt.

HELPING YOUR CHILD MOVE FORWARD

To ease your child through the divorce, here are some suggestions:

- Talk with your child on an ongoing basis and make them feel safe despite their fears and worries.
- Be honest but keep things simple ("Your daddy/mommy and I are having trouble getting along").
- Show patience with your child, who may ask questions like "Why is Mommy/Daddy moving away?" "How often will I see them?" "When are they moving back?" "Where am I going to live?"
- Make it clear that your child did not cause your marital problems.
- Do not blame your spouse or express any anger in front of your child.
- Reassure your child that despite the divorce, both you and their other parent love them and will not abandon them. Let them experience both parents expressing love for them.
- Keep your child on simple schedules and routines. Keep activities, meals, and bedtime at regular times to give them stability and comfort, and so that they know what to expect each day.

If you and the other parent cannot actively cooperate, at least be tolerant of each other's routines, rules, and plans, even if you have minor concerns. Under the circumstances, open arguments comparing how much television your child watches or what foods they eat can cause them far more damage than will the TV or the snacks. If necessary, discuss your concerns when your child is not around and do your best to establish common ground. Your pediatrician can provide guidance about sleep, food, and discipline to help inform these conversations. If a child hears you trying to undermine each other's authority, they may come to feel that they cannot trust either of you or that they can't talk about their feelings openly. An atmosphere of hostility may make it hard for them to feel secure and comfortable about their relationships with both of you and with others in their life.

As your child reaches age 4 or 5, their life will broaden to include school and neighborhood activities, and they will develop much more complex feelings about their place in the world. You and your co-parent should discuss how your child behaves and if they say anything concerning when they are with each of you. Even though you are no longer in a personal relationship with each other, you still share responsibility for your child, and you need to work together to resolve any emotional or behavioral problems they may develop. Be especially alert for any signs of low self-esteem, unusual moodiness or depression, or excessive apologizing or self-criticism.

These signs may indicate that they are blaming themselves for the separation or divorce. If this is the case and you cannot convince them that they are blameless, talk to your pediatrician. They may advise you to consult a child psychiatrist or psychologist or other mental health professional.

If you feel very depressed or disturbed after your separation or divorce and cannot seem to regain control of your life, you will not be able to give your child the nurturing and support they need and that you wish to provide. For everyone's sake, it is very important for you to consult with a professional for psychological counseling for yourself as soon as you realize you are experiencing problems.

Although there are always tough moments in any separation or divorce, you and your co-parent can help your child adjust by making an effort to keep the situation as non-confrontational as possible. Consider using a "collaborative law" approach or mediation, where couples reach a settlement outside of the court system. Although each partner often hires their own lawyer, both sides have the same goal—namely, to reach an agreement that is acceptable to everyone, with the intent to cooperate and avoid rivalry, for their own sake and the sake of their children. A growing number of family lawyers now specialize in collaborative law; in this process, your attorney is an advocate on your behalf but is trained to minimize problems and reach a resolution that everyone finds acceptable.

Healthcare deserves a special mention. Unless a parent's rights have been legally terminated, either parent may seek care and consent for care for a child. Both parents have the rights to any medical records regarding the child. If you anticipate major disagreements over issues like vaccines, antibiotics, or treatment for mental health conditions, you may need to involve a mediator or lawyer to clarify what care the child will receive.

If your separation or divorce is full of tension and anger, you may worry that the battles will never end and that your child will not be able to experience good physical and mental health and well-being. Although it is true that some of the emotional effects of separation and divorce may remain with your child permanently, they will have every chance to grow up healthy and happy if they receive the love, affection, and support they need from their parents and other caregivers. With time, most children accept the

changes that occur because of the separation or divorce, and in many families, children become much closer to both parents.

(See also *Single-Parent Families,* page 627; *Stepfamilies,* page 629.)

Sibling Rivalry

If you have more than one child, you almost certainly will have to deal with some amount of sibling rivalry. Competition between children in a family is natural. All children want parental affection and attention, and each child believes they should receive all of yours. Your child does not want to share you with their sibling, and when they realize they have no choice in the matter, they may become jealous, possibly even violent, toward their sibling.

Sibling rivalry between younger children tends to be most troublesome when the age difference is from one and a half to three years. This is because the preschool child is still very dependent on their parents and has not yet established many secure relationships with friends or other adults. However, even when the spread is as much as nine years or more, the older child still needs parental attention and affection. If they feel they are being left out or rejected, they likely will blame the baby. In general, the older the child, the less jealousy they will feel toward their younger sibling. The jealousy is often most intense for preschoolers when the sibling is a newborn.

There may be days when you're convinced your children really do hate each other, but these emotional outbursts are only temporary. Despite their feelings of resentment, siblings usually have true affection for one another. You may have difficulty seeing this, however, since they may reserve their worst behavior for moments when you are around and they are competing directly for your attention. When you are absent, they may get along fine. As they get older and their need for your complete and undivided attention decreases, their feelings of affection probably will overcome their jealousy of each other. Intense sibling rivalry that begins in early childhood rarely lasts into adulthood.

WHAT TO EXPECT

You may notice the first signs of sibling rivalry even before your younger child is born. As the older one watches you preparing the nursery or buying

baby equipment, they may demand gifts for themselves. They may want to wear diapers again or drink from a bottle "like the baby." If they sense that you're preoccupied with the baby, they may misbehave or act out to get your attention.

This unusual or regressive behavior may continue after the baby is home. Your older child may cry more frequently, become increasingly clingy and demanding, or simply withdraw. They may imitate the baby by asking for their old baby blanket, sucking on a pacifier, or even demanding to nurse. School-age children often appear very interested in and affectionate toward the baby but may be aggressive or misbehave in other ways to get attention. Among all siblings, the demand for attention is usually greatest when the parents are actively and intimately involved with the baby—for example, during breastfeeding or bath time.

As your younger child gets older and becomes more mobile, quarrels will erupt over the older child's toys and other possessions. The toddler will go straight for what they want, without caring who owns it, while your preschooler will guard their own territory jealously. When the toddler intrudes on this space, the older child usually reacts strongly.

Sometimes, particularly when the children are several years apart, the older one is accepting and protective of the younger sibling. However, as the younger one grows and begins to develop more mature skills and talents (e.g., in schoolwork, athletics, talking, singing, or acting), the older child may feel threatened or embarrassed by "being shown up." They may then become more aggressive or irritating, or start to compete with the younger sibling. The younger child, too, may experience jealousy about the privileges, talents, accomplishments, or advantages that their older sibling accumulates as they get older. Often it is almost impossible to tell which child is contributing more to the rivalry.

HOW SHOULD PARENTS REACT?

It is important not to overreact to jealousy between your children, especially if the older child is a preschooler. Feelings of resentment and frustration are understandable—no child wants to give up the spotlight of parental affection. It takes time for a child to discover that their parents don't love them any less because they have a second child.

If your older child starts imitating the baby, do not ridicule or punish them. You can indulge them briefly by allowing them to drink from a bottle or climb into the crib or play yard, but only once or twice at the most, and don't reward this behavior by giving them extra attention. Make it clear that they do not have to behave like a baby to gain your approval, love, or affection. Praise them when they act "grown-up," and give them plenty of opportunities to be a "big brother" (or "big sister" or "big kid"). If you intentionally try to catch them displaying desired behaviors, it should not take long for them to realize that they benefit more by acting maturely than by behaving like a baby.

If your older child is between 3 and 5 years old, try to minimize conflicts over space by guaranteeing some secure, protected area. Separating their private possessions from shared ones will help reduce arguments. It is natural for parents to compare their children, but do not do this in front of them. Each child is special and should be treated as such. Comparisons inevitably make one child feel inferior to the other. A statement such as "Your sister is always so much neater than you," for example, will make a child resent both you and their sister, and actually may encourage them to be messy.

When your children get into an argument, usually the best strategy is to stay out of it. Left alone, they probably will settle it peacefully. If you get involved, you may be tempted to take sides, making one child feel triumphant and the other betrayed. Even if they bring their fight to you, try to be impartial and tell them to settle it peacefully on their own. Instead of blaming either one, explain that they're both responsible for creating the dispute and for ending it. Doing so encourages them to problem-solve together, a social skill that will serve them well in the future.

Obviously, you must intervene if the situation becomes violent, especially if the older child might harm the younger one. In this case you must first protect the younger child. Make sure the older child understands that you will not tolerate any abusive behavior. If the age difference is large or if there is any reason to suspect that violence may erupt, supervise them closely when they are together. Preventing aggressive behavior is always better than punishment, which all too often increases rather than decreases the older child's feelings of rivalry.

It is important to spend time separately with each child. Even as little as ten to fifteen minutes daily of one-on-one time without electronics, doing an activity your child chooses, often makes a huge difference. Finding the right balance of attention is not always easy, but if your older child's acting out is becoming extreme, it could be a signal that they need more of your time. If the older sibling remains extremely aggressive, or if you feel that you don't know how to handle the situation, consult your pediatrician, who can determine whether this is normal sibling rivalry or a problem that requires special attention. The pediatrician also can suggest ways to ease the tensions. If necessary, they will refer you to a qualified mental health professional.

Single-Parent Families

Single-parent families are becoming more common. Most children of separation and divorce spend at least some years in single-parent households. Another increasingly large group of children live with single parents who were never married or involved in a long-term relationship. A smaller number of children have widowed parents.

From a parent's viewpoint, there are some benefits to being single. You can raise your child according to your own beliefs, principles, and rules, with no need for conflict or resolving differences. Single parents often develop closer bonds with their children. When a father is the single parent, he may become more nurturing and more active in his child's daily life than some fathers in two-parent households. Children in single-parent households may become more independent and mature because they have more responsibility within the family.

Single parenthood is not easy, for parents or for children. If you can't arrange or afford childcare, finding and holding a job may be difficult. (See Chapter 17, *Early Education and Childcare*.) Without another person to share the day-in, day-out job of raising the child and maintaining the household, you may find yourself so busy that you become socially isolated. When you are under stress, the child may sense and share this stress. You can easily become too tired and distracted to be as emotionally supportive or consistent about rules and discipline as you would like to be. This can lead to distress and behavior problems for the child. Some single parents

worry that the lack of a same-sex parent may deprive their child of a potential role model.

Here are some suggestions that may help you meet your own emotional needs while providing your child with the guidance they need.

- Take advantage of all available resources in finding help in caring for your child. Use the guide to childcare in Chapter 17.
- Maintain your sense of humor as much as possible. Try to see the positive or funny side of everyday surprises and challenges.
- For your family's sake as well as your own, take care of yourself. See your doctor regularly, eat properly, and get enough rest, exercise, and sleep.
- Set a regular time when you can take a break without your child. Relax with friends. Go to a movie. Pursue hobbies. Join groups. Do things that interest you. Pursue a social life of your own.
- Do not feel guilty because your child has only one parent. There are plenty of families in the same situation. You didn't "do it to them," and you don't need to penalize yourself or spoil them to make amends.
- Do not look for problems where none exist. Many children grow up very well in single-parent homes, while others have problems in two-parent homes. Being a single parent does not necessarily mean you'll have more problems or have more trouble resolving them.
- Set firm but reasonable limits for your children, and do not hesitate to enforce them. Children feel more secure and develop responsible behavior better when limits are clear and consistent. Expand these limits as the child demonstrates the ability to accept increased responsibility.
- Find some time each day to spend with your child—playing, talking, reading, helping with homework, or watching television.
- Praise your child often, showing genuine affection and unconditional, positive support.
- Create as large a support network for yourself as possible. Keep active lists of relatives, friends, and community services that can help with childcare. Establish friendships with other families who will let you know of community opportunities (sports leagues, cultural events, etc.) and are willing to exchange babysitting.

- Talk to trusted relatives, friends, and professionals such as your pediatrician about your child's behavior, development, and relationships within the family.

PARENTING IN MILITARY FAMILIES

Being a parent in the military can present unique challenges, particularly in times of deployment or military conflict, when the stresses of being away from a child can be difficult for the entire family. Young children may demonstrate a number of behaviors in response to being separated from a parent, such as clinginess to the other parent and/or a caregiver, regressive behaviors (e.g., bed-wetting after having been toilet trained), anxiety over new people or circumstances, and being quiet and pulling away from others.

If you're the parent remaining at home with your child, try to keep things as normal as possible, including maintaining usual daily routines. Answer questions as honestly as possible (keeping in mind their level of understanding) and reassure them that the deployed parent is fine and doing well. Try to maintain as much communication as possible with the absent parent, letting your child communicate by phone, letter, email, or videoconferencing. If your child seems to be in particular distress, talk with your pediatrician, who might make a referral to a mental health professional. Also, there is a website for all military spouses to access mental health services, regardless of location, at MilitaryOneSource.mil.

The AAP's Deployment and Military Medical Home Resources webpage has been designed to support youth in military families, other family members, and the professionals caring for this population. Please spend some time on the site to learn more about what military pediatricians and other youth-serving professionals are doing to help these children and adolescents every day: aap.org/en/patient-care/military-families-and-deployment/.

Stepfamilies

A single parent's remarriage or new partnership can be a blessing for the parent and child alike, restoring the structure and security that were lost through divorce, separation, or death. Benefits may include additional love and companionship for a parent as well as the children. Often a stepparent becomes another adult role model and may take on some responsibilities of the former spouse or partner. In addition, there may be financial benefits from having another caregiver in the house.

But creating a stepfamily also requires many adjustments and can be very stressful. If the stepparent is introduced as a substitute for your child's absent parent, the child may feel torn by their loyalty to their biologic parent and may reject the stepparent immediately. There is often a great deal of

jealousy between stepparents and stepchildren, as well as competition for the love and attention of the parent who has brought them together. If a child feels that their new stepparent is coming between them and their parent, they may reject the stepparent and act out to regain their parent's attention. The situation becomes even more complex and stressful when there are children on both sides who are suddenly expected to accept each other's parents and get along as siblings. With time, most blended families do manage to sort through these conflicts, but it requires a great amount of patience and commitment on the part of the adults, as well as the willingness to get professional help early to prevent significant problems from developing.

As difficult as the transition may seem at first, try to keep in mind that relationships between stepparents and stepchildren tend to develop gradually over a period of one to several years, rather than over weeks or months. An important factor in the development of the step-relationship may be support from the other biological parent. The child may resent a relationship with a biological parent that prevents closeness to the stepparent and may feel guilty whenever they are emotionally drawn to the stepparent. Good communication among all three (or four) parents can minimize this guilt, as well as reduce the confusion that a child could feel when they try to adjust to the values and expectations of several adults. For this reason, when a child is spending time in two households, occasional meetings with all the parents, if possible, may be very helpful. Sharing perspectives on rules, values, and scheduling tells the child that all their parents can talk with one another, are mutually respectful, and have their health and well-being as a central priority.

SUGGESTIONS FOR STEPFAMILIES

Making a smooth transition from a single-parent family to a successful stepfamily requires special sensitivity and effort from the biological parent and stepparent. Here are some suggestions that may help.

- Inform your former spouse or partner of your marriage plans and try to work together to make the transition as easy as possible for your child. Make sure everyone understands that the marriage will not change your former spouse's or partner's role in your child's life.

- Give your child time to get to know the stepparent (and stepsiblings, if any) before you begin living together. Doing this will make the adjustment easier for everyone and will often eliminate much of your child's anxiety about the new arrangement.
- Watch for signs of conflict and work together to correct them as early as possible.
- The parent and stepparent should decide together how they plan to parent, where and how they will set limits, and what forms of discipline are most appropriate.
- The parent and stepparent need to share the responsibilities of parenthood. This means that *both* will give affection and attention and that *both* will have authority in the household. Deciding together on discipline strategies, and supporting each other's decisions and actions, will make it easier for the stepparent to assume a role of authority without fear of disapproval or resentment.
- If a non-custodial parent visits the child, these visitations should be arranged and accepted so that they do not create disagreement within the stepfamily.
- Try to involve both biological parents and stepparent(s) in all major decisions affecting a child. If possible, arrange for all the adults to meet together to share insights and concerns; doing this will let the child know that the grown-ups are willing to overcome their differences for the child's benefit.
- Be sensitive to your child's wishes and concerns about their own role within the stepfamily. Respect their level of maturity and understanding when, for example, you help them decide what to call the stepparent or introduce them to the stepparent's relatives.

In an atmosphere of mutual respect between biological parents and stepparents, the child is more likely to have the benefits of stepfamilies mentioned earlier. The child again has the opportunity of living in a household with two parents. The remarried parent often is happier and thus better able to meet the child's needs. As the child gets older, their relationship to the stepparent may give them additional support, skills, and perspectives. These benefits, together with the economic advantages of the stepfamily situation, may give the child a broader range of opportunities.

Twins and Other Multiples

Having twins (or other multiples, such as triplets) means much more than simply having two or more babies at once, and the challenges go beyond having twice or three times the work or pleasure. Twins and other multiples quite frequently are born earlier than single-born babies and so tend to be smaller than the average newborn; you may need to consult your pediatrician more frequently than you would with a single baby. It is possible that after birth your multiples may need extra time in the hospital's

neonatal intensive care unit (NICU). Feeding twins and other multiples, whether by breast or bottle, also requires some special strategies, and the pediatrician and lactation consultant can provide advice and support. There may be added financial pressures upon the family as well, requiring more diapers, clothing, food, car safety seats, and dozens of other items—and perhaps needing a larger family car or even a larger home.

Some researchers have attributed much of this increase to the more frequent use of infertility treatments and procedures such as in vitro fertilization. In vitro fertilization may involve implanting more than one fertilized egg into the uterus, while using infertility drugs can stimulate the ovaries to release two or more eggs.

This section is written primarily with twins in mind, but most of the same information and guidelines apply to triplets and higher-order multiple births. (For more information on multiples, check out *Raising Twins: Parenting Multiples From Pregnancy Through the School Years,* 3rd edition, by Shelly Vaziri Flais [AAP, 2019].)

RAISING MULTIPLES

You should care for your healthy multiples just like any other infants. From the very beginning, it is important that you recognize that your babies are separate individuals. If they are identical, it is easy to treat them as a "package," providing them with the same clothing, toys, and quality of attention. But as similar as they may appear physically, emotionally, behaviorally, and developmentally, they are two different people, and in order to grow up happy and secure as individuals, they need you to support their differences. As one twin explained, "We're not twins. We're just brothers who have the same birthday!"

Identical twins come from the same egg, are always the same sex, and look very much alike. Fraternal twins come from two separate eggs that are fertilized at the same time. They may or may not be the same sex. Whether identical or fraternal, all twins have their individual personalities, styles, and temperaments. Both identical and fraternal twins may become either competitive or interdependent as they grow. Sometimes one twin acts as the leader and the other as the follower. Whatever the specific quality of their

interaction, most twins develop very intense relationships early in life simply because they spend so much time with each other.

If you also have other children, your twin newborns may prompt more than the usual sibling rivalry. They will require a large amount of your time and energy and will attract a great deal of extra attention from friends, relatives, and strangers on the street. You can help your other children accept, and perhaps even take advantage of, this unusual situation by offering them "double rewards" for helping with the new babies and encouraging even more involvement in the daily baby care chores. It also becomes even more essential that you spend some special time each day alone with your other children, reading books or doing their favorite activities.

As your twins get older, particularly if they are identical, they may choose to play only with each other, and other siblings may feel left out. To discourage the twins from forming such exclusive bonds, urge them to play individually (not as a unit) with other children. Also, you or a babysitter might play with just one twin while the other plays with a sibling or friend.

You may find that your twins do not develop in the same pattern as do other children their age. Some twins seem to "split the work," with one concentrating on motor skills while the other advances in social or communication abilities. Because they spend so much time together, many twins communicate better with each other than with other family members or friends. They learn how to read each other's gestures and facial expressions, and occasionally they even have their own verbal language that no one else can understand—this is particularly true of identical twins. This unique developmental pattern does not represent a problem, but it does make it very important to separate your twins on a regular basis and expose them individually to other playmates and learning situations.

Twins are not always happy about being apart, especially if they have established strong play habits and preferences for each other's company. For this reason, it is important to begin separating them occasionally as early as possible. If they resist strongly, try a gradual approach using very familiar children or adults to play with them individually but in the same room or play area. Being able to separate will become increasingly important as the twins approach school age. In preschool most twins can stay together in the

same room, but many elementary schools prefer twins to be in separate classes.

As much as you appreciate the individual differences between your twins, you no doubt will have certain feelings for them as a unit. There is nothing wrong with this, since they do share many similarities and are themselves bound to develop a dual identity—as individuals and as twins. Helping them understand and accept the balance between these two identities is one of the most challenging tasks facing you as the parent of twins.

Your pediatrician can advise you on how to cope with the special parenting challenges with twins. They also can suggest helpful reading material or refer you to organizations that help parents with multiples. It is enormously helpful to connect with other families who are experiencing similar challenges to yours. One organization to look for in your area may be Multiples of America, which has local chapters nationally.

TRANSPORTING YOUR NEWBORN MULTIPLES

In many cases, infant twins and higher-order multiples are smaller and weigh less than the average newborn. When bringing your babies home from the hospital and for subsequent trips in the car, keep the same guidelines in mind for choosing and using car safety seats. That means choosing rear-facing car safety seats and relying on them until your babies have outgrown the rear-facing weight or height limit for their seats, which will likely be well past the second birthday. Rear-facing-only seats have carrying handles and may be sold with a base that can stay in your car. Convertible seats are larger than rear-facing-only seats and can be used both rear-facing and forward-facing, so some parents choose to use a convertible seat from birth.

But here's a very important point to keep in mind if your babies were born prematurely: Rear-facing *convertible* car seats may be too large to fit your preemies appropriately. Before your newborns are discharged from the hospital, make sure they are tested to determine if they can ride safely while reclining in a car safety seat. The hospital calls this the "car seat test." If they have certain medical issues related to breathing or heart rate, they may not be able to ride in a semi-reclined position. In these instances, preemies should lie flat when they're riding in a car, and you will need a crash-tested car bed. (In most cases, the car bed will be purchased through the hospital, and your babies should be tested in the car beds before being sent home.) Always use the harnesses and buckle that are part of the car beds and install the beds lengthwise in the backseat; position your babies so their heads are toward the center of the car. After they've had additional time to grow bigger and stronger, your babies should be tested again in their car safety seats to make sure they are ready to make the switch to a regular semi-reclined rear-facing seat.

At the same time, take care of yourself, and get as much rest as possible. Many parents find that raising twins and other multiples is much more physically demanding and emotionally stressful than having just one baby. So make an effort to catch up on your own sleep whenever you can. If you have a partner, take turns with who's going to handle the middle-of-the-night feedings and who will bathe and feed the babies. Consider having one parent take the "early shift" of nighttime feeds and a second caregiver take the "late shift," affording you both a longer stretch of sleep. If your budget can afford it, get some extra help for routine tasks like bathing the newborns and grocery shopping—or ask friends and family members for assistance. An extra set of hands, especially when there are more than twins, even for just a few hours a week, can make an enormous difference, and can give you not only more time to enjoy your babies, but also more time for yourself.

CHAPTER 30

Fever

Your child's normal temperature will vary with age, activity, and the time of day. Infants tend to have higher temperatures than older children, and everyone's temperature is highest between late afternoon and early evening and lowest between midnight and early morning. Ordinarily, a rectal reading of 100.4 degrees Fahrenheit (38 degrees Celsius) and higher indicates fever. When other sites are used for temperature taking, such as oral, tympanic (ear), and temporal artery (side of forehead), you should still generally use 100.4 degrees or more as the cutoff for a true fever, while axillary (underarm) measurements may have a lower cutoff. A rectal reading is the gold standard for infants, especially those under 3 months of age. Whenever you think your child has a fever, take their temperature with a thermometer. (See *Best Ways to Take a Temperature* on page 637.) Feeling the skin (or using temperature-sensitive tape, also referred to as "fever strips") is not accurate, especially when the child is experiencing a chill.

By itself, fever is *not* an illness. Rather, it is a sign or symptom of sickness. In fact, usually it is a positive sign that the body is fighting infection. Fever stimulates certain defenses, such as the white blood cells, which attack and destroy invading bacteria and viruses. The fever may be important in helping your child fight the infection. However, fever is often associated with discomfort. It increases their need for fluids and makes their heart rate and breathing rate faster.

Fever may accompany any infection. This includes respiratory illnesses such as croup or pneumonia, ear infections, influenza (flu), colds, and sore throats. Fever may occur with infections of the bowel, blood, urinary tract, or brain and spinal cord (meningitis), and with most viral illnesses.

In children between 6 months and 5 years, fever can rarely trigger seizures (febrile seizures are also called febrile convulsions). These febrile

seizures tend to run in families and usually happen during the first few hours of a febrile illness. Children may look "peculiar" for a few moments, then stiffen, twitch, and roll their eyes. They will be unresponsive for a short time, and their skin may appear to be a little darker than usual during the episode. The entire febrile seizure usually lasts less than one minute, and may be over in a few seconds, but it can seem like a lifetime to a frightened parent. Although it is uncommon, a febrile seizure can last for up to fifteen minutes. It is reassuring to know that febrile seizures almost always are harmless—they do not cause brain damage, nervous system problems, paralysis, intellectual disability, or death—although they should be reported promptly to your pediatrician. If your child is having trouble breathing or the febrile seizure does not stop within fifteen minutes, call 911.

Children younger than 1 year old at the time of their first simple febrile seizure have approximately a 50 percent chance of having another such febrile seizure, while children over 1 year of age when they have their first febrile seizure have about a 30 percent chance of having a second one. Nevertheless, febrile seizures rarely happen more than once within a twenty-four-hour period. Although many parents worry that a febrile seizure will lead to epilepsy, keep in mind that epileptic seizures are not caused by a fever, and children with a history of fever-related seizures have only a slightly higher likelihood of developing epilepsy by age 7. Ironically, working extra hard to control fevers does not prevent future febrile seizures, so do not go to extremes trying to keep a child's temperature down just because they had had a febrile seizure in the past.

Treating a Febrile Seizure (Convulsion)

If your child has a febrile seizure, take the following steps immediately to prevent injury:

- Place them on the floor or bed away from any hard or sharp objects.
- Turn their head to the side so that any saliva or vomit can drain from their mouth.
- Do not put anything into their mouth; they will not swallow their tongue.
- Call your pediatrician.

- Call 911 if the febrile seizure lasts longer than five minutes.

What Type of Thermometer Is Best?

The American Academy of Pediatrics does *not* recommend mercury thermometers because these glass thermometers may break, and as their mercury vaporizes it can be inhaled, resulting in toxic exposure. Digital electronic thermometers are better choices.

- *Digital devices* can measure temperatures in your child's mouth, armpit, or rectum. As with any device, some digital thermometers are more accurate than others. Follow the manufacturer's instructions carefully and be sure the thermometer is calibrated as recommended by the manufacturer.
- *Ear (tympanic) thermometers* are another acceptable choice. Their accuracy depends on the ability of the beam emitted by the device to reach the eardrum. Thus, some of these devices may not be as reliable because of earwax or a small or curved ear canal. For that reason, most pediatricians prefer that parents use digital electronic thermometers.
- *Temporal artery thermometers* are also available. They use an infrared scanner to determine the temperature of the temporal artery, which runs across the forehead just below the skin. They are most useful in children 3 months and older, although recent research shows that they are reliable in babies younger than 3 months as well. They also are simple to use, even while your child is asleep.

BEST WAYS TO TAKE A TEMPERATURE

There are several ways to take your child's temperature. A digital thermometer (which shows the temperature in numbers in a small window) reads the body temperature when its sensor, located in the tip of the thermometer, touches the part of the body where it is used—in the mouth, under the arm, or in the rectum. A tympanic (ear) thermometer or a temporal artery thermometer can also be used. (See page 636 for more information about different types of thermometers.) Whatever approach you use, clean the thermometer as directed—usually with lukewarm soapy water or rubbing alcohol—before each use, and then rinse with cool water. There's no need to add or subtract a degree depending on the device used or how the temperature was taken.

Here are some other guidelines to keep in mind:

- To take the temperature in your child's bottom (rectally), turn on the digital thermometer and then put a small amount of lubricant, such as petroleum jelly, on the end of the thermometer that will be inserted into your baby. Place your child across your lap or on something firm, either face-up or face-down (if they're face-down, put one hand on their back; if they're face-up, bend your child's leg to their chest, resting your free hand on the back of their thighs). Then gently insert the small end of the thermometer into your child's bottom (or rectum), putting it in about ½ inch to 1 inch (1–2 cm). Hold the thermometer in place for about one minute or until the device signals that it's done (by beeping or lighting up). Remove it and read the number.
- Taking a rectal or oral temperature is more accurate than taking it under your child's arm. Also, in your household, label one digital thermometer "oral" and another one "rectal." Don't use the same thermometer in both places.
- At ages 4 to 5 years old, you also can take your child's temperature by placing the thermometer in their mouth (orally). After turning on the thermometer, place the small end under your child's tongue, toward the back of their mouth. Ask them to close their mouth around the thermometer and hold it in place. After about a minute, you should hear the thermometer beep or see it light up. Remove it and read the number.
- Tympanic (ear) and temporal artery (side of forehead) thermometers are increasingly popular among parents and healthcare providers, and appear to be quite accurate when used correctly.

WHEN TO CALL THE PEDIATRICIAN

If your child is 3 months or younger and has a rectal temperature of 100.4 degrees Fahrenheit (38 degrees Celsius) or higher, call your pediatrician immediately. *This is an absolute necessity.* The doctor will need to examine the baby to rule out any serious infection or disease.

You also may need to notify the doctor if your child is between 3 and 6 months and has a fever of 101 degrees Fahrenheit (38.3 degrees Celsius) or greater or is older than 6 months and has a temperature of 103 degrees Fahrenheit (39.4 degrees Celsius) or higher. Such a high temperature may indicate a significant infection or dehydration, which may require treatment. However, in most cases, your decision to call the pediatrician for an older child's fever should depend on associated symptoms, such as a sore throat, earache, cough, unexplained rash, or repeated vomiting or diarrhea. Also, if your child is very fussy or sleeping more than usual, call your doctor. In fact, your child's activity level tends to be a more important indicator than the height of the fever. Again, fever in and of itself is not a sickness; it is a sign of sickness.

If your child is over 1 year of age, is eating and sleeping well, and has playful moments, there usually is no need to call the doctor immediately. If a high fever (as defined earlier) persists for more than twenty-four hours, however, it is best to call even if there are no other complaints or findings.

If your child becomes delirious (acts frightened, "sees" objects that are not there, talks strangely) while they have a high fever, call your pediatrician, particularly if this has not occurred before. These unusual symptoms probably will disappear when the temperature returns to normal, but the doctor may want to examine your child and determine that the symptoms are not caused by something more serious, such as an inflammation of the brain (encephalitis) or of the membranes covering the brain and spinal cord (meningitis).

HEAT-RELATED ILLNESS

A rare but serious problem that is easily confused with fever is heat-related illness, or heatstroke. This is caused not by infection or internal conditions, but by surrounding heat. It can occur when a child is in a very hot place—for example, a hot beach in midsummer or an overheated closed car on a summer day. Leaving children unattended in closed cars is the cause of several deaths a year; *never* leave an infant or child unattended in a closed car, even for a few minutes. Heatstroke also can occur if a baby is overdressed in hot, humid weather. Under these circumstances, the body temperature can rise to dangerous levels (above 105 degrees Fahrenheit [40.5 degrees Celsius]), which must be reduced quickly by removing some of the clothing, cool-water sponging, fanning, and removal to a cool place. Call 911. Children experiencing heatstroke must be taken to the emergency department right away. Heatstroke is an emergency condition.

HOME TREATMENT

Fevers generally do not need to be treated with medication unless your child is uncomfortable. Even higher temperatures are not in themselves dangerous or significant unless your child has a chronic disease. If your child has a history of a fever-related seizure, treating the fever with medication has not been shown to be an effective strategy to prevent this kind of febrile seizure. It is more important to watch how your child is behaving. If they are eating and sleeping well and have periods of playfulness, they probably don't need any treatment. You should also talk with your pediatrician about when to treat your child's fever. A good time to do this is at well-child visits. When

your child has a fever and seems to be quite bothered by or uncomfortable from it, you may treat it with the following approaches.

Medication

Several medications can reduce body temperature by blocking the mechanisms that cause a fever. These antipyretic agents include acetaminophen, ibuprofen, and aspirin. All three of these over-the-counter drugs appear to be equally effective at reducing fever. **However, because aspirin may cause or be associated with Reye syndrome, the American Academy of Pediatrics does not recommend using aspirin to treat a fever in children.** Acetaminophen can be given without a doctor's advice once your child is older than 3 months, and ibuprofen can be given to children older than 6 months of age. However, if your child has a disease affecting their liver, ask your doctor if acetaminophen is safe to use. Similarly, if your child has kidney disease, an ulcer, or other chronic illness, ask your doctor first if ibuprofen is safe. If your child is dehydrated or vomiting, ibuprofen should be given only under the supervision of a doctor due to risk of kidney damage.

Ideally, the doses of acetaminophen and ibuprofen should be based on a child's weight, not age. (See the dosage charts on page 640.) However, the dosages listed on the labels of acetaminophen bottles (which usually are calculated by age) are generally safe and effective unless your child is unusually light or heavy for their age. Keep in mind that at too-high doses of acetaminophen, a toxic response in the liver can develop, although it happens only rarely. When a toxic reaction does occur, the symptoms may include nausea, vomiting, and abdominal discomfort.

As a general guideline, read and follow the instructions on the manufacturer's label when using *any* medication. Following the instructions is important to ensure that your child receives the proper dosages, and only use the measuring device that comes with the medication you are using. Also, other over-the-counter medications, such as cold and cough preparations, may contain acetaminophen, and using more than one acetaminophen-containing product can result in a dangerously high dosage; read all medication labels to ensure that your child is not receiving multiple doses of the same medicine. Also, as a general rule, do not give a child under

3 months old either acetaminophen or any other medication without the advice of your pediatrician.

ACETAMINOPHEN DOSAGE CHART

Dosages may be repeated every four hours but should not be given more than five times in twenty-four hours. (*Note:* Use only a syringe or accurate measuring device that measures in milliliters [ml], not household teaspoons, which can vary in size.) Be sure to read the label to make sure you are using the right product.

Age*	**Weight****	**Infant/Children's Oral Suspension (160 mg per 5 ml)**
6–11 mos.	12–17 lbs. (5.5–7.7 kg)	2.5 ml
1–2 yrs.	18–23 lbs. (8.2–10.5 kg)	3.75 ml
2–3 yrs.	24–35 lbs. (10.9–15.9 kg)	5 ml
4–5 yrs.	36–47 lbs. (16.3–21.4 kg)	7.5 ml

* Age is provided as a convenience only. Dosing for fever should be based on current weight.

** Weight given is representative of the age range.

IBUPROFEN DOSAGE CHART

Dosages may be repeated every six to eight hours but should not be given more than four times in 24 hours. (*Note:* Use only a syringe or accurate measuring device that measures in milliliters [ml], not household teaspoons, which can vary in size.) Be sure to read the label to make sure you are using the right product.

Age*	**Weight****	**Infant Drops (50 mg per 1.25 ml)**	**Children's Suspension (100 mg per 5 ml)**
6–11 mos.	12–17 lbs. (5.5–7.7 kg)	1.25 ml	2.5 ml
1–2 yrs.	18–23 lbs. (8.2–10.5 kg)	1.875 ml	3.75 ml
2–3 yrs.	24–35 lbs. (10.9–15.9 kg)	2.5 ml	5 ml

* Age is provided as a convenience only. Dosing for fever should be based on current weight.

** Weight given is representative of the age range.

Aspirin should only be used in special circumstances as recommended by your pediatrician for specific rare conditions.

Some parents have tried alternating between giving acetaminophen and ibuprofen when their child is running a fever. This approach, however, can

theoretically cause medication errors—"Which medicine am I supposed to give him next?"—and could lead to potential side effects. So if your child is uncomfortable with a fever, choose which medicine to give, and then give it according to the dosing recommendations and only if your child still needs it. Either ibuprofen or acetaminophen is effective in reducing fever and making your child feel better. Always consult your doctor before changing the dose schedule or using these medicines in combination.

Also keep in mind that over-the-counter cough and cold medicines should *not* be given to infants and children under 6 years of age because of potentially serious side effects. Furthermore, studies have shown that these cough and cold products are not effective in treating the symptoms of young children and may even pose health risks.

Other Treatment Suggestions for Fever

- Keep your child's room and your home comfortably cool, and dress them lightly.
- Encourage them to drink extra fluid or other liquids (water, diluted fruit juices, commercially prepared oral electrolyte solutions, soup, Popsicles, etc.).
- If the room is warm or stuffy, place a fan nearby to keep cool air moving.
- Your child does not have to stay in their room or in bed when they have a fever. They can be up and about the house but should not run around and overexert themselves.
- If the fever is a symptom of a highly contagious disease (e.g., chickenpox or the flu), keep your child away from other children, elderly people, or people who may not be able to fight infection well, such as those with cancer.
- Avoid cold baths or using rubbing or other alcohol to bring down the temperature. These measures can cause low body temperature (hypothermia), which is dangerous, as opposed to the fever itself, which is not. In addition, alcohol and other substances can be absorbed through your child's skin and lead to dangerous poisoning or intoxication.

CHAPTER 31

Genital and Urinary Systems

Blood in the Urine (Hematuria)

If your child's urine has a red, orange, or brown color, it may contain blood. When the urine specifically contains red blood cells, doctors use the medical term "hematuria" to describe this condition. Many things—such as a physical injury, inflammation, or an infection in the urinary tract or kidney—can cause it. Hematuria also is associated with some general medical problems, such as defects of blood clotting, hereditary conditions, or immune system abnormalities.

Sometimes there may be such small amounts of blood in the urine that you cannot see any color change, although it may be detected by a urine test performed by the pediatrician. In some cases, the reddish color is not associated with hematuria at all, and may be due to something your child has eaten or swallowed. Beets, blackberries, red food coloring, phenolphthalein (a chemical sometimes used in laxatives), Pyridium and phenazopyridine (medicines used to relieve bladder pain), and rifampin (a medication used to treat tuberculosis) may cause the urine to turn red or orange. Newborns will also sometimes have a red-orange powdery-looking substance in their diaper called urate, but usually only in the first few days after birth. Anytime you are not certain that one of these substances is responsible for the change in the color of your child's urine, call your pediatrician. When blood in the urine is accompanied by protein (albumin), it is usually due to nephritis, or inflammation of the filtering membranes of the kidney. Your doctor may recommend further tests to distinguish among several different kinds of nephritis.

TREATMENT

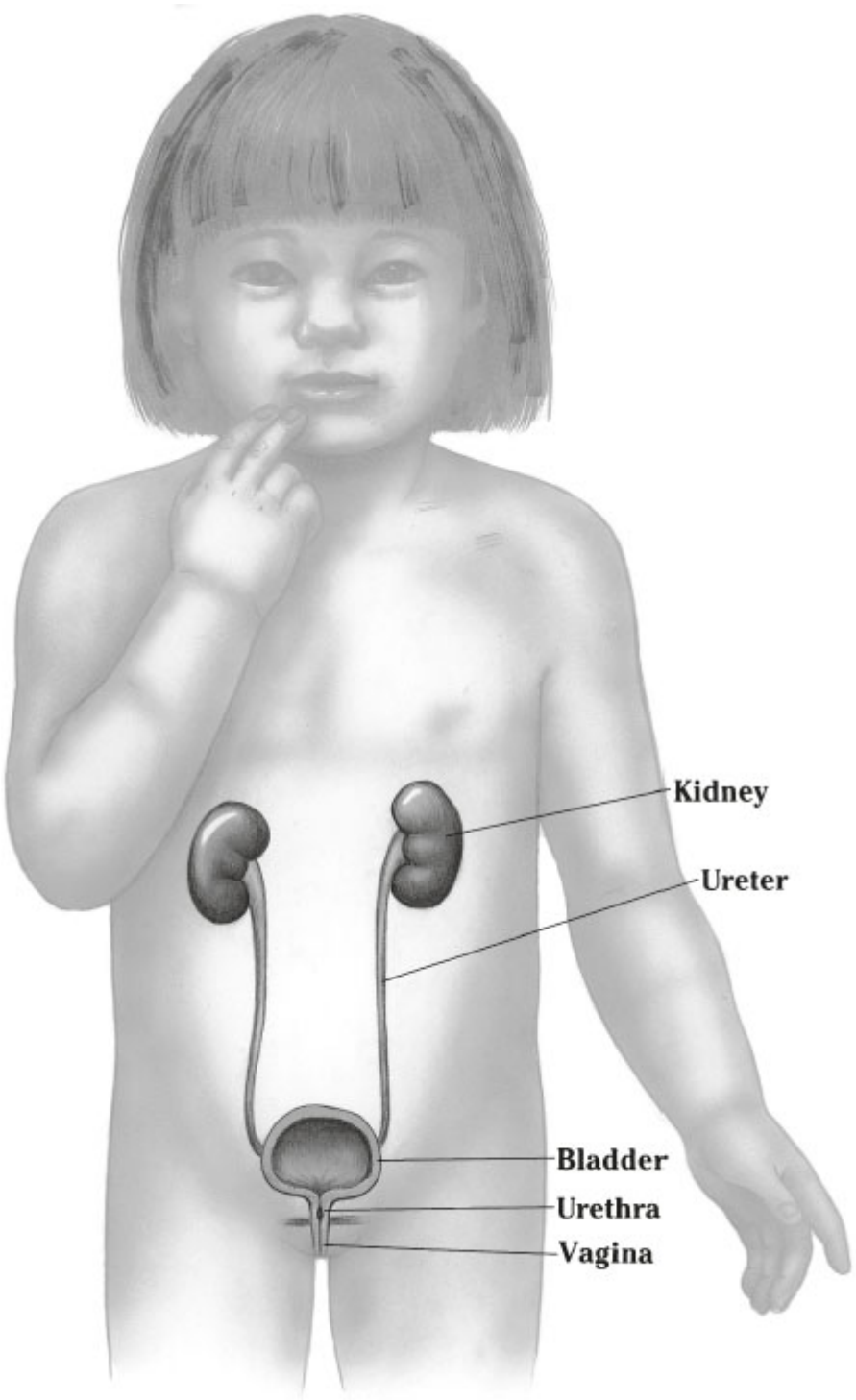
Your pediatrician will ask you about any possible injury, foods, or health symptoms that might have caused the change in urine color. Helpful information may include the presence or absence of pain with urination that could indicate a urinary tract infection. The color of the urine (bright red versus brown) as well as the timing of blood in the urine stream can help to localize where in the urinary tract blood is coming from (i.e., blood throughout the whole stream, versus just at the end of the stream). Your pediatrician will perform a physical exam, checking particularly for any increase in blood pressure, tenderness in the kidney area, or swelling (particularly of the hands or feet or around the eyes) that might indicate kidney problems. They also will conduct tests on a sample of urine and may order blood tests or imaging studies (such as an ultrasound scan or X-rays) or perform other examinations to check your child's kidneys, bladder, and immune system. If none of these reveals the cause of the hematuria and it continues to occur, your pediatrician may refer you to a children's kidney specialist, who will perform additional tests. (Sometimes these tests include examining a tiny piece of kidney tissue under the microscope, a procedure known as a biopsy. This tissue may be obtained by surgery or by performing what's called a needle biopsy.)

Once your pediatrician knows more about what is causing the hematuria, a decision can be made about whether treatment is necessary. Often no treatment is required, indicating that there is nothing to worry about. Occasionally medication is used to suppress the inflammation that is the hallmark sign of nephritis. Whatever the treatment, your child will need to return to the doctor regularly for repeat urine and blood tests and blood pressure checks. This is necessary to make sure that they aren't developing chronic kidney disease, which can lead to kidney failure.

Occasionally hematuria is caused by kidney stones, high urine calcium levels, irritation of the urethra (urethritis), or, rarely, by an abnormality of the urinary tract that could require surgery. If this is the case, your pediatrician will refer you to a pediatric urologist (a bladder and kidney surgeon) who can perform such procedures.

Proteinuria

A child's urine sometimes contains abnormally high amounts of protein. The body needs proteins to perform essential functions, such as guarding against infections and helping the blood to clot, and only a minimal amount of these proteins should leak into the urine. If high amounts of protein are detected in the urine, this may indicate that the kidneys are not working properly and are allowing proteins (which are large molecules) to leak out into the urine. This leakage of protein may be due to various abnormalities of the kidney's filtering membranes.



Genitourinary system

DIAGNOSIS

Proteinuria often causes no symptoms. But when high levels of protein are in the urine, blood protein levels may drop, and your child could develop

swelling in the legs, ankles, genital region, abdomen, or eyelids. The blood pressure may be elevated, another sign of likely kidney disease. Your pediatrician can detect proteinuria using a simple test in which a chemically treated paper strip is dipped into the urine and will change colors if protein is present. They may recommend that you collect urine samples from your child just after awakening in the morning (if the proteinuria disappears, the condition is benign or normal), that the urine specimens be examined in the laboratory, or that your child have some blood tests. In some children, a small amount of protein may be found in the urine for a short time and later disappear without any consequences.

At times, your pediatrician may decide to have your child seen by a kidney specialist (nephrologist), who might recommend further testing that could include a kidney biopsy. During a kidney biopsy, a needle is used to remove a small amount of kidney tissue for examination in the laboratory. Your child will be sedated for this procedure and the area over the kidney will be made numb by injecting a local anesthetic.

TREATMENT

Medication can be given to treat some underlying kidney problems associated with proteinuria. Your pediatrician might recommend that your child consume less salt, to decrease the swelling associated with proteinuria. Children who have had proteinuria, even if it appears to be one of the harmless varieties, probably will be monitored over time with regular urine tests.

Circumcision

Circumcision is a common procedure performed in many male infants. It involves removing the foreskin covering the tip of the penis. There are benefits and risks to circumcision, and you should discuss them with your pediatrician or obstetrician and your spouse or partner before your baby is born. Although it is not routinely recommended for all male newborns, there may be cultural, religious, medical, and other reasons you may decide that it is appropriate for your child. Circumcision is discussed in detail on pages 15–16. The choice to circumcise or not to circumcise is completely

that of the parent, as circumcision is not necessary to have a healthy child; however, current data has shown that the medical benefits at least balance and may outweigh the risks.

Hydronephrosis

Hydronephrosis is a condition in which there is dilation of the kidney that can be seen on an ultrasound. This can be caused by a structural difference in your child's urinary tract or by something temporary, like a kidney stone.

DIAGNOSIS

Most children with hydronephrosis do not have pain. This condition is usually found on a prenatal ultrasound (in 1 to 3 percent of all pregnancies), but it can also be diagnosed in children who get a kidney ultrasound because of abdominal pain or recurrent UTIs.

Hydronephrosis that is diagnosed prenatally has three primary causes:

1. *Transient/physiologic hydronephrosis.* This problem goes away on its own over time without causing any problems for your baby or child. This is the most common cause of hydronephrosis diagnosed prenatally.
2. *Vesicoureteral reflux.* This is an abnormal backflow of urine from the kidneys to the bladder. It doesn't cause symptoms in many children but can increase the risk for UTI and even cause kidney damage in some cases.
3. *Obstruction.* Some babies are born with a block in the urinary tract (like posterior urethral valve) that can cause backup of urine into the kidney. This can increase the risk for UTIs and cause kidney damage over time.

Some causes of hydronephrosis, such as a kidney stone, may cause pain in the back, abdomen, or groin. A pediatric urologist or nephrologist may order other blood or imaging tests to identify the causes of hydronephrosis.

TREATMENT

Mild cases of hydronephrosis can be watched and may improve as your child grows older without causing any problems. Your child may need to see

a pediatric urologist or nephrologist and have an occasional kidney ultrasound to monitor the kidneys. More severe cases may require more frequent ultrasounds, other tests, or surgery.

Hypospadias and Chordee

In male babies, the opening through which urine passes (the urethral meatus) is located at the tip of the penis. A condition known as hypospadias is an abnormality in penile development, in which this opening is on the underside of the penis. There also may be an abnormal downward bending of the penis called chordee, which may cause sexual problems in adulthood. The meatus may direct the urinary stream downward and cause the stream to spray, making standing to urinate difficult or impossible.

TREATMENT

After detecting hypospadias or chordee in your newborn, your pediatrician probably will advise against circumcision until after consultation with a pediatric urologist or surgeon. This is because the foreskin may be used for future surgical repair, and circumcision may make that repair more difficult.

Mild hypospadias may require no treatment, but treatment for moderate or severe forms may include surgical repair. Most children with hypospadias undergo outpatient surgery after 6 months of age, but each family should decide for themselves if the risks of anesthesia and surgery are in the best interests of their child. It may help to discuss with a multidisciplinary health team, and other families or older patients who have been through similar surgeries, to consider timing and impact of each procedure. Often, hypospadias and chordee can be repaired in conjunction with circumcision in one procedure. In severe cases, more than one operation may be needed to repair the condition completely. Surgery can impact appearance of the penis, urinary stream, and adult sexual functioning. The goal of surgery is to allow your child to urinate normally, have normal sexual function as an adult, and have an acceptable cosmetic result.

Kidney Stones

Although kidney stones are rare in children, rates have been increasing over the last few decades. Dehydration is a leading cause of kidney stones, but they can also occur in children with a family history of kidney stones or children taking certain medicines.

DIAGNOSIS

There can be blood in the urine or pain with kidney stones. Kidney stones themselves do not cause pain, but they can cause a blockage in the urinary system (like a clogged drain) that prevents urine from draining. This causes a pressure buildup that can cause pain in the back, abdomen, or groin. There can also be loss of appetite or vomiting that comes with the pain. In more serious cases, fever can occur in children with a kidney stone and UTI.

Imaging of the kidneys and bladder (like ultrasound or CT scan) can help identify these stones. Blood and urine tests may also be collected to check for signs of dehydration or infection.

TREATMENT

Most children with a kidney stone do not need to be hospitalized. Children may be able to pass the stone with medication and increased hydration. You may be given a strainer for your child's urine to catch any kidney stones or stone pieces so that they can be studied to see what they are made of.

More severe symptoms may require hospitalization or surgery. These include fever, loss of appetite and vomiting that limit your child's fluid intake, or pain that cannot be managed with acetaminophen or ibuprofen. Kidney stones that are larger and those that occur with a UTI may require surgery.

PREVENTION

The best prevention for kidney stones is drinking water. A pediatric urologist or nephrologist may collect urine to see whether special diet changes or medications can help prevent kidney stones.

Labial Adhesions

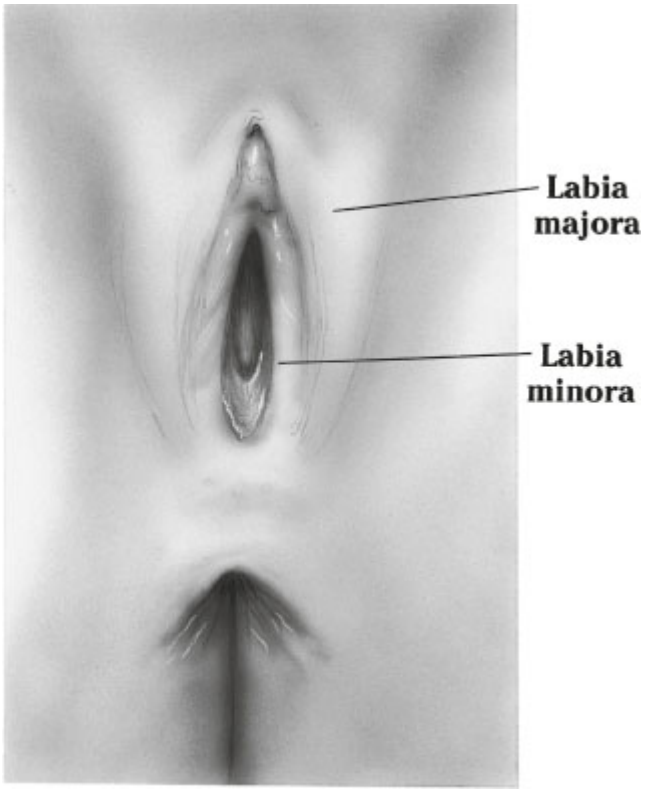
Ordinarily the lips of skin (labia) surrounding the entrance to the vagina and urethra are separated. Sometimes they grow together to partially or completely block the opening. This condition, called labial adhesions (sticking together of labia), may occur in the early months after birth or later on if there is constant irritation and inflammation in the diaper area. Usually, labial adhesions do not cause symptoms, but sometimes they can lead to difficulty with urination and increase a child's susceptibility to urinary tract infections. If the vaginal opening is significantly blocked, urine and/or vaginal secretions will sometimes build up behind the obstruction.

TREATMENT

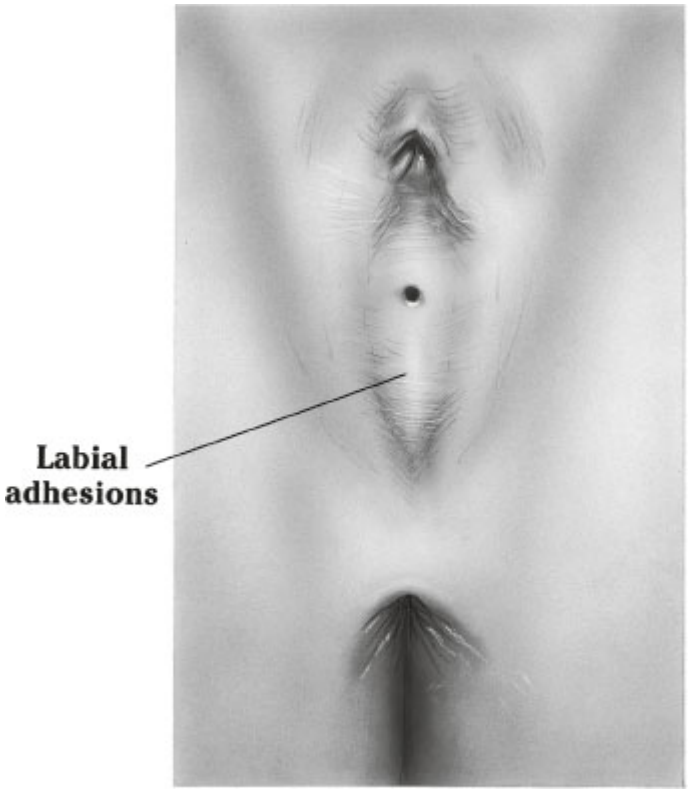
If the opening of your child's vagina appears to have closed or looks partially blocked, notify your pediatrician. They will examine your child and advise you whether any treatment is necessary. Most such adhesions require no treatment and resolve on their own as the child gets older. In general, if your child is not having symptoms like dribbling incontinence (wetting) after urination or urinary tract infections, no treatment is needed.

Treatment options for labial adhesions include watchful waiting or observation, treatment with estrogen cream applied a few times daily at home, or manual separation of the adhesions in the office or the operating room with the use of numbing medication.

If estrogen cream is needed, your doctor will instruct you on exactly how and where to apply the cream. Good hygiene, such as giving your child daily sitz baths, is also important in the treatment and prevention of labial adhesions. You may want to apply a lubricant like petroleum jelly along the edges to prevent them from sticking back together. It is important to keep in mind that the estrogen cream may result in temporary changes in the appearance of the hymen (tissue at the opening of the vagina) or withdrawal bleeding (like a period). These will resolve after discontinuation of the estrogen cream. As the adhesion opens up, the area may take on a bruised appearance that can be mistaken for trauma. This also will go away.



Normal labia



Labia with adhesions

Meatal Stenosis

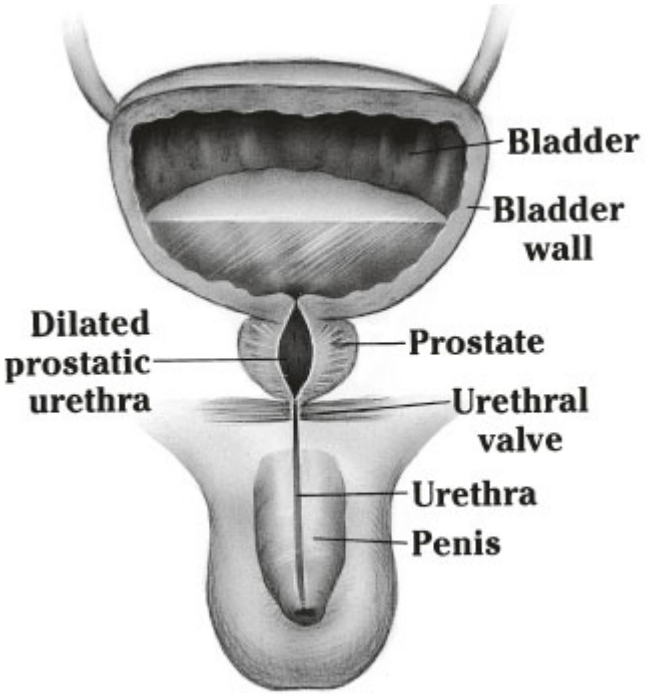
Sometimes, particularly in those who are circumcised, irritation of the tip of the penis causes scar tissue to form around the urethral meatus, making it smaller. This narrowing, called meatal stenosis, may develop at any time during childhood, but is most commonly found between ages 3 and 7. Children with meatal stenosis have a narrowed and abnormally directed urinary stream. The stream is directed upward (toward the ceiling), making it difficult to urinate into the toilet without pushing the penis down between the legs. Your child may take longer to urinate and have difficulty emptying their bladder completely.

TREATMENT

If you notice that your child's urinary stream is very small or narrow or is difficult to aim in the toilet, if they strain to urinate, or if they dribble or spray urine, discuss it with your pediatrician. Meatal stenosis is not a serious condition, but it should be evaluated to see if it needs treatment. If an operation is needed, this surgery is very minor. Your child will have some minor discomfort after the procedure, but this should disappear after a very short period.

Posterior Urethral Valve

Urine leaves the bladder through a tube called the urethra. For boys, the urethra passes through the penis. Rarely, a small membrane forms across the urethra early in pregnancy, and it can block the flow of urine out of the bladder. This problem, posterior urethral valve, can have life-threatening consequences by causing blockage of normal urine flow, thus interfering with development of the bladder and kidneys. If there is abnormal kidney development in utero, there can also be abnormal development of the lungs.



The severity of posterior urethral valve can vary widely. Most cases are diagnosed before birth with a screening ultrasound. This condition may be suspected in pregnancies with boys if there appears to be a decrease in the amount of amniotic fluid. Consulting a pediatric urology specialist is always advisable before the baby is born. In boys who are not diagnosed before birth with posterior urethral valve, sometimes the newborn exam may reveal that the baby's bladder is distended and enlarged. Other warning signals include a continual dribbling of urine and a weak stream during urination. Sometimes, posterior urethral valve is diagnosed in the first year when the boy develops a urinary tract infection with fever and poor feeding. If you notice these symptoms, notify your pediatrician at once.

Posterior urethral valve requires immediate medical attention to prevent serious urinary tract infections and damage to the kidneys. The urine can back up through the ureters (the tubes between the bladder and the kidneys), creating pressure that can damage the kidneys.

TREATMENT

If your child has posterior urethral valve, your pediatrician may pass a small tube (catheter) into the bladder to relieve the obstruction temporarily and

allow the urine to flow out of the bladder. They will obtain imaging of the bladder and kidneys. Your pediatrician will consult with a pediatric urologist, who may recommend surgery to remove the obstructing valve and prevent further infection or damage to the kidneys or urinary system. Bloodwork will be done to look at the level of kidney function, and a pediatric nephrologist will likely be consulted as well. Some children with posterior urethral valve retain normal kidney function, but some children may require dialysis or kidney transplantation.

Testicular Torsion

Testicular torsion is a rare but serious event in which the testicle twists and cuts off its blood supply. This puts the testicle at risk for permanent damage. This can happen in boys of all ages, even before a baby is born. The cause of testicular torsion is not known.

DIAGNOSIS

The most common symptom of testicular torsion is sudden, severe pain of the testicle. Younger children can have a harder time expressing their pain and may complain only of abdominal pain. The testicle may be firm and tender, and the scrotum may be enlarged. If a child is complaining of testicular/scrotal pain that lasts longer than 30 minutes, they should be seen urgently in the emergency department. An ultrasound of the scrotum and testicles may be used to check for blood flow to the testicle.

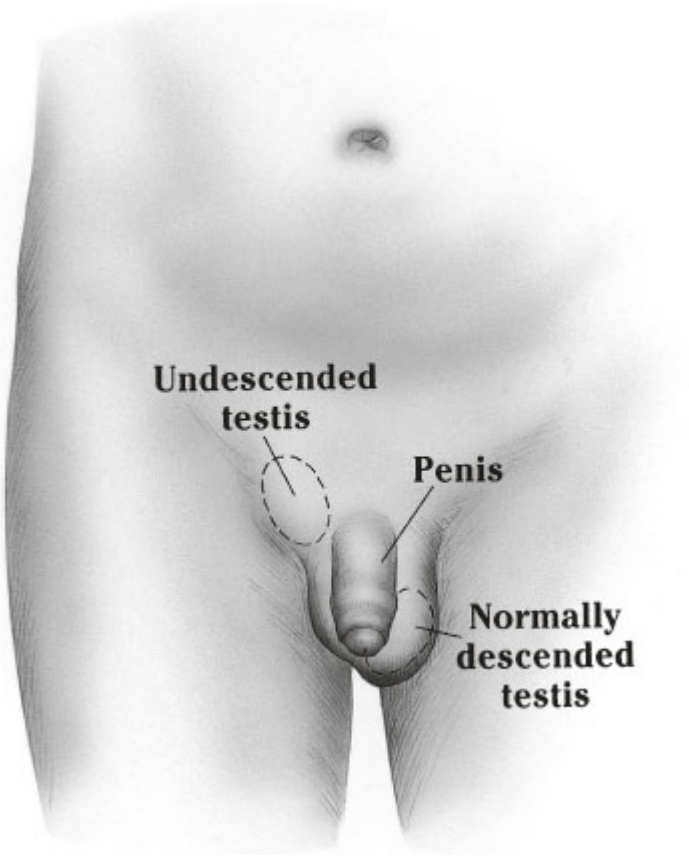
TREATMENT

The treatment for testicular torsion is an urgent surgery to untwist the testicle. Once the testicle is untwisted, both testicles may be anchored in the scrotum with stitches to lower the chances of either testicle twisting again. Unfortunately, the testicle may need to be removed if it was twisted for a prolonged period and does not survive.

Undescended Testicles (Cryptorchidism)

During a pregnancy, a boy's testes develop in their abdomen. As they near birth, the testes descend through a tube (the inguinal canal) into the scrotum. In a small number of boys, especially those who are premature, one or both testicles fail to descend by the time of birth. In many of these boys, descent will occur during the first few months after birth. In some, however, this does not happen.

Most boys will have a normal retraction of the testes under certain situations, such as while sitting in cold water (i.e., the testes "disappear" temporarily up into the inguinal canal) or when being examined by your pediatrician. However, in general, when the child is warm and relaxed, testes should be low in the scrotum. The cause of most cases of undescended testicles is unknown.



If your child has undescended testicles, their scrotum may be small and appear underdeveloped. If only one testicle is undescended, the scrotum may look asymmetrical (full on one side, empty on the other). If the testicles

sometimes are in the scrotum and at other times (e.g., when the child is cold or excited) are absent and located above the scrotum, they are said to be retractile. This condition usually self-corrects as a child grows older.

Rarely, the undescended testicle may be twisted, and in the process, its blood supply may be stopped, causing pain in the inguinal (groin) or scrotal area. If this situation is not corrected, the testicle can be damaged severely and permanently. If your child has an undescended testicle and complains of pain in the groin or scrotal area, call your pediatrician immediately. Undescended testicles should be reevaluated at each regular checkup. If they do not descend into the scrotum by 6 months of age, treatment should be considered. The diagnosis is made by physical exam, and imaging studies like ultrasound may or may not be needed.

TREATMENT

Undescended testicles are treated with surgery to bring the testicle into the proper location in the scrotum. Many children with true undescended testes will also have an inguinal hernia (see page 447), and the hernia will be repaired at the same time that the undescended testis is surgically moved to the scrotum. If your child's undescended testicle is allowed to remain in that position for more than 2 years, they may have a higher-than-average risk of being unable to have biological children (infertility). This is especially true if both testes are undescended. Undescended testes are also at higher risk of developing testicular tumors in adult life. The risk is small but is still present even after the testis is surgically brought into the scrotum. Therefore, it is important that children with an undescended testis be taught the importance of testicular self-exam when they are going through puberty.

Urinary Tract Infections

Urinary tract infections are common among young children, particularly girls. They generally are caused by bacteria that enter through the urethra. In infants they may also rarely be caused by bacteria carried through the bloodstream to the kidneys from another part of the body. As the bacteria move through the urinary tract, they may cause an infection in various

locations. Urinary tract infection (UTI) is a general term used for all the following specific infections:

- *Cystitis:* infection of the bladder
- *Pyelonephritis:* infection of the kidney
- *Urethritis:* infection of the urethra

The bladder is the area most commonly infected. Usually, cystitis is caused by bacteria that get into the urinary tract through the urethra. The urethra is very short in girls, so bacteria that live on the skin, in the colon, and in the vagina can get into the bladder easily. Fortunately, these bacteria normally wash out when urinating.

Cystitis can cause lower abdominal pain, vomiting, tenderness, pain during urination, frequent urination, blood in the urine, recurrence of day- or nighttime wetting in a previously toilet-trained child, and a low-grade fever. Infection of the kidneys (pyelonephritis) will cause more general abdominal pain and a higher fever, but it may or may not cause frequent and painful urination. In general, urinary tract infections in infants and young children (up to 2 years of age) may have few recognizable signs or symptoms other than a fever; they also have a greater potential for causing kidney damage than those occurring in older children.

Urinary tract infections must be treated with antibiotics as quickly as possible, so you should notify your pediatrician promptly if you suspect your child has developed one. This is especially the case for infants, in whom an unexplained high fever (that is, not explained by a respiratory infection or diarrhea) may be the only indicator of a urinary tract infection. If your infant has a fever with no other symptoms for more than three days, make sure to talk to your pediatrician, as an evaluation may be indicated.

DIAGNOSIS/TREATMENT

When a urinary tract infection is suspected, particularly in a child with symptoms, your pediatrician will measure their blood pressure (since an increase in blood pressure can be a sign of a related kidney problem) and examine them for lower abdominal tenderness that might indicate a UTI. An examination of the genitals may be performed to rule out a yeast

infection or genital irritation. Your doctor will want to know what your child has been eating and drinking, because certain foods can irritate the urinary tract, causing symptoms similar to those of an infection. Constipation (infrequent or hard-to-pass stools) can also cause symptoms similar to those of a UTI.

Your pediatrician also will want a urine sample from your child for analysis. In infants and toddlers who are not toilet trained, the pediatrician may start with a special bag over the genitals designed to catch urine. If this urine appears possibly infected, however, then urine must be collected by using a catheter to confirm the diagnosis. In toilet-trained children, the urine can be collected by the "clean catch" method. First, you'll use soap and water or special wipes provided by your pediatrician to cleanse the urethral opening (with an uncircumcised penis, hold the foreskin back). Then allow your child to start to urinate, but wait just a moment before you start to collect the sample in the special container provided by the doctor. In this way, any bacteria around the outside of the urethral opening will be washed away by the early urine voided and won't contaminate the specimen. In rare cases, a doctor may perform a suprapubic tap, in which a small needle is inserted through the skin of the lower abdomen into the bladder. The urine that is collected will be examined for any sign of blood cells or bacteria, and special tests (cultures) will be done to identify the bacteria. An antibiotic will be started if an infection is suspected, although depending on what the results of the culture show, the particular antibiotic may need to be changed.

In agreement with guidelines for the treatment of UTI in infants and children (up to age 24 months), your pediatrician may prescribe antibiotics for a total of seven to fourteen days. Prompt treatment is important to eliminate the infection and prevent its spread, and also to reduce the chances of kidney damage. **It is important to take the full course of antibiotics, even if the discomfort resolves after a few days of treatment.** Otherwise, the bacteria may grow again, causing further infection and more serious damage to the urinary tract.

The American Academy of Pediatrics recommends that imaging tests (such as ultrasound, X-rays, or renal scans) may be done in children depending on their age and how many urinary tract infections they have had. Some imaging studies may not be necessary following a first urinary

tract infection if prenatal ultrasound studies have adequately visualized the structure of the infant's urinary tract. Your pediatrician may conduct other tests to check the functioning of the kidneys. If any of these examinations indicate an anatomical abnormality of the bladder, ureters, or kidneys that should be corrected, your doctor will recommend that your child see a pediatric urologist or nephrologist.

Wetting Problems or Enuresis

After your child is toilet trained (usually between ages 2 and 4), it is not uncommon for them to wet the bed at night. This may happen as often as two or three times per week early in this period, and gradually become less and less frequent until it is completely gone at around age 5 in most children. The exact cause of this incontinence (wetting) is not known. The best way to approach it is to consider it as something natural and unimportant, and never to scold or punish your child.

Some children continue to wet at night past the age of 5. When wetting occurs only during sleep, it is called nocturnal (nighttime) enuresis, or bed-wetting. It affects one out of every four children at age 5, one in five at age 7, and about one in twenty at age 10. Boys make up two-thirds of this group, and often there is a family history of bed-wetting (usually in the father). Although the reasons for bed-wetting are not fully understood, it may be related to the time it takes different children to develop control over the nervous and muscular aspects of responding to the sensation of a full bladder during the nighttime. Bed-wetting generally is *not* associated with other physical or emotional problems. It is important to realize that children have no conscious control of their bladders when they are sleeping. Thus, they should never be made to feel that the bed-wetting is something they can consciously control and stop on their own.

A much smaller number of children over age 5 have daytime wetting problems, and an even smaller group is unable to hold their urine both day and night. When incontinence does occur during both day and night, it may signal a more complicated problem with the bladder or the kidneys.

If your child wets at night, here are some possible causes:

- Difficulty waking up when the bladder is full
- Constipation, which can cause extra pressure on the bladder from the rectum
- An abnormality of the spinal cord affecting nerves to the bladder
- An early sign of diabetes mellitus (see page 432), a urinary tract infection (see pages 650–52), or emotional distress caused by an upsetting event or unusual stress—but only if wetting began suddenly after an extended dry period
- Drinking a large amount of fluids or not emptying the bladder right before going to bed

SIGNS OF A PROBLEM

When your child is starting toilet training, they are sure to have "accidents." Therefore, you shouldn't be concerned about wetting until at least six months to a year after the training is successful. Even then, it is still normal for them to have some accidents, but they should decrease in number, so that by six months after toilet training is achieved, they should have only occasional accidents during the day, with perhaps a few more at night. If your child continues to wet frequently, or if you notice any of the following signals, talk with your pediatrician.

- Wet underpants, nightclothes, and bed linens, even when the child regularly uses the toilet
- Unusual straining during urination, a very small or narrow stream of urine, or dribbling after urination
- Cloudy or pink urine, or bloodstains on underpants or nightclothes
- Redness or rash in the genital area
- Hiding underwear to conceal wetting
- Daytime as well as nighttime wetting
- Hard or infrequent stools

TREATMENT

Up to about the age of 5 years, it is perfectly normal for your child to have occasional nighttime wetting or daytime accidents when they are laughing,

engaged in physical activity, or just too busy playing; in these cases, you should not be concerned. Although annoying to you and perhaps embarrassing for your child, these episodes should stop on their own. There probably is no need for a medical investigation. However, your pediatrician will want to know the answers to the following questions:

- Is there a family history of wetting?
- How often does your child urinate, and at what times of the day?
- When do the accidents occur?
- Do accidents happen when your child is very active or upset, or when they're under unusual stress?
- Does your child tend to have accidents after drinking a lot of fluids or eating a lot of salty foods?
- Is there anything unusual about your child's urination or the way their urine looks?

If your pediatrician suspects a problem, they may check a urine sample for signs of a urinary tract infection. If there is an infection, the doctor will treat it with antibiotics, and this may cure the wetting problems. Usually, however, an infection is not the cause.

If there are other indications that wetting is due to more than just slow development of the ability to respond to a full bladder, and the wetting persists well beyond age 5, your pediatrician may request additional tests, such as an X-ray of the abdomen or an ultrasound of the kidneys. If an abnormality is found, the doctor may recommend that you consult a specialist.

If no physical cause can be found in a child who wets and is over 5 years of age, and the wetting is causing significant family disruption, your pediatrician may recommend a home treatment program. The program will vary, depending on whether your child wets during the day or the night.

Home Treatment for Daytime Wetting After Toilet Training

1. *Prevent skin irritation* in the genital area by avoiding harsh detergents or underclothing, as well as bubble-making products in the bathwater. Also,

choose mild soaps for bathing, and apply petroleum jelly to protect the affected areas from further irritation from the water and urine.

2. *Prevent constipation* or treat it if it occurs (see page 429). Sometimes treatment of constipation can completely cure daytime wetting. If your child is having infrequent, difficult-to-pass, or very large bowel movements, they may be constipated.
3. *Try using a timed voiding program,* reminding your child to empty their bladder every few hours rather than waiting until they "have to go"—which by then may be too late. "Potty watches" can be useful tools to help with timed voiding and can be purchased online.
4. *Encourage good toilet posture.* This is especially important for girls to get all of the urine in the bladder out. Children should sit with a stool under their feet if their feet do not touch the bathroom floor. Legs should be relaxed and slightly spread to encourage pelvic floor muscles to relax.
5. *Encourage adequate fluid intake*. Some liquids or concentrated urine can irritate the urinary tract and increase accidents. Water is best, and caffeinated or sugary beverages should be avoided in children with wetting issues. A good goal for fluid intake is to calculate weight in pounds, and your child should be drinking half that number in ounces (i.e., if your child weighs 50 pounds, they should be drinking 25 ounces of water daily).

Home Treatment for Nighttime Bed-Wetting over the Age of Five

The following plan usually is helpful, but you should discuss it with your pediatrician before beginning.

1. Explain the problem to your child, emphasizing that you understand and know it's not their fault.
2. Discourage them from drinking fluids during the two hours before bedtime.
3. Treat constipation if it is present.

If your child is still wetting after one to three months on this plan, your pediatrician may recommend using a bed-wetting alarm device. This alarm will awaken your child automatically as soon as they begin to wet, so they

can get up and complete their urination in the toilet. Oftentimes, children will sleep through the alarm and not wake up when it goes off. When this occurs, parents will need to be able to hear the alarm so that they can assist in waking the child up. When used consistently and according to your pediatrician's guidelines, this bladder-conditioning method is successful for more than half of the children who try it, and the relapse rate is low. However, it may take up to four months to work. It is important to follow your pediatrician's directions carefully to give this device the best chance to work. Research has not shown that waking children at random times during the night to urinate will lead to cure of bed-wetting.

Another option may be oral medications. These work in about half to two-thirds of the children who use them, and side effects are rare. However, relapse rates are high. Oral medications can also be used intermittently for camp, sleepovers, and other similar situations. It is important to limit drinking water before bedtime when on certain oral medications. This treatment should be discussed with your doctor.

IF NONE OF THE TREATMENTS WORK

A small number of children with bed-wetting simply do not respond to any treatment. However, almost all will outgrow the problem by adolescence. If your doctor suspects an abnormality of the urinary tract as a cause of nighttime wetting, they will order additional testing. Until your child outgrows their wetting problem, they may need some emotional support from the family, and also may benefit from speaking with the pediatrician about this condition or receiving counseling with a child mental health professional.

Because bed-wetting is such a common problem, you may see advertisements for many treatment programs. You should be wary of them, however, as many false claims and promises are made. Your pediatrician is still your most reliable source for advice, and you should ask them for it before enrolling in or paying for any treatment program.

CHAPTER 32

Head, Neck, and Nervous System

Head Tilt (Torticollis)

Head tilt is a condition that causes a child to hold their head or neck in a twisted or otherwise abnormal position. They may lean their head toward one shoulder and, when lying on their stomach, always turn the same side of their face toward the mattress. This can cause their head to flatten on one side and their face to appear uneven or out of line. If not treated, head tilt may lead to permanent facial deformity or unevenness and to restricted head movement.

Most cases of head tilt are associated with a condition called torticollis, although in rare instances a head tilt can be due to other causes such as hearing loss, misalignment of the eyes, reflux (a flowing back of stomach acid into the esophagus), a throat or lymph node infection, or, very uncommonly, a brain tumor.

Acquired Torticollis (Due to Injury or Inflammation)

This is more likely to occur in older children, up to the age of 9 or 10. This type of torticollis usually results from an inflammation of the throat caused by an upper respiratory infection, a sore throat, an injury, or some unknown factor. The swelling, for reasons still not known, causes the tissue surrounding the upper spine to loosen, allowing the vertebral bones to move out of normal position. When this happens, the neck muscles go into spasm, causing the head to tilt to one side. Onset of this condition is typically sudden and very painful.

Torticollis

By far the most common cause of head tilt among children under age 5 is congenital torticollis. This condition commonly occurs due to positioning

while the baby is still in the womb and rarely may occur during birth (particularly breech and difficult first-time deliveries). Whatever the cause, this condition usually is detected in the first six to eight weeks after birth, when the pediatrician notices tightness in one of the muscles of the neck. About half the time there may be a small lump in the muscle. The affected muscle is the sternocleidomastoid muscle, which connects the breastbone, head, and neck. Later the muscle contracts and causes the head to tilt to one side and look toward the opposite side.

Unlike muscular torticollis, ocular torticollis occurs when the infant tilts the head in order to correct misalignment of the eyes. In these cases, the abnormal head position will not be present during sleep, and it will be possible to manually tilt the head toward either shoulder without resistance.

TREATMENT

Each type of head tilt requires different treatment. It is very important to seek such treatment early, so that the problem is corrected before it causes permanent deformity. Your pediatrician will examine your child's neck and may refer you to a pediatric orthopedist or to a physical or occupational therapist, and/or may order X-rays of the area in order to identify the cause of the problem. X-rays or ultrasound of the hip also may be ordered, as some children with congenital muscular torticollis also have an abnormality known as developmental dysplasia of the hip. If the doctor decides that the problem is congenital muscular torticollis, you will learn an exercise program to stretch and massage your child's neck muscles. The doctor will show you how to gently move your child's head in the opposite direction from the tilt. You'll need to do this several times a day, very gradually extending the movement as the muscle stretches.

When your child sleeps, it is best to place them on their back, with their head positioned opposite from the direction of the tilt. In rare instances, your pediatrician may suggest adjustments to their sleep position. When they are awake, position them so those things they want to look at (windows, mobiles, pictures, and activity) are on the side in the opposite direction from the tilt. In that way, they'll stretch the shortened muscle while trying to see these objects. Your pediatrician may also recommend placing them on their stomach while awake and turning their face away

from the affected side. These simple strategies cure this type of head tilt in the vast majority of cases, preventing the need for later surgery. (Your pediatrician may refer your child to a physical therapist to help work on this condition.)



If the problem is not corrected by exercise or position change, your pediatrician will refer you to a pediatric neurologist or orthopedist. If there is a concern that the head position is caused by misalignment of the eyes, the pediatrician may refer you to a pediatric ophthalmologist. Rarely, it may be necessary to lengthen the involved muscle surgically when the child is no longer an infant. If your child's head tilt is caused by something other than congenital muscular torticollis and the X-rays show no spinal abnormality, other treatment involving rest, a special collar, gentle stretching, massage, traction, application of heat to the area, medication, or, rarely, further imaging or surgery may be necessary. For treating torticollis due to injury or inflammation, your doctor may recommend applying heat, as well as using massage and stretching to ease head and neck pain. Your pediatrician can refer you to a specialist for a definitive diagnosis and treatment program.

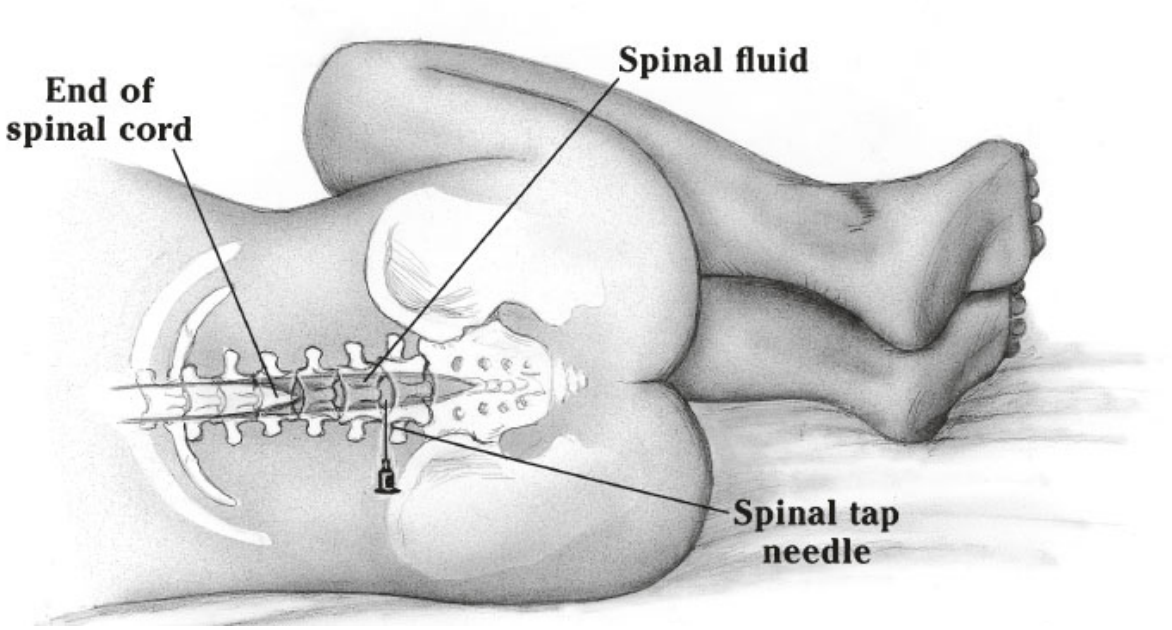
Meningitis

Meningitis is an inflammation of the tissues that cover the brain and spinal cord and typically is caused by a viral or bacterial infection. The inflammation sometimes affects the brain itself, in which case it is called encephalitis. With early diagnosis and proper treatment, a child with meningitis has a reasonable chance of a good recovery, though some forms of bacterial meningitis develop rapidly and have a high risk of complications.

Thanks to vaccines that protect against serious forms of bacterial meningitis, today most cases of meningitis are caused by viruses. The viral form is usually not as serious, except in infants less than 3 months of age and with certain viruses such as herpes simplex, which also cause dangerous encephalitis. While herpes meningitis requires aggressive treatment with antiviral medications, other viral infections do not require antivirals, and children usually recover on their own.

Bacterial meningitis is a very serious disease. It occurs rarely in countries with universal and successful vaccination programs, but when it does occur, children under the age of 2 years are at greatest risk.

The bacteria that cause meningitis often can be found in the mouths and throats of healthy children, but this does not necessarily mean that these children will get the disease. That doesn't happen unless the bacteria get into the bloodstream and spread to the brain.



A spinal tap is taken from the space below the spinal cord so that the needle will not touch the spinal cord.

We still don't understand exactly why some children get meningitis and others don't, but we do know that certain groups of children are more likely to get the illness. These include the following:

- Babies, especially those under 2 months of age (because their immune systems are not well developed, the bacteria can get into the bloodstream more easily)
- Children with recurrent sinus infections
- Children with recent serious head injuries and skull fractures
- Children who have just had brain surgery
- Children with cochlear implants

With prompt diagnosis and treatment, seven out of ten children who get bacterial meningitis recover without any complications. However, bear in mind that meningitis is a potentially fatal disease, and in about three out of ten cases, it can lead to serious nervous system problems, deafness, seizures, paralysis of the arms or legs, or learning difficulties. Because meningitis progresses quickly, it must be detected early and treated aggressively. Therefore, it's important for you to notify your pediatrician immediately if your child displays any of the following warning signs:

IF YOUR CHILD IS LESS THAN 3 MONTHS OLD: A fever, decreased appetite, listlessness, or increased crying or irritability warrants a call to your doctor. At this age, the signs of meningitis can be very subtle and difficult to detect. It's better to call early and be wrong than to diagnose it too late to treat.

IF YOUR CHILD IS 2 MONTHS TO 2 YEARS OLD: This is the most common age for meningitis. Look for symptoms such as fever, vomiting, decreased appetite, excessive crankiness, or excessive sleepiness. (Their cranky periods might be extreme, and during sleepy periods it might be impossible to arouse them.) Seizures along with a fever may be the first signs of meningitis, although most brief, generalized (so-called tonic-clonic) convulsions in this age group turn out to be simple febrile seizures, not meningitis. (See *Seizures,*

Convulsions, and Epilepsy, page 662.) A rash also may be a symptom of this condition.

IF YOUR CHILD IS 2 TO 5 YEARS OLD: In addition to the previously mentioned symptoms, a child of this age with meningitis may complain of a headache, pain in their back, or a stiff neck. They also may object to looking at bright lights.

TREATMENT

If your pediatrician is concerned that your child may have meningitis, they will send you to the hospital for evaluation, including to check for a bacterial infection with a blood test and to obtain some spinal fluid by performing a spinal tap, or lumbar puncture (LP). An LP involves inserting a special needle into your child's lower back to draw out spinal fluid. This is a safe technique in which fluid is sampled from the bottom of the sac surrounding the spinal cord. Signs of infection in this fluid will confirm that your child has meningitis. In the case of bacterial meningitis, they will need to be admitted to the hospital for intravenous antibiotics and fluids and for careful observation for complications. For bacterial meningitis, intravenous antibiotics may be necessary for seven to twenty-one days, depending on the age of the child and the bacteria identified. If prolonged antibiotics are needed, your child may be able to continue receiving medication at home. Most children with viral meningitis improve within seven to ten days without antibiotics. Children will typically recover at home with rest, fluids, and over-the-counter pain medications, although some might need to be treated in the hospital.

PREVENTION

Some types of bacterial meningitis can be prevented with vaccines, especially those against Hib (*Haemophilus influenzae* type b) and pneumococcus.

Motion Sickness

Motion sickness occurs when the brain receives conflicting signals from the motion-sensing parts of the body: the inner ear, the eyes, and nerves in the extremities. Under usual circumstances, all three areas respond to any motion of the head or body. When the signals they receive and send are inconsistent—for example, if you watch rapid motion on a movie screen, your eyes sense the motion, but your inner ear and joints do not—the brain receives conflicting signals and activates a response that can make you feel sick. The same thing can happen when a child is sitting so low in the backseat of a car that they cannot see outside. Their inner ear senses the motion, but their eyes and joints do not.

Motion sickness usually starts with a vague feeling of stomach upset (queasiness), a cold sweat, fatigue, and loss of appetite. This can progress to vomiting. A young child may not be able to describe queasiness but will demonstrate it by becoming pale and restless, yawning, and crying. Later they may lose interest in food (including their favorite ones) and even vomit. This response can be affected by previous car trips that made them sick, but it usually improves over time.

We do not know why motion sickness happens more often in some children than others. Motion sickness occurs most often on a first boat or plane ride, or when the motion is very intense, such as that caused by rough water or turbulent air. Stress and excitement also can start this problem or make it worse.

WHAT YOU CAN DO

If your child starts to develop motion sickness, the best approach is to stop the activity that is causing the problem. If it occurs in the car, stop as soon as safely possible and let them get out and walk around. If you are on a long car trip, you may have to make frequent short stops. If this condition develops on a swing or merry-go-round, stop the motion promptly and get your child off the equipment.

Since car sickness is the most common form of motion sickness in children, many preventive measures have been developed. In addition to frequent stops, try the following:

- If they have not eaten for three hours, give your child a *light* snack before the trip—which also helps on a boat or plane. This relieves hunger pangs, which seem to add to the symptoms.
- Try to focus their attention away from the queasy feeling. Listen to the radio, sing, or talk.
- Have them look at things outside the car, not at books, games, or screens.

If none of the above works, stop the car, remove them from their car safety seat, and have them lie on their back for a few minutes with their eyes closed. Removing extra layers of clothing and placing a cool cloth on the forehead can help lessen the symptoms.

If you are going on a trip and your child has had motion sickness in the past, you might want to give them medication ahead of time to prevent problems. Some of these medications are available without a prescription, but ask your pediatrician before using them. Although they can help, they often produce side effects, such as drowsiness (which means that when you get to your destination your child might be too tired to enjoy it), dry mouth and nose, or blurred vision. Using non-drowsy versions usually causes fewer side effects.

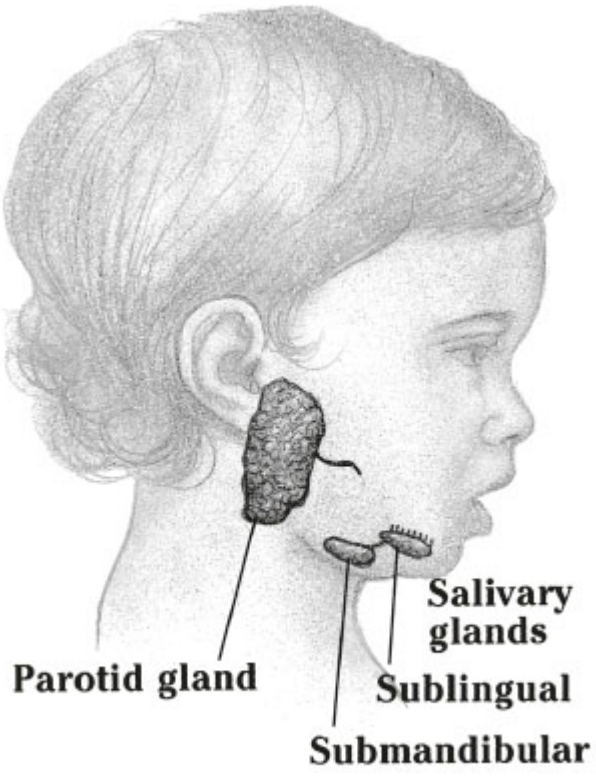
If your child has symptoms of motion sickness at times when they are not involved with a movement activity—particularly if they also have a headache, stare off into space, or have difficulty hearing, seeing, walking, or talking—tell your pediatrician about it. These may be symptoms of problems other than motion sickness.

Mumps

Mumps is a viral infection that usually causes swelling of the salivary glands (the glands that produce the digestive juices in the mouth). Thanks to the MMR (measles, mumps, and rubella) vaccine, given at 12 to 15 months with a booster at age 4 to 6 years, most children in developed countries will never get this disease. The American Academy of Pediatrics recommends that if your child has not been immunized with the MMR vaccine in early childhood as suggested, your child (18 years old and younger) should be given two doses of MMR, separated by four weeks.

While the administration of the MMR vaccine is very important, if a child has not been immunized, the parent should know how to identify mumps and distinguish it from similar ailments. The parotid gland, located in front of the ear at and above the angle of the jaw, is the one most often affected by mumps. The swelling can be on one or both sides of the face. However, other salivary glands in and around the face may be involved. Symptoms normally last seven to ten days. Not all children with mumps appear swollen, as some have a milder case. Anyone who has the virus in their system, whether symptoms were mild or severe, will become immune to it and be protected for life.

The mumps virus is transmitted when an infected individual coughs droplets containing the virus into the air or onto their hands. A nearby child can inhale these particles, and the virus can pass through their respiratory system into their bloodstream, finally settling in their salivary glands. At this point, the virus usually causes swelling of the glands along the side of one or both cheeks.



Other symptoms of mumps may include swelling and pain in the joints and, in boys, swelling of the testes. In extremely rare cases, the virus can cause swelling of the ovaries in girls or swelling of the brain in boys or girls.

It's important to note that salivary gland swelling can be caused by infections other than mumps. This explains why some parents are convinced that their children have had the disease more than once. If your child has been immunized or already has had mumps and their cheeks become swollen, consult your pediatrician to determine the cause.

TREATMENT

There is no specific treatment for mumps, aside from making the child as comfortable as possible with rest, lots of fluids, and acetaminophen for fever. Although a child with the disease may not be too eager to take fluids, you should keep a glass of water or juice (but not citrus juice) nearby, and encourage them to take frequent sips. Sometimes a warm compress over the swollen gland will give some short-term relief.

If your child's condition worsens, or if they develop complications such as painful testes, severe abdominal pain, or extreme listlessness, contact your pediatrician right away. Complications are extremely rare, but the doctor will want to examine your child to see if they need more extensive medical treatment.

Seizures, Convulsions, and Epilepsy

Seizures are sudden temporary changes in consciousness, physical movement, sensation, or behavior caused by abnormal electrical impulses in the brain. Depending on what part(s) of the brain are affected by the abnormal electrical activity, a seizure may cause sudden stiffening of the body, rhythmic shaking, isolated body jerks, complete relaxation of the muscles (which can make a person appear to be paralyzed temporarily), staring spells, or other strange movements or behaviors. Sometimes seizures are referred to as "fits" or "spells." The terms "convulsion" and "seizure" are often used interchangeably, although not all seizures involve convulsions.

A seizure that involves the whole body (sometimes called a generalized tonic-clonic seizure and previously called grand mal seizure) is the most

dramatic type of seizure, causing rapid, forceful movements of both arms and legs and loss of consciousness. By contrast, absence seizures (previously called petit mal seizures) appear as brief staring episodes lasting for a few seconds. These may be so subtle that they aren't noticed until they begin affecting schoolwork and are mistaken for inattentiveness. Seizures that involve only a part of the brain are called focal seizures (previously called partial seizures) and can cause twitching or jerking of one part of the body or other behaviors. About 10 percent of children will experience a seizure at some point during childhood, but only 3 percent will go on to have epilepsy.

Febrile seizures (seizures that occur in association with fever) occur in 3 or 4 out of every 100 children between 6 months and 5 years of age, but most often around 12 to 18 months old. A febrile seizure is usually a brief whole-body convulsion after which the child will return to normal. They often run in families. Most children with febrile seizures will outgrow them by 5 years of age. However, a very small number of affected children will go on to develop epilepsy, with seizures occurring even when a fever is not present.

The term "epilepsy" is used to describe seizures that occur repeatedly over time without an acute illness (like fever) or another trigger. Sometimes the cause of the recurring seizures is known, and sometimes it is not.

Some children experience sudden episodes that might masquerade as or imitate seizure but are really not. Examples include breath holding, fainting (syncope), daydreaming spells, facial or body twitching (myoclonus), and unusual sleep disorders (night terrors and sleepwalking). They may occur just once or may recur over a limited time period. Again, although these episodes may resemble epilepsy or true seizures, they are not, and they require quite different treatment.

TREATMENT

Most seizures are brief and stop on their own and do not require immediate medical treatment. If your child is having a seizure, lay them on their side so they will not choke if they vomit, move away items that could cause injury, and stay with them until the seizure stops.

If the seizure does not stop within five minutes or is severe (difficulty breathing, choking, blueness of the skin, having several in a row), call 911

for emergency medical help. Do not leave your child unattended. After the seizure stops, call the pediatrician immediately and arrange to meet in the doctor's office or go to the nearest emergency department. If your child has known epilepsy and is already taking a medication to prevent seizures, call your doctor, since the dosage may need to be adjusted.

If your child has a fever, the pediatrician will check to see if there is an infection. If there is no fever and this was your child's first seizure, the doctor will try to determine other possible causes by asking if there is a family history of seizures or if your child has had any recent head injury. They may ask if there was any exposure to bright strobe lighting either in the home or on a video screen. They will examine your child and may order blood tests or testing with an electroencephalogram (EEG), which measures the electrical activity of the brain. In some cases, your child may require imaging of the brain using computed tomography (CT or CAT) or magnetic resonance imaging (MRI). Sometimes a spinal tap will be performed to obtain a specimen of spinal fluid that can be examined for some causes of seizures such as meningitis, an infection of the covering of the brain (see page 658). The pediatrician is likely to consult a pediatric neurologist, a pediatrician who specializes in disorders of the nervous system.

If a child has had a febrile seizure, some parents may try controlling fever using fever-reducing medications (acetaminophen, ibuprofen) or lukewarm baths. However, these approaches do *not* prevent future febrile seizures, but only make the child more comfortable. If a bacterial infection is present, your doctor will probably prescribe an antibiotic. If a serious infection such as meningitis is responsible for the seizure, your child may need to be hospitalized for further treatment. Also, when seizures are caused by abnormal amounts of sugar, sodium, or calcium in the blood, hospitalization may be required so that the cause can be found and the imbalances corrected.

If epilepsy is diagnosed, your child usually will be placed on an anti-seizure medication. When the proper dosage is maintained, the seizures are often well controlled. Your child may need to have their blood checked periodically after starting some medications to make certain there is an adequate amount of medication in their system and that it has no effects on the health of the liver or bone marrow. Depending on the type of epilepsy

they have, some children may benefit from other treatments such as surgery, devices, or dietary therapies to help control seizures. In addition to a daily anti-seizure medication, some children may benefit from a seizure rescue medication, which is a medication that parents or caregivers can administer at home or school if a child has a prolonged seizure or a cluster of seizures.

As frightening as seizures can be, many individuals with epilepsy can have their seizures controlled with medication, and many children have fewer seizures as they get older or even outgrow their epilepsy. Unfortunately, a great deal of misunderstanding and confusion about seizures still exists, so it is important that your child's friends and teachers become educated about their condition. (If you need additional support or information, consult with your pediatrician or contact your local or state branch of the Epilepsy Foundation, epilepsy.com; 1-800-332-1000.)

CHAPTER 33

Heart and Blood

Anemia

Blood contains several different types of cells. The most numerous are the red blood cells, which absorb oxygen in the lungs and distribute it throughout the body. These cells contain hemoglobin, a red protein that carries oxygen to the tissues and carries away carbon dioxide (the waste material). Anemia can be either an acute or a chronic condition in which a decreased amount of hemoglobin is available in the red blood cells or there is a reduced number of red blood cells in the blood itself, making the blood less able to carry the amount of oxygen necessary for all the cells in the body to function and grow.

Anemia may occur for any of the following reasons:

1. The production of red blood cells is too slow.
2. Too many red blood cells are destroyed.
3. There is not enough hemoglobin within the red blood cells.
4. Too much blood is lost from the body.

Many cases of anemia are treatable. Young children most commonly become anemic when they fail to get enough iron in their diet, particularly during periods of rapid growth. Iron is necessary for the production of hemoglobin. This iron deficiency causes a decrease in the amount of hemoglobin in the red blood cells.

An infant may get iron-deficiency anemia if they are primarily breastfed and do not begin a form of iron supplementation by 6 months of age or start drinking cow's milk too early (before 12 months of age), particularly if they are not given an iron supplement or healthy food that contains enough iron.

Cow's milk contains very little iron, and the iron it does have is not easily absorbed. Furthermore, cow's milk can interfere with the absorption of iron from other foods. Large amounts of cow's milk given to an infant or toddler can irritate the bowel and cause small amounts of blood loss. This results in a decrease in the number of red blood cells, which can cause anemia. Finally, drinking too much milk may limit a child's interest in other foods that are rich in iron, placing them at risk for iron-deficiency anemia. Infants shouldn't drink any cow's milk, and toddlers should limit their milk intake to no more than 16 to 24 ounces (480–720 ml) a day. Other nutritional deficiencies, such as a lack of folic acid, can cause anemia as well, but such causes are rare. Premature babies are prone to anemia and should start iron supplementation at two weeks after birth.

Anemia can also be a result of a chronic condition that will need ongoing treatment and follow-up by your child's doctor. It may be caused by blood loss, such as a child losing blood in their stool in amounts tiny enough that it can't be seen. It may also be caused by hemolytic anemia, where red blood cells are prone to being easily destroyed because of changes in the shape of the cells, disturbances on their surface, or other abnormalities. Certain enzyme deficiencies can alter the function of red blood cells and increase the chances they will die or be destroyed early, causing anemia. A severe condition called sickle cell anemia involves an abnormal structure of hemoglobin. This disorder can be dangerous and is associated with frequent episodes of pain and worsening anemia, often requiring repeated hospitalizations. Fortunately, it is now tested for in the newborn screen in all states.

Disorders called thalassemias are inherited blood conditions in which the child has an abnormally low number of red blood cells or not enough hemoglobin. This is due to a decreased ability to make healthy red blood cells and the fact that the red blood cells are more likely to be destroyed. Children with thalassemia can develop anemia, sometimes severe cases. Although some cases of thalassemia have no symptoms, more moderate to severe cases can cause lethargy, jaundice, a poor appetite, slow growth, and an enlarged spleen.

SIGNS AND SYMPTOMS

In some cases, the anemia develops so slowly over time that symptoms aren't noticed. More typically, though, anemia causes the skin to be mildly pale, usually most apparent as a decreased pinkness of the lips, the lining of the eyelids (conjunctiva), and the nail beds (pink part of the nails). Anemic children also may be irritable, mildly weak, or easily tired. Those with severe anemia may have shortness of breath, rapid heart rate, and swelling of the hands and feet. If the anemia continues, it may interfere with normal growth. Children with hemolytic anemia may have episodes of jaundice (skin and eyes turn yellow), although many newborns are mildly jaundiced for reasons that don't involve anemia.

Your child's pediatrician will check their hemoglobin at 12 months and may again at 24 months, and periodically if there are any concerns in youth who menstruate. But if your child shows any of these symptoms or signs, or if you suspect they are not getting enough iron in their diet, consult your pediatrician. A simple blood test can diagnose anemia in most cases.

Some children are not anemic but still are deficient in iron. Some children with low iron have no symptoms at all, but those who do may have a decreased appetite and be irritable, fussy, and inattentive, and may develop sleep problems. Iron deficiency may result in developmental delays or poor school performance, even in children who are not anemic. These problems may improve when the children are given iron. Other signs of iron deficiency that may be unrelated to anemia include a tendency to eat unusual things, such as ice, dirt, clay, and cornstarch. This behavior, called pica, can be stressful for families but is generally not harmful unless the material eaten is toxic (e.g., contains lead). Usually the behavior improves after the iron deficiency is treated and as the child becomes older, although it may persist longer in children who are developmentally delayed.

TREATMENT

Since there are so many different types of anemia, it is very important to identify the cause before any treatment is begun. Talk to your child's pediatrician before starting any vitamins, iron, or other nutrients or over-the-counter medications. This is important, because such treatment may mask the real reason for the problem and thus delay the diagnosis. The

treatment for anemia may include medications, dietary supplements, or dietary restrictions.

If the anemia is due to a lack of iron, your child will be given an iron-containing medication. This comes in a drop form for infants and a liquid or tablet form for older children. To avoid giving your child too much iron, or continuing it once it is no longer needed, your pediatrician will check your child's blood hemoglobin and/or iron levels at regular intervals. Do not stop giving the medication until the physician tells you it is no longer needed.

The following are a few tips concerning iron medication.

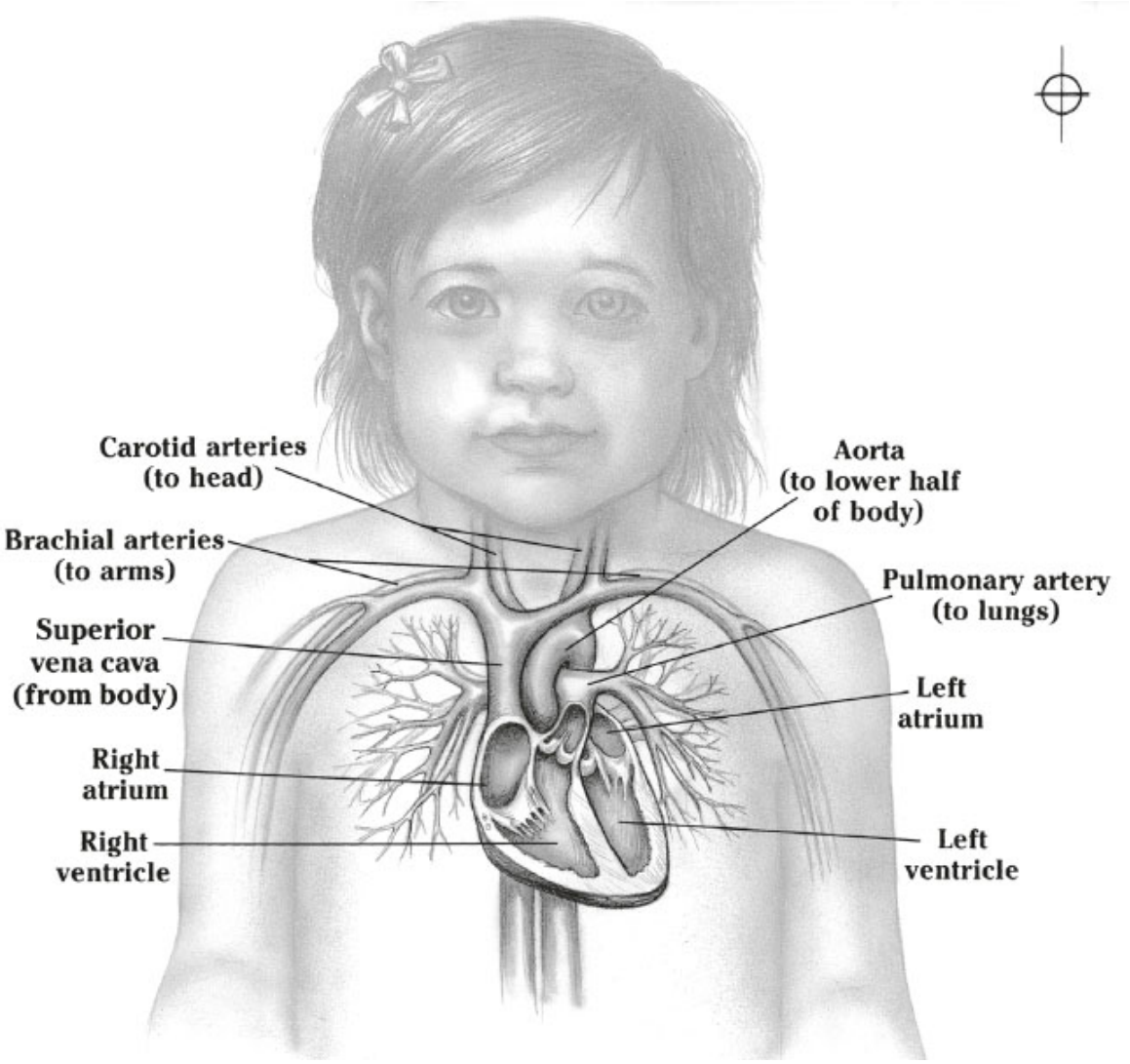
- It is best not to give iron with milk or other dairy products because milk blocks iron absorption.
- Vitamin C may enhance iron absorption, so you might want to follow the dose of iron with a serving of fresh fruit.
- Since liquid iron tends to turn the teeth a grayish black color temporarily, have your child swallow it rapidly and then rinse their mouth with water. You also may want to brush your child's teeth after every dose of iron. Tooth-staining from iron is not permanent.
- Storing iron medication in the refrigerator can decrease the bitterness, improving palatability and increasing your child's tolerance of it. Storing the iron this way will not lessen its effectiveness.
- Iron medications cause the stools to become a dark or black color. Don't be worried by this change.

Safety precautions: Iron medications can be poisonous if taken in excessive amounts. (Iron is one of the most common causes of poisoning in children under 5 years of age.) For that reason, **keep this and all medication out of reach of small children.**

Arrhythmias

Your child's heart rate normally will vary to some degree. Fever, crying, exercise, or other vigorous activity makes any heart beat faster. The younger the child, the faster the normal heart rate. As your child gets older, the heart rate will slow down. A resting heart rate of 130 to 150 beats per minute is

normal for a newborn infant, but it is too fast for a 5-year-old child at rest. In a very athletic teenager, a resting heart rate of 50 to 60 beats per minute may be normal.



The Heart

The heart's regular rhythm or beat is maintained by a small electrical circuit that runs through nerves in the walls of the heart. When the circuit is working properly, the heartbeat is quite regular, but when there's a problem in the circuit, an irregular heartbeat, or arrhythmia, can occur. Some children are born with abnormalities in this heart circuitry, but arrhythmias also can be caused by infections or chemical imbalances in the blood. Even in healthy children, there can be other variations in the rhythm of the

heartbeat, including changes that occur just as a result of breathing. Such a fluctuation is called sinus arrhythmia and requires no special evaluation or treatment because it is normal.

So-called premature heartbeats are another form of irregular rhythm that requires no treatment. If these occur in your child, they might say that their heart "skipped a beat" or did a "flip-flop." Usually these symptoms do not indicate the presence of significant heart disease.

If your pediatrician says that your child has a true arrhythmia, it could mean that their heart beats faster than normal (tachycardia), very fast (flutter), fast and with no regularity (fibrillation), or slower than normal (bradycardia), or that it has isolated early beats (premature beats). While true arrhythmias are not very common, when they do occur, they can be serious. On rare occasions they can cause fainting or even heart failure. Fortunately, they can be treated successfully, so it's important to detect arrhythmias as early as possible.

SIGNS AND SYMPTOMS

If your child has a true arrhythmia, your pediatrician may discover it during a routine visit. But should you notice any of the following warning signs between pediatric visits, notify your doctor immediately and seek emergency care:

- Your infant becomes sweaty and tired while feeding.
- Your infant suddenly becomes pale and listless; the body feels limp.
- Your child complains of their heart beating fast while at rest.
- They tell you they feel uncomfortable, weak, or dizzy.
- They black out or faint.

It's unlikely that your child will ever experience any of these symptoms, but if they do, your pediatrician (or the emergency medicine doctor) will perform additional tests and perhaps consult with a pediatric cardiologist. In the process the doctors may do an electrocardiogram (ECG) to better distinguish a normal sinus arrhythmia from a true arrhythmia. An ECG is the recording of the electrical activity of the heart, and it will allow the doctor to observe any irregularities more closely.

Sometimes your child's unusual heartbeats may occur at unpredictable times, often not when the ECG is being taken. In that case the cardiologist may suggest that your child carry a small portable recorder that continuously records their heartbeat over a one-to two-day period. During this time, you'll be asked to keep a log of your child's activities and symptoms. Comparing the ECG with your observations will help make a diagnosis. For example, if your child feels their heart "flutter" and becomes dizzy at 2:15 P.M. and the ECG shows their heart suddenly beating faster in an abnormal rhythm at the same time, the diagnosis of arrhythmia will probably be established.

Occasionally irregular heartbeats will occur only during exercise. If that's the case with your child, the cardiologist may have them ride a stationary bicycle or run on a treadmill while their heartbeat is being recorded. When your child is old enough to participate in sports, ask your pediatrician if any special tests or restrictions are necessary.

Heart Murmur

Technically, a heart murmur is simply a noise heard between the beats of the heart. When a doctor listens to the heart, they hear a sound like *lub-dub, lub-dub, lub-dub*. Most often, the period between the *lub* and the *dub* and between the *dub* and the *lub* is silent. If there is any sound during this period, it may be a murmur or an extra heart sound known as a gallop.

Heart murmurs are extremely common and are usually "functional" or "innocent" (that is, the sounds are caused by a healthy heart pumping blood normally). In preschool and school-age children, heart murmurs are almost never a concern. Most children with a murmur require no special care, and the sound eventually disappears.

If your child has such a murmur, it probably will be discovered between the ages of 1 and 5 years during a routine examination. The doctor then will listen carefully to determine if this is a functional heart murmur or one that might indicate a problem. Usually, just by listening to its sound, the pediatrician will be able to tell if a murmur is innocent (normal blood flow through a normal heart). If necessary, they will consult a pediatric cardiologist to be certain, but additional tests are usually not needed.

Sometimes a pediatrician will hear a murmur that sounds abnormal enough to indicate that something might be wrong with the heart. If the doctor suspects this, your child will be referred for an echocardiogram (ultrasound exam of the heart) or to a pediatric cardiologist to enable a precise diagnosis to be made.

Although some murmurs are normal and do not mean there is any underlying abnormality of the heart, other murmurs are more concerning. Such abnormal murmurs are *not* functional or innocent, and most likely they will require the attention of a pediatric cardiologist immediately. They may be due to abnormal connections between the pumping chambers (septal defects or "hole in the heart") or abnormalities in certain valves or arteries in the heart (e.g., narrowing of valves such as the aortic or pulmonary valve). Your infant will be observed for changes in skin color (turning blue), as well as breathing or feeding difficulties. They also may undergo additional tests, such as a chest X-ray, an electrocardiogram (ECG), and an ultrasound of the heart (echocardiogram). An echocardiogram creates a picture of the inside of the heart by using sound waves. The cardiologist and pediatrician together will make a decision as to next steps depending on the results of these tests. If all of these tests prove normal, then it is safe to conclude that the baby has an innocent murmur and they will not need to be seen again by a cardiologist.

When a specific condition called patent ductus arteriosus (PDA) occurs, it is often detected shortly after birth, most commonly in premature babies. In infants with PDA, blood circulates abnormally between the two major arteries that come off the heart. In most cases, the only symptom of PDA is a heart murmur until the ductus closes on its own shortly after birth, which often happens in otherwise healthy, full-term newborns. Sometimes, especially in premature babies, it may not close on its own, or it may be large and permit too much blood to pass through the lungs, which can place extra strain on the heart, forcing it to work harder and causing a rise in pressure in the arteries of the lungs.

A gallop is less common than a murmur but can indicate a more serious issue that must be evaluated right away. If your pediatrician detects a gallop, they will likely refer you to a cardiologist or an emergency department to have further testing. The most common cause of a gallop is heart failure, a

condition in which the pressures inside the heart are high due to a weakness of the heart muscle. This weakness can occur due to gene mutations that may be inherited or be new (de novo), or due to the side effects of a viral infection on the heart. A gallop cannot be detected without a stethoscope. Other signs of heart failure to watch for in an infant are:

- Sweating while feeding
- Needing frequent breaks while feeding
- Vomiting and loss of appetite for more than a few days
- Difficulty breathing not explained by a respiratory infection

If your infant is displaying any of those symptoms, especially suddenly or if previously healthy, see your pediatrician or pediatric cardiologist. Heart failure can be diagnosed through testing, including a heart rhythm strip (electrocardiogram), heart ultrasound (echocardiogram), and chest X-ray showing a large heart size. A cardiologist will help determine what medications will be best for your child if they are diagnosed with heart failure, based on the result of various blood testing as well as physical examination findings.

TREATMENT

Functional or innocent heart murmurs are normal and therefore require no treatment. Children with this type of heart murmur do not need repeated evaluations or long-term follow-up care from cardiologists, nor do they require restrictions on sports or other physical activities. Innocent heart murmurs may be louder in situations like fever or if your child has anemia, and they generally disappear by mid-adolescence. Cardiologists don't know why they go away, any more than we know why they appear in the first place. In the meantime, don't be discouraged if the murmur is softer on one visit to the pediatrician and louder on the next. This may simply mean that your child's heart is beating at a slightly different rate each time. Most likely, this normal murmur will go away eventually.

Patent ductus arteriosus is a self-correcting problem in some cases; in others, medications can be used to close a PDA. But if the PDA remains open, it may need to be corrected surgically or with a catheter.

If other, more serious heart conditions are diagnosed from birth or shortly thereafter, and the evaluation reveals more serious defects, the pediatric cardiologist and pediatrician will consult a pediatric cardiac surgeon or a pediatric cardiac catheterization doctor, often at a children's hospital or large university hospital where complete pediatric cardiac diagnostic and intervention capabilities exist. If heart failure is diagnosed, initial management includes medications to manage the symptoms as well as diagnostic testing to try to identify a cause of the heart failure. In some cases, a heart pump or a heart transplant may be considered if medical therapies are not adequate.

Hypertension/High Blood Pressure

We usually think of high blood pressure, or hypertension, as a problem that affects adults. But, in fact, this condition can occur at any age, even in infancy. About 10 of every 100 children have higher than normal blood pressure, although only about 3 to 4 of those have actual hypertension.

The term "blood pressure" actually refers to two separate measurements. *Systolic* blood pressure is the highest pressure reached in the arteries as the heart pumps blood out for circulation through the body; *diastolic* blood pressure is the lower pressure that occurs in the arteries when the heart relaxes between beats. If either or both of these measurements are above the range found in healthy people of the same age and sex, it's called hypertension.

In many cases, hypertension seems to develop with age. As a result, your child may show no signs of high blood pressure as an infant but may develop the condition as they grow. Children who have overweight are much more prone to have hypertension (as well as other health problems). Thus, healthy eating habits (getting important nutrients without overeating) and plenty of physical activity are important throughout the early years of childhood (and for the rest of their life).

In most instances of high blood pressure, other than those cases caused or made worse by obesity, no known cause can be identified. However, in certain children, hypertension may be a symptom of another serious

problem, such as kidney disease or abnormalities of the heart or of the nervous or endocrine (gland) system.

Most often, this condition causes no noticeable discomfort, but any of the following symptoms may indicate high blood pressure:

- Headache
- Difficulty falling asleep
- Daytime tiredness/fatigue
- Chest pain
- Abdominal pain
- Palpitations
- Shortness of breath
- Fatigue
- Sleep disturbance
- Inattention at school
- Swelling around the ankles
- Visual disturbances

Fortunately, high blood pressure in children rarely causes the serious problems that can occur in adults with hypertension. Usually, hypertension in children can be controlled through dietary changes, medication, or a combination of the two. However, if hypertension is allowed to continue or become worse over many years, the prolonged extra pressure can lead to heart failure or stroke in adulthood. Also, long-term hypertension causes changes in blood vessel walls that may result in damage to the kidneys, eyes, and other organs. For these reasons it's important for children with hypertension to have their blood pressure checked regularly by their pediatrician, and for you to follow the doctor's treatment advice carefully.

TREATMENT

Starting at the age of 3, your child will have their blood pressure measured as part of their yearly well-child checkup. This is how hypertension is usually discovered. If the blood pressure reading is high, you will be asked to return to have it repeated. If it is still high after several visits, your child may be

asked to have a special test called twenty-four-hour ambulatory blood pressure monitoring to confirm that the blood pressure is high not just in the doctor's office, but throughout the day and night; usually this is done in consultation with a cardiologist (heart doctor) or nephrologist (kidney doctor).

If your child still has high blood pressure after these repeat measurements, your pediatrician will order tests to see if there is an underlying medical problem. These tests include examining the urine and blood. Sometimes an ultrasound is used to examine the kidneys and an echocardiogram is done to check the heart. If no medical problem can be found, your child will be diagnosed with *primary hypertension*. If there is an underlying cause found, your child will need to be sent to the appropriate pediatric specialist in order to receive the right kind of care for that condition.

What will the doctor tell you to do? If obesity is the cause, the first step may be to help your child achieve a healthier weight. This will need to be very closely monitored by your pediatrician. Not only will weight loss lower blood pressure, but it can also provide many other health benefits as well. The next step toward reducing your child's blood pressure is to make dietary changes. These include increasing the number of servings of fruits and vegetables and reducing the salt in their diet. Be cautious when shopping for packaged foods; some canned and processed foods contain a great deal of salt, so learn to read labels carefully to make sure the items have little or no salt added. Fast food and other types of restaurant foods are often high in salt, so minimize their intake. Cooking fresh foods at home is always healthier than eating out. Your pediatrician may have you speak with a dietitian to help you learn the best eating plan for your child. Your pediatrician will suggest that your child get more exercise and limit the amount of time spent in sedentary activities like watching TV. Physical activity seems to help regulate blood pressure, may help control weight, and thus can help reduce mild hypertension.

Once your pediatrician knows your child has high blood pressure, they'll want to check it frequently to make sure the hypertension is not becoming more severe. Depending on how high the blood pressure is, they may refer your child to a child hypertension specialist, usually a pediatric nephrologist

(kidney specialist) but occasionally a pediatric cardiologist (heart specialist). If it does become worse, it may be treated with medication as well as diet and exercise. Many types of medications are available, which work in different ways. When your child's blood pressure is brought under control with diet or medication, it is important to continue the treatment according to your doctor's recommendations, including changes in diet, or the hypertension will return.

PREVENTION

It's very important to detect hypertension early. Uncontrolled long-standing hypertension can have damaging effects on several other organs in the body, such as the heart, kidneys, and brain. It is recommended that all children have their blood pressure checked at their well-child visits beginning at age 3, sooner for those at high risk. These include infants who were preterm or of low birth weight, or who had a difficult or prolonged hospital stay. It also includes children who have congenital heart disease, who are receiving medications that might increase blood pressure, or who have any other condition that might lead to high blood pressure.

Because children with overweight are more likely to develop hypertension (as well as other health problems), watch your child's caloric intake, teach your children about healthy food choices, and make sure they get plenty of exercise. Even relatively small decreases in weight or small increases in physical activity can make a big difference and may prevent hypertension in children with overweight.

Kawasaki Disease

Kawasaki disease is a rare systemic process whereby blood vessels throughout the body become inflamed. It is a potentially serious and perplexing disease, and its cause is unknown. One sign of this disease includes fever, usually quite high, that lasts for at least five days, doesn't respond to antibiotics, and does not have an alternative cause. Fever should be present to consider a diagnosis of Kawasaki disease in the ill child; in addition, other signs must be present on examination. Most often, four of the six following signs appear in the first week of a typical case:

1. Rash over some or all of the body, often more severe in the diaper area, especially in infants under 12 months of age
2. Redness and swelling of the palms of the hands and the soles of the feet; in the later stage, peeling of the skin around the base of the nails
3. Red, swollen, and cracked lips and/or a strawberry tongue (red and bumpy)
4. Red, inflamed eyes, involving the sclerae (white part)
5. A single swollen lymph gland, or a cluster of enlarged lymph nodes, particularly on one side of the neck
6. Irritability (crankiness) or listlessness (lethargy); complaints of abdominal pain, headache, and/or joint pain

When Kawasaki-disease-associated inflammation of the blood vessels occurs, it may involve the arteries of the heart (the coronary arteries). Blood tests are used to demonstrate inflammation, and a heart ultrasound (echocardiogram) will be used to evaluate the coronary arteries in a child with Kawasaki disease. The echocardiogram can identify inflammation, which can weaken the walls of the blood vessels. In some cases, this weakening may even balloon out, causing aneurysms (blood-filled swellings of the blood vessels). In most cases the inflammation in the blood vessels appears to resolve after several months to years, but in some cases the coronary artery may become narrowed (stenotic).

Kawasaki disease occurs most frequently in Japan and Korea and in individuals of East Asian ancestry, but it can be found among all racial groups and on every continent. The exact number of cases is not known, but it is probably between 5,000 and 10,000 per year in the United States, typically occurring in infants between 18 and 24 months of age and in preschoolers. Kawasaki disease occurs rarely in infants between 6 weeks and 6 months of age; in this age group, unremitting fever may be the only sign noted. The peak age of occurrence in the United States is between 6 months and 5 years.

Kawasaki disease is not contagious. It is extremely uncommon for two children in the same household to get the disease. Likewise, it does not spread among children in childcare programs, where there is daily close contact. Although Kawasaki disease can occur in community outbreaks,

particularly in the winter and early spring, no one knows the cause. Despite intensive research, no bacterium, virus, or toxin has been identified as a cause of the disease. No specific test makes the diagnosis. The diagnosis is made based on the signs of illness mentioned previously and by excluding other possible diseases.

TREATMENT

Kawasaki disease can be treated but not prevented. If it is diagnosed early enough, intravenous immunoglobulin (a mixture of human antibodies), also known as IVIG, can greatly reduce the risk of a child developing coronary aneurysms. If your child receives IVIG, this may impact the routine immunization schedule for so-called live virus vaccines (varicella and MMR vaccine), so parents should check with their pediatrician. However, all inactivated vaccines, including influenza vaccine, should be given on schedule.

In addition to IVIG, the child with Kawasaki disease will receive aspirin, initially in high doses during the first stage of the disease and in low doses during the recovery stage, until your pediatrician tells you it is okay to stop. Aspirin can decrease the tendency of blood to clot in damaged blood vessels, and it is used to prevent clots from developing in the coronary arteries. Although it's appropriate to use aspirin to treat Kawasaki disease, aspirin should not be used to treat children with minor illnesses (e.g., a cold or influenza), as it has been linked with a serious disease called Reye syndrome. If a child is treated with aspirin for Kawasaki disease and exposed to influenza or chickenpox, the aspirin should be stopped, and parents should discuss a suitable temporary substitute medicine with their pediatrician.

Sickle Cell Disease

Sickle cell disease (SCD) is a group of chronic genetic disorders affecting the red blood cells. In children with SCD, the red cells in the blood become sickle-shaped under stresses such as low oxygen levels, cold temperatures, and infection, impacting how well the red blood cells transport oxygen around the body.

There are several types of sickle cell disease. The best-known is sickle cell anemia or hemoglobin SS disease. Others include sickle–hemoglobin C disease and two types of sickle ß-thalassemia. All of these disorders in the SCD complex have similar symptoms, such as anemia (shortage of red blood cells), episodes of severe pain, and infections. (See *Signs and Symptoms,* page 676.)

In the United States, about 2,000 newborns each year are diagnosed with SCD. It can occur in children of any race or ethnicity, including those whose ancestors come from Africa, South and Central America, India, Saudi Arabia, Italy, Greece, or Turkey.

In healthy children, red blood cells are normally disc-shaped and flexible, and travel easily through blood vessels, transporting oxygen from the lungs to every part of the body. Children with SCD have abnormalities in hemoglobin (a component of every red blood cell) that can distort the shape of these red cells. The irregularly shaped red cells become sticky, clumping together and interfering with the flow of nourishing blood to organs and limbs, which can be painful. These cells also survive only a few days from the time they are released into the circulation, in contrast to four months for normal red blood cells. This causes ongoing anemia.

Some children do not have the disease itself, but they carry the gene responsible for causing it, and they can pass it along when they have children of their own. If a child inherits the sickle cell gene from one parent but not the other, pediatricians categorize the child as having sickle cell trait. Children with sickle cell trait do not have anemia nor episodes of pain associated with sickle cell disease.

SIGNS AND SYMPTOMS

In most cases, infants with SCD appear healthy at birth. However, after a child is a few months old, symptoms may emerge that can range from mild to severe.

Common signs and symptoms of SCD include:

- Inflammation and swelling of the hands and/or feet (called dactylitis or hand-foot syndrome); this is commonly the first symptom of SCD
- Anemia

- Pain
- Pallor
- Jaundice (yellowing of the skin and eyes)
- Susceptibility to infections
- Delayed growth
- Enlarged spleen, which the doctor can feel in the abdomen

A sickle cell crisis may occur suddenly, with an episode of pain that typically affects the bones, joints, or abdomen. The intensity of pain can vary, and it can last from hours to many weeks. The trigger for these crises is unclear in many cases, although blocked blood flow plays a role, and in some cases so can infections. Serious SCD complications can develop, including pneumonia (called acute chest syndrome in children with SCD), stroke, and organ damage (spleen, kidney, liver, or lung).

TREATMENT

If your child has SCD, they should be diagnosed as early as possible so that appropriate treatment can be planned and started. Fortunately, most cases of SCD can be detected through a simple screening blood test that is universally given to newborns in all states.

Children with SCD need long-term care to minimize the risk of complications, to address problems when they occur, to prevent life-threatening infection, and to be able to access new treatments as they are developed. Commonly prescribed treatments include the following:

- Mild pain can be relieved with over-the-counter analgesic medications, such as acetaminophen or non-steroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen. Heating pads also can be used for pain relief. In addition, good hydration is important.
- Antibiotics, typically a form of penicillin, should be prescribed for all children with sickle cell anemia (HbSS) and $HbSS^{0}$ thalassemia, beginning by 2 months of age and given continuously until at least the age of 5 years. These medications are a preventive measure to reduce the risk of serious bacterial infection.

- Children with SCD should receive all childhood immunizations as recommended by the American Academy of Pediatrics (see page 746) as well as some additional vaccines against meningitis and pneumonia.
- Children with sickle cell anemia (HbSS) or $HbSS^0$ thalassemia should begin hydroxyurea treatment at 9 months of age. Hydroxyurea is a once-daily medication that decreases the number of pain crises, pneumonias, and blood transfusions.
- Children with sickle cell anemia (HbSS) or $HbSS^0$ thalassemia should have a transcranial Doppler (TCD) every year beginning at 2 years of age. TCD is an ultrasound of the brain that helps to identify children who are at highest risk of stroke so that they can begin treatment to reduce that risk.

Your child with SCD can benefit from various lifestyle measures. They should get plenty of rest and sleep. They should drink lots of water (particularly in warm weather) and avoid becoming overly hot or cold.

If your child's pain becomes severe, or they develop other serious symptoms or complications, your pediatrician may recommend hospitalization. While hospitalized, your child could receive:

- Morphine or other medications given intravenously (through a vein) for pain relief
- Intravenous antibiotics that can manage an infection if one develops
- Blood transfusions that can raise the number of red blood cells
- Supplemental oxygen given through a mask that can add oxygen to the blood

Because relatively mild symptoms (fever, pale skin, abdominal pain) can quickly progress to serious illness, parents should talk with their pediatrician in advance to make sure that the family has around-the-clock access to a medical facility experienced in treating SCD. If your child develops a fever, contact your pediatrician at once because of the risk of a major infection.

CHAPTER 34

Immunizations

Immunizations have helped children stay healthy for more than a century. Routine vaccines have become one of the best weapons available to protect your child against major childhood diseases.

Immunizations, in fact, are one of the greatest public health success stories of our times. Many diseases that were once a routine part of growing up, some of them life-threatening, are now preventable and relatively rare, thanks to improvements in sanitation, better nutrition, less crowded living conditions, antibiotics—and vaccines. At one time, most people did not reach adulthood without someone in their family or circle of friends being touched by a very serious illness or death caused by an infectious disease. But now those same diseases are at record low levels in the United States as well as many other countries in the world—and that's because immunization rates are at record highs. Routine immunization against sixteen infectious diseases is now recommended between birth and 18 years of age as well as annual immunization against influenza and COVID-19. Vaccines work extremely well—most are more than 90 percent effective in preventing diseases—so they are valuable tools for keeping children safe and healthy. When parents learn of the risks of these infections—for example, whooping cough causing seizures, brain disease, and even death—the argument in favor of childhood immunizations is persuasive. Although chickenpox, for example, is usually a mild disease, before the vaccine was available more than 11,000 children were hospitalized each year for complications from infection. Before the vaccine, about 100 people per year died of chickenpox complications, and untold numbers were scarred. But now this disease can be prevented.

Important and Safe

Because many parents (and even some doctors) have never seen a child with whooping cough, diphtheria, tetanus, polio, or measles, mothers and fathers sometimes ask their pediatrician whether their child really needs vaccines at all. But while many of the illnesses that once caused lifelong disabilities or even death are now uncommon, they haven't been wiped out completely. Yes, they are preventable, but the germs that cause many of them are still around and are regularly brought into the country by international travelers.

Just consider the case of the *Haemophilus influenzae* type b (Hib) vaccine. It protects children from serious childhood diseases like meningitis (an inflammation of the tissues that cover the brain and spinal cord) and throat infections that can block the airway (epiglottitis). Before this vaccine became available in the 1980s, there were about 20,000 cases of Hib disease in the United States every year. *H. influenzae* type b was the most common cause of bacterial meningitis in the United States, and it was a major cause of intellectual disability and deafness. Today, because most Hib disease is prevented by immunization, there are fewer than 100 cases annually in the United States.

At the same time, vaccines are very safe—but they're not perfect. Like medications, they can cause occasional reactions, but usually these are mild (see *More About Immunizations*). Side effects like redness or discomfort at the site of the injection can happen. They appear soon after the shot is given, and then usually go away within a day or two. Your child also may be fussy for a day or two following immunization. Although more severe reactions can occur, they are much less common. A very small number of children with certain health conditions should not receive certain vaccines. Talk to your doctor if your child had a serious reaction to a previous vaccine, is allergic to a vaccine component, has a problem fighting infections, has been diagnosed with immunodeficiency, or is sick on the day of the appointment. This type of information can help your doctor determine if your child should postpone or not receive some vaccines. In years past, some people were worried about a preservative called thimerosal, which for decades had been added to some vaccines to prevent contamination of vaccines by bacteria. Thimerosal has a small amount of organic mercury in it. Scientists wanted to investigate whether there was any link between disorders such as autism and vaccines that contain thimerosal. Numerous rigorous scientific

studies in multiple countries have shown there is no causal link between thimerosal in vaccines and autism. There is no credible evidence linking vaccines, or any component of them, to autism. In addition, all vaccines manufactured for infants and almost all for older children and adults in the United States are thimerosal-free or contain only trace amounts.

MORE ABOUT IMMUNIZATIONS

When you have your children immunized:

- You protect them from dangerous and potentially fatal diseases.
- You reduce the severity of the disease if your children happen to get it.
- You cut down the chances that contagious diseases will spread.
- You safeguard other people in your community who are too young to receive the vaccine or cannot receive vaccinations due to medical issues.

ALSO OF NOTE

- After receiving a vaccine, some children experience mild symptoms such as a low fever and fussiness, as well as tenderness, swelling, or redness where the shot was given. They also may sleep a little longer than usual in the day or two after receiving the shot.
- On very rare occasions, children may react to a vaccine with a more concerning response, such as a seizure, rash, or high fever. Call your pediatrician if your child develops a fever over 103 degrees Fahrenheit (39.4 degrees Celsius), a rash all over the body (including hives), a large amount of swelling in the limb where the shot was given, or any other symptoms that worry you. These guidelines apply to all the immunizations described in this chapter.

While some parents also worry that their child is receiving "too many vaccines" at one time, there is plenty of research showing that multiple childhood vaccines can be given at the same time safely. In fact, a vaccine cannot be licensed by the FDA and recommended until the manufacturers show that it can be given safely with other recommended vaccines. And although children receive more vaccines than in years past, the ones they're receiving have been improved, so children are actually receiving fewer antigens (substances that help a body build up an immunity) with each shot than in previous years. These shots are effective and safe when they're given according to the guidelines recommended by the American Academy of Pediatrics.

The important point to remember is that getting these vaccine-preventable diseases is much more dangerous than getting the vaccines. If you have questions or concerns about immunizations, talk with your pediatrician.

What Shots Does Your Child Need?

Your child should be vaccinated according to the schedule of immunizations recommended by the American Academy of Pediatrics. The entire schedule appears in the Appendix and includes the following immunizations for young children. Please refer to the chart often for information on the immunizations your child needs and when they should be given. Also, recommendations change as vaccines are improved and new ones are developed, so be sure to speak with your pediatrician or visit aap.org for the most current immunization schedule.

Chickenpox (Varicella)

The vaccine to protect against the varicella virus became available in 1995, and not only protects against chickenpox, but also reduces the risk of shingles in later life. Natural chickenpox infection can cause a fever and an itchy, blister-like rash all over the body. There may be as many as 250 to 500 of these blisters. Sometimes the infection causes serious complications, including skin infections, brain swelling, and pneumonia.

EASING THE HURT

Shots can hurt. When your child receives a vaccine, they can be uncomfortable and may cry for several minutes. But fortunately, any pain is very short-lived. At the moment the immunization is given, you may be able to soften the experience by distracting your child. Talk soothingly and make eye contact with them. Afterward, comfort and play with them for a while.

If your child develops side effects, you may be able to ease any fever or irritability by giving them acetaminophen or ibuprofen. The routine use of these medications prior to the child developing symptoms is not recommended. Be sure to discuss the use and proper dosage of these medicines with your pediatrician or Poison Help at 1-800-222-1222. If your child has pain at the site where the shot was given, your doctor might recommend applying cool compresses to lessen the discomfort. Certainly, if any reaction makes your child uncomfortable for more than four hours, notify your pediatrician, who will want to note it in your child's records and advise you on what to do.

Before immunizing your child, it's a good idea to talk with your doctor about what reactions could occur, if any. If unusual or severe reactions (like a fever or changes in behavior) happened in the past, you and your pediatrician should discuss the pros and cons of whether it's appropriate to give another dose of the same vaccine at the scheduled time.

As painful as it may be for you to watch your child experience the discomfort of a shot, don't lose sight of the fact that you're doing enormous good for them by making sure they are protected from the diseases that vaccines can prevent.

Varicella vaccine is safe. Reactions to the vaccine are generally mild. About 20 percent of children will develop mild pain, redness, or swelling at the injection site. If your child has a weakened immune system or is taking steroids or other drugs that can affect the immune system, check with your doctor before they get the chickenpox immunization.

Two doses of the vaccine provide more than 90 percent protection against infection. Currently if someone who has been vaccinated does get chickenpox, it is usually very mild. They will have few spots, are less likely to have a fever or serious complications, and will recover faster.

COVID-19 (SARS-CoV-2)

COVID-19, or SARS-CoV-2, is a respiratory virus that can cause severe, life-threatening illness affecting not only the lungs, but also the brain, the heart, the kidneys, the intestines, and other organ systems. Long-term complications can include chronic tiredness/weakness and MIS-C, a serious multisystem inflammatory syndrome that can occur in children who have had COVID-19. COVID is highly contagious and especially dangerous to children with underlying conditions like heart disease, asthma, or complications of premature birth. The COVID vaccine, administered starting at 6 months of age, is safe and highly effective at preventing serious disease from COVID. Vaccinating your child can help protect every member of the family and even help safeguard your community against this infection.

Diphtheria, Tetanus, and Pertussis

The DTaP vaccine protects your child against diphtheria (D), tetanus (T), and pertussis (aP). The diphtheria portion of this vaccine guards against a throat infection that can trigger breathing difficulties, paralysis, or heart failure. The tetanus portion protects against a disease that causes the

tightening or "locking" of all of the muscles in the body, especially the jaw, and is potentially fatal. The vaccine for pertussis (also called whooping cough) prevents bacteria from causing severe and violent coughing spells in infants that can make breathing and eating difficult.

What about expected side effects? Redness and tenderness may occur with the diphtheria and tetanus portions of the vaccine. Severe, but very rare, problems that have been reported after the DTaP vaccine include seizures, coma, and permanent brain damage. These are extremely rare and have occurred only in children with other underlying disorders. For the vast majority of children, the dangers of the diseases themselves far outweigh any risks of the shots. Keep in mind, for example, that 1 out of 13 people who get a tetanus infection die from it, 1 out of 100 babies under 6 months who get a pertussis infection die, and about 1 out of 10 people who get a respiratory diphtheria infection die of complications. Immunizations are very important to protect your child from these diseases. To fully protect the newborn, pregnant mothers should receive a dose of the adult version of the vaccine, Tdap, during the third trimester of pregnancy.

Hepatitis A

Like the hepatitis B vaccine (see below), the hepatitis A immunization protects against a common liver disease, which your child can catch by eating food or drinking water contaminated with the hepatitis A virus. This common infection can sometimes be spread in childcare settings when caregivers do not follow good handwashing procedures.

The hepatitis A vaccine is very safe. The first dose is given at 12 months of age, followed by a second dose six to twelve months later. Reactions to this vaccine are very uncommon and usually are nothing more than soreness where the shot was given.

Hepatitis B

The hepatitis B vaccine offers protection against a liver disease that can be spread by infected blood and body fluids. The infection is caused by the hepatitis B virus and can lead to cirrhosis and liver cancer. The infection can be passed from an infected mother to their baby at the time of birth, or from one household member to another.

The first hepatitis B shot should be given within twelve hours after birth, even before your baby is discharged from the hospital. A second dose should be given at 1 to 2 months of age, and a third dose when the child is 6 to 18 months old. The hepatitis B vaccine is very safe. Severe problems are rare. Possible mild reactions include soreness where the shot was given, and occasionally a fever.

Hib (*Haemophilus Influenzae* Type B)

The Hib vaccine protects your child from the bacterium *Haemophilus influenzae* type b, which was the leading cause of meningitis before the vaccine became available. This serious disease occurs most often in children from ages 6 months to 5 years, leading to symptoms such as fever, seizures, vomiting, and a stiff neck. Meningitis also can cause hearing loss, brain damage, and death. These same bacteria can lead to a rare but serious inflammation of the throat called epiglottitis.

The first Hib vaccine should be given at 2 months of age, with additional doses to follow. It is important to have your child immunized with this vaccine in order to lower their risk of getting Hib diseases during the early years, when they are most vulnerable to these infections. There are no reasons to withhold this vaccine from your child unless they have had a rare life-threatening allergic reaction to a previous dose of the vaccine.

Influenza

Influenza (the flu) is a respiratory illness caused by a virus. This infection leads to symptoms such as a high fever, muscle aches, sore throat, and cough, and it may take your child several days of rest to recover. There are often two types of influenza vaccine available to protect your child:

- The inactivated (killed) vaccine, given by injection (flu shot)
- The live attenuated (weakened) vaccine, sprayed into the nostrils (flu mist)

All children 6 months of age and older—including all children, adolescents, young adults, and those caring for a child too young to receive a vaccine (such as a newborn)—should receive the annual seasonal influenza vaccine unless there is a specific and uncommon contraindication to this

vaccine. Special efforts should be made to vaccinate those who have chronic medical conditions that increase their risk of severe influenza complications (such as asthma, diabetes, immunosuppression, or neurological disorders). The formulation of the influenza vaccine changes yearly, depending on the expected prevalence of the various influenza strains. This is one reason the influenza vaccine must be administered every year. It is also important to be sure that all individuals caring for young children and for children with chronic medical conditions receive an annual flu vaccine.

Measles, Mumps, and Rubella (MMR)

The measles portion of this vaccine protects against an infection that causes an extensive red or brownish blotchy rash, as well as flu-like symptoms; measles can lead to severe complications such as pneumonia, seizures, and brain damage. The mumps vaccine gives your child protection against a virus that causes swollen salivary glands, a fever, and headaches, and can lead to deafness, meningitis, and painful swelling of the testicles or ovaries. The rubella (German measles) vaccine guards against an infection in which the child may have a pink rash and swollen, tender glands at the back of the neck. Being immunized is the best way to prevent rubella, or German measles. The vaccine usually is administered as part of a three-in-one shot called MMR (measles, mumps, rubella) or a four-in-one shot called MMRV (measles, mumps, rubella, varicella), given when the child is 12 to 15 months old. In addition, the vaccine protects pregnant women from passing the rubella virus to the developing fetus.

There was considerable media attention in the past about a possible connection between the MMR vaccine and autism. In fact, extensive research has shown that there is no connection. There has been confusion because autism is often diagnosed at about the age at which children receive the MMR vaccine. This has led to the erroneous conclusion that the vaccine somehow causes autism. But, in fact, studies now clearly show that autism actually begins before a baby is born and vaccines play no role.

Use of the MMR vaccine was once discouraged for children who had an allergy to eggs. But because the MMR vaccine now contains only trace amounts of egg protein and research has shown that the vaccine can be safely administered to egg-allergic children without special precautions, the

recommendation has been adjusted. However, if your child is taking any medication that interferes with the immune system, or if their immune system is weakened for any reason, they generally should not receive this immunization. As for side effects, sometimes, around seven to twelve days after the MMR vaccine, a child may develop mild swelling of the glands in the cheeks or neck, and a fever or mild rash. If this mild vaccine side effect does occur, it is important to note that it is not dangerous or contagious and will resolve on its own. Such findings occur less often after the second dose. Severe problems such as seizures caused by fever occur in 1 out of 3,000 doses. Serious allergic reactions are very rare (about 1 out of 1 million doses).

Pneumococcal Vaccine

The pneumococcal conjugate vaccine protects your child from meningitis, as well as common forms of pneumonia, blood infections, and certain ear infections. Four doses are recommended starting at 2 months of age; subsequent dosages are given at 4 months, 6 months, and 12 to 18 months. A pneumococcal infection is one of the most common causes of vaccine-preventable deaths in children. Only mild reactions are associated with the vaccine. Some children become fussy or drowsy, lose their appetite, or develop a fever.

Polio

The polio vaccine provides protection from the virus that causes polio. While some infections with the polio virus cause no symptoms, it can cause paralysis and death in other cases. Before the polio vaccine was available, millions of children throughout the world were left paralyzed from polio.

Today, all children need four doses of the polio vaccine before they start school, starting with shots at 2 months of age. The inactivated polio vaccine is given as shots, and there is no risk of the vaccine causing the disease.

Rotavirus

The rotavirus vaccine protects against a potentially serious stomach virus (often referred to as “stomach flu”), which can cause vomiting, diarrhea, and related symptoms in children. Before the vaccine was available, rotavirus was the most common cause of severe diarrhea in children under the age of

2 years. In the United States before the rotavirus vaccine was given, about 50,000 children under 5 years of age were hospitalized each year because of rotavirus infection.

The rotavirus vaccine is an oral vaccine, given in a two-or three-dose series between 2 and 8 months of age. Some children may experience mild, temporary diarrhea or, rarely, vomiting within seven days of getting a dose of the rotavirus vaccine. There are no severe reactions associated with this vaccine. As with some other vaccines mentioned earlier, talk with your doctor before getting the rotavirus vaccine if your child's immune system might be weakened by conditions like HIV or steroid use. If your child has been diagnosed with severe combined immunodeficiency, they should not receive the rotavirus vaccine, as it is contraindicated in these patients or those who have a history of GI disease.

CHAPTER 35

Media

Technologies such as TV, mobile devices, and internet-related games offer entertainment, culture, and education to our children. While it may offer many benefits, media use has also been associated with the risk of obesity, sleep issues, aggressive behaviors, and attention issues in preschool-and school-age children. When it comes to incorporating technology into your children's daily routine, they need your experience, judgment, and supervision.

Development and Learning

Children younger than 15 to 18 months of age may be fascinated by electronic screens. Starting as soon as their vision permits (around 6 months of age), they will stare at the colors and patterns on the screens, and they may even swipe and tap around as much as their developing motor skills allow. Parents can easily misinterpret this activity as a child understanding what they see in the way that older children and adults do. Children in this age range, however, do not yet have the mental skills to make sense of screen programming. They can be distracted by screens, but research shows they don't learn from them, no matter what the program or app suggests.

Instead, babies and toddlers learn by exploring their worlds physically, usually in the company of a parent or other caring adult. Children learn through reading, singing, rocking, clapping, and playing. Anything that distracts from these three-dimensional activities, including screen media, can interfere with learning. For this reason, the American Academy of Pediatrics strongly discourages screen time for children under 18 months of age with the exception of live video chatting in the company of a parent or caregiver, usually used to keep children in touch with distant loved ones.

Starting around 15 months of age, children may be able to learn from some screen content, but only when a parent is helping them process and understand the content. High-quality screen programming may be a limited option for children over age 18 months, but it should be used as a companion to in-person learning, not as a substitute. Children over 3 years of age can learn numbers, letters, words, and even the concept of kindness from well-crafted programming. Of the thousands of apps that promise to help teach children, very few have been rigorously studied. Before using any digital media content, parents should research whether it has any proven educational benefit. However, research shows that programming that is more interactive functions as a better teacher than programs that are passively viewed. Co-viewing with an engaged parent or caregiver helps even more, so take time to view or play with your child during digital media use.

Young children with heavy media use are at risk for delays in language development once they start school, as they may experience less "talk time" with adults when screens are on, even in the background. Research shows that this talk time is valuable for children's emerging language development. And when parents are watching their own programs and using mobile devices or computers, they may be distracted and engage in less parent-child interaction. Screen use by parents is associated with fewer parent-child verbal and non-verbal interactions, and parents may display less patience and more frustration with their children's behavior, some of which may be a plea for parental attention.

Background media may also interfere with a young child's learning from play and activities. Research shows that even when a show is not intended for a child audience, a child will glance up at the screen three times every minute. It disrupts a child's concentration when they are "at work" (playing). Children are less focused and more likely to move on to a new toy more quickly when a screen is on.

Children who are inadvertently exposed to adult content may absorb some negative messages if present. A child watching a show with adult content may observe characters engaging in violence or using inappropriate language. These types of programs may also present sexuality, drugs, and alcohol to children who are too young to understand these issues, whether

fictional or real. In addition, a great deal of screen time perpetuates gender and ethnic myths and stereotypes that will serve as poor influences on children. Children may interpret social interactions on video programs as a glimpse of the "real world" when in fact the content does not reflect reality. This is why it is important for parents to preview and/or watch programs with their children to discuss what is happening on the screen and answer questions.

Childhood Obesity

Research shows that time spent watching TV programming (regardless of the device) contributes to childhood obesity. The effect seems to come more from advertising for unhealthy foods and sweetened beverages than from children's decreased activity levels; however, children do tend to ignore cues that they are full if they eat while watching TV. Increased TV watching has been correlated with a higher BMI. Help children develop healthy eating habits early by keeping screens off for the family during mealtimes. Also, keep track of what they're watching and playing, and consider choosing different content if it exposes them to advertising for unhealthy foods and beverages.

WHERE WE STAND

Although the American Academy of Pediatrics does not hold media solely responsible for violence in our society, research shows that violence in television, movies, or video games has a clear effect on the behavior of children and contributes to the frequency with which aggression is used to resolve conflict. Entertainment media also distort reality on matters such as drugs, alcohol, tobacco, sexuality, and family and community relations.

We encourage parents to manage both the quantity and the quality of their family's screen time. Parents can create a healthy media diet and lead by example. Children's TV programming is supported by commercial advertisers whose primary motivation is to sell products and create brand loyalty. Young children are not prepared to distinguish between programs and the commercials that interrupt them, nor do they understand that commercials are designed to sell them (and their parents) something.

Together, parents, broadcasters, programmers, and advertisers must be held responsible for the media that children consume. The American Academy of Pediatrics strongly supports legislative efforts to improve the quality of children's programming. We urge parents to limit and monitor the amount of screen time (including television,

videos, computers, and video games) for their children, to monitor what their children are watching, and to watch media with them to help them learn from what they see.

Physical Activity and Play

All children need active play, not only for the physical exercise but also for proper mental and social development. Most media use is passive. Sitting and watching TV all the time, for example, does not help your child acquire the most important skills and experiences they need at this age, such as communication, creativity, fantasy, judgment, and experimentation. The more time your child spends in front of a screen, the less time there is to spend on the wide variety of activities that create a fun and memorable childhood. While there may be some educational benefits to screens, children need a healthy variety of daily activities. Independent play encourages creativity. Playing with other children fosters social skills and problem-solving. Physical activity, at least one hour a day, is critical for a healthy lifestyle. Studies conducted during the COVID-19 pandemic lockdown demonstrated a strong correlation between both excessive near work (like reading, crafting, or looking closely at a screen) and decreased sunlight exposure with an increased trend toward progressive myopia or nearsightedness. This is why children need a balance of activities in their day and it is important to avoid having digital media replace healthier choices.

Sleep

Some parents may use screen media to help their children settle down in the evening. However, screens typically emit a lot of light with wavelengths at the bluer end of the spectrum, and blue light has been proven to interfere with sleep. Screen use in early childhood contributes to delayed onset of sleep, shorter time asleep, and poorer-quality sleep. Poor sleep habits have adverse effects on mood, behavior, weight, and learning.

Ideally, screens should be off for at least sixty minutes prior to bedtime, and screen use should never interfere with or take the place of bath time, stories, puzzles, or drawing. If your child needs sound to drown out

household noises, consider buying a specialized sound machine or even a box fan to create white noise. Keep the volume low, however, because young children are very susceptible to hearing loss from prolonged noise exposure.

Monitoring Technology Use

In a fast-changing, increasingly technological world, children will naturally become adept at using various forms of technology as they grow older. Exposing them to screens too early provides no benefit. However, co-participating in and carefully monitoring your child's usage will lead to a safe and fun experience.

If your child chooses to play games on a tablet, mobile device, or family computer, ensure that they play games suited to their age. If a game requires using the internet, check that it is on a safe, kid-friendly website, and assess whether it includes direct advertising or advertising that is integrated into the content ("advergaming"). This will limit the possibility of them encountering inappropriate material inadvertently. Furthermore, the American Academy of Pediatrics recommends using the parental controls on your router, computer, or mobile device's operating system, which can block or filter internet content. Many internet service providers have software for the same purpose, available free of charge. Parents can choose to purchase a separate software program or app that can block and track inappropriate or unwanted websites, and lock parts of the device to prevent your child from viewing sites of concern. There are also apps that can report on and control the *length* of time a child is on a screen.

TV shows and movies often come with a rating that indicates the type of content included in the program. These are usually located in TV listings in print or online. News programs do not have ratings, and some information presented may not be suitable for children to see or hear. Be firm with your child about what is appropriate material for them to view, and be available to supportively listen to or discuss intrusive programming, content, or advertising that may have upset your child.

In addition, help your child understand that people online are not always who they say they are, and may not be the "friends" they claim to be.

Advise them never to share personal information such as addresses, phone numbers, and family names.

CHILDREN WITH DISABILITIES AND COMPUTERS

If your child has a disability, you can get equipment that makes it easier for them to use computers at home and at school. For example, special screens, keyboards, joysticks, and computerized voice programs allow children with disabilities to enjoy using a computer and support their learning.

For additional information, contact:

- ERIC (Institute of Education Sciences 1-800-538-3742; eric.ed.gov). This resource is an online digital library of education research and information.
- The Starlight Children's Foundation (1-310-479-1212; starlight.org). Another excellent resource, this organization is dedicated to developing projects that empower seriously ill children to face their day-to-day challenges.
- Common Sense Education (commonsense.org). This organization provides resources for educators on media literacy, digital citizenship, and productive ways to integrate screen media into lesson plans.

Guidelines for Media Use

- Avoid digital media use (except video chatting in the company of a parent or caregiver) by children younger than 18 months.
- For children 18 months to 24 months of age, parents can introduce digital media, choosing high-quality programming and limiting screen use to thirty minutes per day. Avoid solo media use at this age.
- Do not feel pressured to introduce technology early; interfaces are so intuitive that children will figure them out quickly once they start using them at home or in school.
- For children 2 to 5 years of age, limit screen use to one hour per day of high-quality programming. Help children understand what they are viewing and how they can apply what they learn to the world around them.
- Avoid fast-paced programs (young children do not understand them as well), apps with lots of distracting content, and content that includes violence or adult topics.

- Be intentional: Turn off televisions and other devices when not in use.
- Avoid using media as the only way to calm your child. Although there are occasionally times (i.e., medical procedures, airplane flights) when media can be useful as a soothing strategy, there is concern that using media as a calming strategy could lead to problems with overuse or the inability of children to develop their own emotional self-regulation. Ask your pediatrician for help if needed.
- Monitor children's media content and what apps are downloaded and used. Test apps before your child uses them, then use them together, and ask your child what they think about the app.
- Keep bedrooms, mealtimes, and parent-child playtimes screen-free for both children and parents. Parents can set a "do not disturb" option on their devices during these times.
- Avoid screens for one hour before bedtime, and keep devices and screens out of bedrooms.
- Develop a family media use plan for your family that prioritizes healthy activities such as face-to-face communication and physical activity over media use. An online plan template and guide are provided by the American Academy of Pediatrics at HealthyChildren.org/MediaUsePlan.

A Message to Parents

Teach your child that screen time means television, movies, and digital gaming, and that these are privileges that one can enjoy in moderation but which also come with responsibilities.

Be media-smart by:

- Setting limits and offering guidance for your child's media time
- Helping your child to plan which programming and movies to watch and when
- Turning the screen off when the show is over or when they have reached their maximum allowed usage time
- Being mindful of times when you use media as a "babysitter" and consider alternatives, including respite care from family, caregivers, or

trusted friends

- Keeping TVs, DVD players, video games, tablets, and computers out of your child's bedroom. Set them up in open family areas of your home where you can monitor their use.
- Watching TV with your child to help educate them about advertising and commercials, and helping them gain digital literacy

To increase your child's interest in other activities that don't involve forms of media, invite them to join you in reading, playing board or outdoor games, coloring, cooking, building, or visiting with friends. Praise them when they entertain themselves without relying on television or the computer, and be a good role model by restricting your own media time. You can show them that you value human interactions and that you also have limits on your screen time. *Do not* use television as a reward or withhold it as a punishment, as that will only make it seem more enticing. Set up the ground rules in your family media plan and be consistent in following them. If your house rules are "no videos or TV shows on school nights" or "up to one hour of recreational screen time after homework is done," then be sure to enforce them. No matter what your family's rules are, having and enforcing rules is the key.

Guide and increase digital literacy by monitoring your children's "media diet" starting at an early age. Media education and digital literacy for parents, caregivers, and children can lead to a better understanding of the pros and cons of all types of media, and how best to introduce and use in your home. Your pediatrician is another great resource for questions that you and your family may have about safe and positive media use.

CHAPTER 36

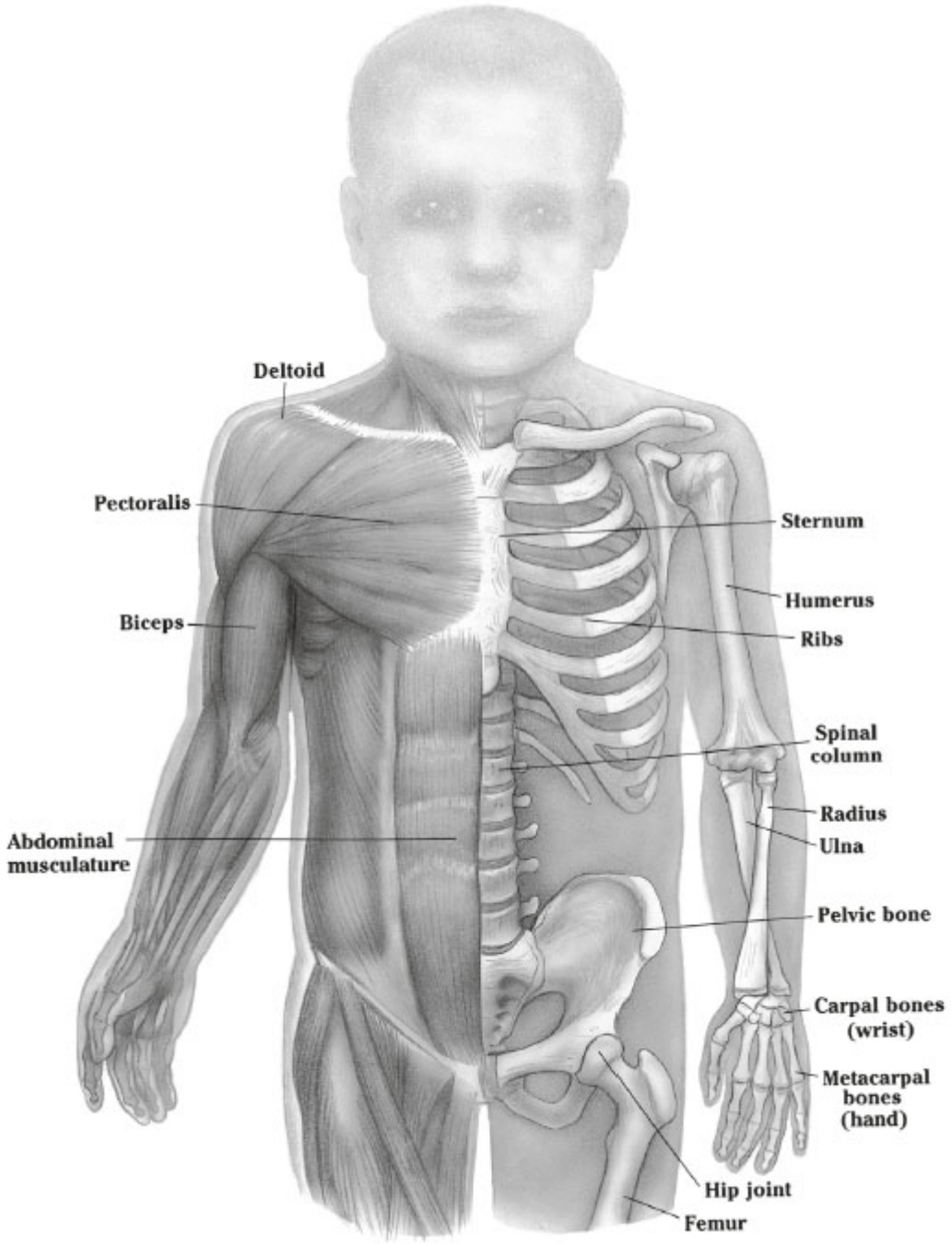
Musculoskeletal Problems

Arthritis

Arthritis involves inflammation of the joints that may produce swelling, stiffness, redness, heat, tenderness, and pain with motion. Although arthritis is typically thought of as a condition of the elderly, children can develop arthritis, too. The four most common forms of childhood arthritis are discussed here.

Bacterial Infection of a Joint (Septic Arthritis) or Bone (Osteomyelitis)

When a joint or bone becomes infected with bacteria, it becomes very painful, hot, swollen, and stiff. An affected child will often walk with a limp, refuse to bear weight, or have decreased movement in an arm. An affected child also will typically have a fever, and very young children may simply be irritable and refuse to walk or use an extremity. Notify your pediatrician immediately if these signs or symptoms appear, as rapid treatment can prevent further joint or bone damage. If infection involves the hip or other deep and inaccessible joints or bones, it can be difficult to diagnose, and infection of the large weight-bearing joints and bones is a very serious condition that needs to be properly diagnosed and treated by a specialist (usually an orthopedist). Treatment may include imaging such as X-ray or ultrasound, needle aspiration or surgical drainage of the infected joint or bone, and intravenous (IV) antibiotics.



Musculoskeletal System

Lyme Disease

An infection transmitted by the deer tick can cause a form of arthritis known as Lyme disease. It is called this because it was first diagnosed in a child in Old Lyme, Connecticut. This infection often starts with a red mark

that is surrounded by a light ring or halo (having the appearance of a red and white target) at the site where your child was bitten by a deer tick. Later, a similar but smaller rash may appear on other areas of the body. Your child also may develop flu-like symptoms such as headache, fever, swollen lymph nodes, fatigue, and muscle aches. More rarely, Lyme disease can cause symptoms involving the nervous system, eyes, or heart. Arthritis then typically develops weeks to months after the skin rash. If arthritis is severe, medications can be prescribed to control inflammation and pain until the condition gradually resolves on its own.

Symptomatic Lyme disease is treated with antibiotics. However, the American Academy of Pediatrics does not recommend routinely taking antibiotics after a tick bite to *prevent* Lyme disease, for several reasons: the fact that most tick bites do not transmit the germ that causes Lyme disease; the possible side effects of antibiotics; the cost of treatment; and the risk of promoting antibiotic-resistant bacteria. The Academy also does not recommend testing your child's blood for Lyme disease shortly after a tick bite, since it takes quite a while for antibodies to show up in the blood even with an infected tick bite. To prevent Lyme disease, your child should avoid tick-infested areas such as wooded regions, high grasses, or marshes. Children also can protect themselves from ticks by wearing long-sleeved shirts, tucking their pants into their socks, and using an insect repellent that has DEET or picaridin as the active ingredient when outside. (See page 472 for more information on DEET.) Almost all cases of Lyme disease can be readily treated with antibiotics, even if arthritis develops.

HOW TO REMOVE A TICK

1. Gently cleanse the area with an alcohol-soaked sponge or cotton ball.
2. Using forceps, tweezers, or fingers (protected by a tissue or cloth), grasp the tick as near to the mouth parts and as close to the child's skin as possible.
3. Using gentle but steady tension, pull the entire tick up and out.
4. Be sure the tick is dead before disposing of it. Removal and disposal of ticks should be done with a protective barrier (tissue or cloth) so you do not get exposed to any bacteria or infectious agents that could be spread by a tick.
5. After the tick is out, cleanse the bitten area thoroughly with alcohol or other cleansing (soap) agent.

Juvenile Idiopathic Arthritis (JIA)

Juvenile idiopathic arthritis (JIA, previously referred to as juvenile rheumatoid arthritis or juvenile chronic arthritis) is the most common form of chronic joint inflammation in children. JIA is a puzzling disorder that is often difficult to diagnose and challenging for families to understand. Common symptoms include persistent joint stiffness and swelling, and pain with motion of affected joints. If your child has these symptoms and/or an unusual pattern of walking, especially in the morning or after naps, call your pediatrician to have your child evaluated. Surprisingly, many children with JIA do not complain of much pain; stiffness and swelling are often the most prominent signs of arthritis.

JIA can occur at almost any age, but it is very uncommon before the first birthday. Particular types of JIA are common before the age of 6 or around the time of puberty. Although this condition can be disabling, and many children with JIA require long-term treatment with medications, with appropriate therapy most children have good outcomes. The exact cause of JIA is unknown. JIA may be triggered by an infection that in a genetically predisposed person causes an abnormal response of the immune system, which leads to joint inflammation.

Signs, symptoms, and long-term consequences vary depending on the subtype of JIA. A form of JIA known as systemic JIA involves not only arthritis, but also inflammation throughout the body, with associated fever and rash, and possible effects on other organs. For example, a child with systemic JIA can develop pericarditis (inflammation of the sac that surrounds the heart), pleuritis (an inflammation of the inner lining of the chest), pneumonitis (inflammation of the lungs), or enlargement of the liver, spleen, or lymph nodes. Other subtypes of JIA include oligoarthritis, polyarthritis–rheumatoid factor negative, polyarthritis–rheumatoid factor positive, psoriatic arthritis, enthesitis-related arthritis, and undifferentiated arthritis. Oligoarticular JIA affects no more than four joints and most commonly starts in preschool girls. The two forms of polyarticular JIA affect at least five joints, and the rheumatoid factor positive subtype is similar to adult rheumatoid arthritis. Psoriatic JIA occurs in children with the skin condition of psoriasis or children who have typical features of psoriatic JIA (swelling of entire fingers or toes, nail changes, or first-degree relative with

psoriasis). Enthesitis-related arthritis involves both arthritis and enthesitis (inflammation of sites where tendons and ligaments attach to bone). This subtype of JIA is often associated with a gene, HLA-B27, and is the only form of JIA that is more common in boys. Undifferentiated JIA does not fit neatly into one of the other categories, or it has features of more than one JIA subtype.

There is no specific blood test for diagnosing JIA. JIA is diagnosed when a doctor finds evidence of arthritis in the child's joints on a physical exam (such as swelling, pain with range of motion, limited range of motion, or deformities), the child has had persistent symptoms of arthritis for at least six weeks, and there is no other underlying cause. Blood tests can help the doctor and family better understand the prognosis of a child with JIA. Some children with JIA can have inflammation in the front of the eye, called uveitis, that can cause damage to the eye and eventual blindness if not treated. Uveitis is most common in JIA patients who have a positive ANA blood test. All children with JIA should be evaluated by an ophthalmologist early in the course of the disease and regularly thereafter. The results of the ANA test help determine how often eye exams are needed.

Great strides have been recently made in the treatment of JIA. Treatment varies depending on the severity and location of arthritis, but it often includes both medications and exercise. Children with JIA should be treated by a doctor with special training in arthritis, called a rheumatologist. It is important to follow the treatment plan that is recommended by your rheumatologist to ensure the best outcome for the child.

The main goal of medical treatment of JIA is reduction of joint inflammation. Non-steroidal anti-inflammatory drugs (NSAIDs) are often used initially to decrease pain and stiffness. Commonly used NSAIDs include ibuprofen, naproxen, and meloxicam. NSAIDs work quickly, but they can cause stomach upset and should always be taken with food. Call your doctor if a child taking NSAIDs complains of abdominal pain or loses appetite. Children with an inadequate response to NSAIDs may be treated with more effective medications, including methotrexate and newer biologic medications such as etanercept, adalimumab, abatacept, and tocilizumab. These medications have more risks that require monitoring by a rheumatologist, but they can also make a huge difference in the lives of

children with arthritis. Another treatment that is commonly used when only one or a few joints have arthritis is injection of a long-acting steroid directly into affected joints, which can control inflammation and rapidly restore function in even severely affected joints.

Exercise plays an important role in slowing progression of JIA and preventing joints from getting too stiff. Although exercise may be uncomfortable at times, especially when a child's joints are already sore, it is important for families to help their child work through the discomfort for the long-term benefits. Physical and occupational therapists can help to design a stretching and exercise program. For patients with severe arthritis, therapists sometimes use strategic splinting to prevent progression of deformities. In general, however, joint immobilization should be avoided in patients with arthritis, as it can make stiffness worse.

Living with JIA requires a great deal of adjustment and dedication, not only for affected children but also for their families. Working as a team with your healthcare providers can help decrease the risk of a child with JIA having long-term problems or disabilities.

Transient Synovitis (Inflammation) of a Hip

This is the most common form of arthritis in children. It typically develops suddenly between 2 and 10 years of age, and then it resolves after a short period of time (days to weeks), with no serious lasting effects. The most common cause involves the immune system's overreaction to a virus, so it is frequently seen after a viral infection like a cold. Treatments include rest and regularly scheduled non-steroidal anti-inflammatory medications (such as ibuprofen), which may help symptoms go away faster.

Bowlegs and Knock-Knees

Toddlers' legs often have a bowed appearance. In fact, many children have bowing of the legs until they are about 2 years old. After this age, they often will look progressively knock-kneed until they are about 6 years of age; afterward this returns to normal. At times, children may not have straight lower legs until they are 9 or 10 years old.

Bowlegs and knock-knees usually are variations of normal and typically require no specific treatment. In most cases a child's legs will straighten naturally by the teen years, but treatment may become necessary if there is a severe deformity or the deformity occurs during the teen years. Bracing, corrective shoes, and special exercises are rarely helpful except for severe deformities, and they may hinder a child's physical development and cause unnecessary emotional stress. Rarely, bowlegs or knock-knees are the result of a disease. Arthritis, injury to the growth plate around the knee (see *Fractures/Broken Bones,* page 576), infection, tumor, Blount's disease (a growth disorder of the knee and shinbone), and rickets (caused by vitamin D deficiency) all can cause changes in the curvature of the legs.

Here are some signs that suggest a child's bowlegs or knock-knees may be caused by a serious problem:

- The curvature is extreme.
- Only one side is affected.
- The bowlegs get worse after age 2.
- The knock-knees persist after age 7.
- Your child also is unusually short for their age.
- Your child has trouble walking or running, or often stumbles and falls.

If your child shows any of these signs, talk to your pediatrician. In some cases, treatment, including referral to a pediatric orthopedist, may be needed.

Elbow Injuries

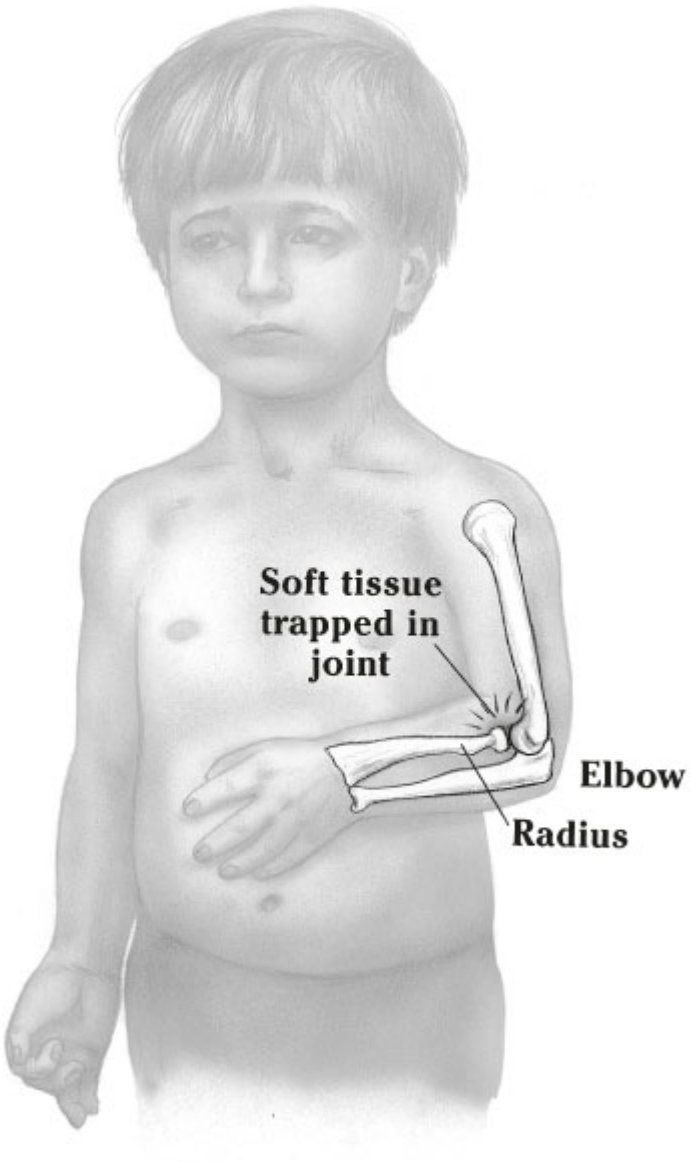
A pulled elbow (also known as nursemaid's elbow) is a common, painful injury generally among children under 4 years old but occasionally older. It occurs when the tissue of the outer part of the elbow slips between the bones of the joint. This happens because the child's elbow joint is loose enough to separate slightly when their arm is pulled to full length (while being lifted by the forearm, yanked, or swung by the hand or wrist). The nearby tissue slides into the space created by the stretching and becomes trapped after the joint returns to its normal position.

A nursemaid's elbow injury usually doesn't cause swelling, but the child will complain that the elbow hurts, or cry when their arm is moved. A child will typically hold their arm close to the side, with the elbow slightly bent and the palm turned toward the body. If someone tries to straighten the elbow or turn the palm upward, the child will resist because of the pain.

TREATING NURSEMAID'S ELBOW

This injury should be treated by a pediatrician or other trained healthcare provider. Since elbow pain can also be due to a fracture, especially if the child falls onto an outstretched hand, your pediatrician may need to consider this before the elbow is "reduced" or put back into place.

Your doctor will check the injured area for swelling and tenderness and any limitation of motion. If an injury other than nursemaid's elbow is suspected, X-rays may be taken. If no fracture is noted, the doctor will move and twist and flex the arm gently to release the trapped tissue and allow the elbow to return to its normal position. Once the elbow has been moved back in place, the child will generally feel immediate relief and within a few minutes should be using their arm normally without any discomfort. Occasionally the doctor may recommend a sling for comfort for two or three days, particularly if several hours have passed before the injury is treated successfully. If the injury occurred several days earlier, a hard splint or cast may be used to protect the joint for one to two weeks. Persistent pain after a reduction may mean that a fracture occurred that may not have been apparent at the time of initial X-rays.



PREVENTION

Nursemaid's elbow can be prevented by not pulling or lifting your child by the hands or wrists or swinging them by the arms. Instead, lift your child by grasping their body under the armpit.

Flat Feet/Fallen Arches

Babies are often born with flat feet, which may persist well into childhood. This occurs because children's bones and joints are flexible, causing their feet to flatten when they stand. Young babies also have a fat pad on the inner

border of their feet that hides the arch. You still can see the arch if you lift your baby up to stand on the tips of the toes, but it may disappear when they're standing normally. The foot may also turn out, increasing the weight on the inner side and making it appear even more flattened.

Normally, flat feet disappear by age 6 as the feet become less flexible and the arches develop with increased leg muscle strength. Only about one or two out of every ten children will continue to have flat feet into adulthood. For children who do not develop an arch, treatment is not recommended unless the foot is stiff or painful, which may mean that there is a possible connection between some of the small foot bones called a tarsal coalition (fused or connected bones), in which case an X-ray is indicated. Shoe inserts won't help your child develop an arch and may cause more problems than the flat feet themselves.

However, certain forms of flat feet may need to be treated differently. For instance, a child may have tightness of the heel cord (Achilles tendon) that limits the motion of their foot. This tightness can result in a flat foot, but it usually can be treated with special stretching exercises to lengthen the heel cord. Rarely, a child will have truly rigid flat feet due to a tarsal coalition (fused or connected bones), a condition that can cause problems. These children have difficulty moving the foot up and down or side to side at the ankle. The rigid foot can cause pain and, if left untreated, can lead to arthritis. This rigid type of flat foot is seldom seen in an infant or very young child.

Symptoms that should be checked by a pediatrician include foot pain, sores or pressure areas on the inner side of the foot, a stiff foot, limited side-to-side foot motion, or limited up-and-down ankle motion. For further treatment you should see a pediatric orthopedic surgeon or podiatrist experienced in childhood foot conditions.



Limp

Limping can be caused by something as simple as a pebble in your child's shoe, a blister on their foot, or a pulled muscle. But a limp also can be a sign of more serious trouble, such as a broken bone, arthritis, infection, or hip dysplasia. For that reason, it's important to have your pediatrician examine a child with a limp to make sure that no serious problems exist.

Some children limp when they first learn how to walk. Early limping can be caused by neurological damage (such as cerebral palsy; see page 522). But any limp around the time your child begins to walk needs to be investigated as soon as possible, since the longer it goes untreated, the more difficult it may be to correct. Once walking is well established, significant sudden limping usually indicates one of several conditions:

- A "toddler fracture"

- Hip injury or inflammation (synovitis)
- Previously undiagnosed developmental dysplasia (abnormal development) of the hip (DDH)
- Infection in the bone or joint
- Kohler's disease (loss of blood supply to a bone in the foot)
- Juvenile idiopathic arthritis

A "toddler fracture" is a spiral fracture of the tibia (one of the leg bones that extends from the knee to the ankle; see *Fractures/Broken Bones,* page 576). It can occur with minor accidents such as when children trip, jump, or fall, or when they go down a slide in an older child's or an adult's lap with their feet tucked under them. Sometimes children can explain how the injury occurred, but usually they have difficulty recalling exactly what happened. At times an older sibling or childcare provider can solve the mystery.

Hip problems that cause a limp at this age usually are due to a viral joint infection causing transient synovitis and should be evaluated by your pediatrician. When a child has an infection in the bone or joint, they usually experience a fever, swelling of the joint, and redness. If the infection is in the hip joint, they will hold their leg flexed or bent at the hip and be extremely irritable and unwilling to move the hip and leg in any direction, although swelling and redness may not be obvious in this deep joint.

Sometimes a child is born with a hip problem (developmental dysplasia of the hip, DDH) that may not be noticed until they start to walk. As one limb is shorter, the hip is less stable, and the buttock muscles are weaker than the other side, the child may walk with an obvious limp.

Perthes disease is another disorder that causes children to limp and that is most often *not* associated with any pain complaints. It is usually only a minor problem in children younger than 6 years, but in older children, usually older than 10 years of age, it can be a significantly disabling problem.

Limping is a major reason that parents of children with juvenile idiopathic arthritis (see page 694) seek medical care. In a typical case, a child will not complain of being in pain. But they limp nevertheless, with this

limping at its worst after waking in the morning or from a nap and becoming less noticeable with activity.

TREATMENT

With minor injuries, such as a blister, cut, or sprain, simple first-aid treatment can be performed at home. However, if your child has just started walking and is constantly limping, your pediatrician should evaluate them. It is all right to wait twenty-four hours if your older child develops a limp, since sometimes the problem will disappear overnight. But if your child is still limping the next day or is in extreme pain or has a high fever, see your pediatrician.

X-rays of the hip or the entire leg or blood tests may be necessary to make the diagnosis. If there is an infection, antibiotics should be started, and hospitalization may be required. Intravenous (IV) antibiotics may be given in high doses to allow them to get to the joint and bone. If a bone is broken or dislocated, the limb will be placed in a splint or cast, and the child will be referred to an orthopedist for evaluation and further management. It is also advisable to see a pediatric orthopedist if a congenital dislocated hip (DDH) or Perthes disease is diagnosed.

Pigeon Toes (Intoeing)

Children who walk with their feet turned in are described as being "pigeon-toed" or having "intoeing." This is a very common condition that may involve one or both feet, and it occurs for a variety of reasons.

Intoeing During Infancy

Infants are sometimes born with their feet turning in. If this turning occurs from the front part of their foot only, it is called metatarsus adductus (see illustration). Most commonly it is due to the foot being positioned in a certain way inside the uterus before the baby is born.

You can suspect that metatarsus adductus may be present if:

- At rest, the front portion of your infant's foot turns inward.
- The outer side of the child's foot is curved like a half-moon.



Appearance of foot in metatarsus adductus

This condition is usually mild and will resolve before your infant's first birthday. Sometimes it is more severe or accompanied by other foot deformities that result in a problem called clubfoot. This condition requires a consultation with a pediatric orthopedist, and there is extremely effective non-operative treatment with early casting or splinting.



Internal tibial torsion

Intoeing in Later Childhood

When a child is intoeing during their second year, this is most likely due to inward twisting of the shinbone (tibia). This condition is called internal tibial torsion (see illustration). When a child between ages 3 and 10 has intoeing, it is probably due to an inward turning of the thighbone (femur), a condition called medial femoral torsion. Both conditions tend to run in families.

TREATMENT

Some experts feel no treatment is necessary for intoeing in an infant under 6 months of age. For severe metatarsus adductus in infancy, early casting may be useful. Studies show that most infants who have metatarsus adductus in early infancy will outgrow it with no treatment necessary. If your baby's intoeing persists after six months, or if it is rigid and difficult to straighten out, your doctor may refer you to a pediatric orthopedist, who may

recommend a series of casts applied over a period of three to six weeks. The main goal is to correct the condition before your child starts walking.

Intoeing in early childhood often corrects itself over time and usually requires no treatment. But if your child has trouble walking, discuss the condition with your pediatrician, who may refer you to an orthopedist. In the past, a night brace (special shoes with connecting bars) was used for this problem, but it hasn't proven to be an effective treatment. Because intoeing often corrects itself over time, it is very important to avoid non-prescribed "treatments" such as corrective shoes, twister cables, daytime bracing, exercises, wearing the wrong shoes on each foot, shoe inserts, or back manipulations. These do not resolve the problem and may be harmful because they interfere with normal play or walking. Furthermore, a child wearing these braces may face unnecessary emotional strain from their peers. Nevertheless, if a child's intoeing remains by the age of 9 or 10 years old, surgery may be required to correct it.

Sprains

Sprains are injuries to the ligaments that connect bones to one another. A sprain occurs when a ligament is stretched excessively or torn. Sprains are less common in young children, because their ligaments are usually stronger than the growing bones and cartilage to which they are attached. Therefore, the growing part of the bone might separate or tear away before the ligament is injured.

In young children, the ankle is the most commonly sprained joint, followed by the knee and wrist. In a mild sprain (grade 1), the ligament simply is overstretched, while more severe sprains can involve partial tearing of the ligament (grade 2) or complete tearing (grade 3).

Call your child's pediatrician if your child has a joint injury and is unable to bear weight or has excessive swelling or pain. Often the doctor will want to examine your child. In some instances, special X-rays may be ordered to rule out a fracture (a break in the bone). If there is a fracture, your pediatrician may consult with or refer you to an orthopedist or sports medicine specialist. When a sprain is diagnosed, treatment usually involves compression using an elastic bandage or immobilization with a splint. A

walking cast or removable device may be necessary if the ankle or foot injury has been severe.

Most grade 1 sprains will heal within two to three weeks without subsequent complications. Your child's physician should be called anytime a joint injury fails to heal or swelling recurs. Ignoring these signs could result in serious damage to the joint and long-term disability.

CHAPTER 37

Skin

Skin problems in children often get the attention of parents—and sometimes raise their anxiety levels. After all, skin conditions are immediately visible, and while the overwhelming majority are not serious, they may still be a source of worry. In this chapter, you'll find an alphabetical description of common skin problems. Other related skin conditions (specifically eczema, hives, and insect bites and stings) are discussed in Chapter 20, *Asthma and Allergies.*

Birthmarks and Hemangiomas

DARK-PIGMENTED BIRTHMARKS (NEVI OR MOLES)

Nevi, or moles, are either congenital (present at birth) or acquired. Composed of so-called nevus cells, these spots range in color from light tan to dark brown or black.

Congenital Nevi

Small nevi appear at birth and are relatively common, occurring in about 1 out of every 100 newborns. They tend to grow with the child and usually don't cause any problems. Rarely, however, these moles may develop into a type of serious skin cancer (melanoma) at some later time. Therefore, while you don't have to worry about them right away, it's a good idea to watch them carefully and have them checked by your pediatrician at regular intervals or if there is any change in appearance (color, size, or shape). They may refer you to a pediatric dermatologist, who will advise you on removal and any follow-up care.

A much more serious type of nevus is a large congenital one that is over 7.9 inches (20 cm) in diameter. It might be flat or raised, may have hair

growing from it (although small, insignificant nevi sometimes also have hair), and can be so large that it covers an arm or a leg. Fortunately, these nevi are very rare (occurring in 1 out of every 20,000 births). However, they are more likely than the smaller ones to develop into a melanoma (maybe up to 5 percent do), so early consultation with a pediatric dermatologist and regular mole checks are advisable.

Acquired Nevi, or Moles

Nevi, or moles, usually occur after the age of 5, but sometimes develop earlier. These acquired moles are seldom a cause for worry. However, if your child develops one that's irregularly shaped (asymmetrical), has multiple colors within its structure, is larger than a pencil eraser, or is causing any symptoms, it is recommended to ask your pediatrician to examine it.

One final note: Probably the most common acquired dark spots on the skin are freckles. They can appear as early as ages 2 to 4 years, are found more often on parts of the body exposed to the sun, and tend to run in families. They often become darker or larger during the summer and are less prominent in the winter. Although they represent no danger, they may be an indicator of excessive sun exposure. They are also an important reminder to keep kids out of the sun when possible and to use UV-protective clothing, hats, sunglasses, and sunscreen to protect their skin.

BLOOD VESSEL BIRTHMARKS ON THE SKIN

Your baby may have a flat red patch on the back of the neck at birth and then at 2 to 3 weeks of age may develop a new red raised bump on the forehead. Although some of these blood vessel or vascular marks usually do not cause trouble, it's important to recognize the difference between the marks that are not concerning and those that may be associated with medical complications. Your pediatrician will also evaluate such birthmarks at each visit.

Capillary Malformations (Salmon Patches and Port Wine Birthmarks)

Capillary malformations are recognized as flat red patches in the newborn and include salmon patches (most common) and port wine birthmarks (less common). Nevus simplex (formerly called "salmon patches" or "stork bites") occur in more than 80 percent of infants and most commonly involve the

back of the neck, the mid-forehead, the upper eyelids, the sides of the nose, and the middle of the upper lip. Although they fade during the first few years and are not associated with any serious medical problems, they may still be noticeable when children are overheated or upset or crying, because the blood vessels dilate, making the skin lesion look more prominent, especially in light-complected individuals.

Port wine birthmarks occur in other areas of the skin, tend to be darker at birth, do not fade, and usually gradually darken with increasing age. They may be associated with other birth defects, including abnormalities of the underlying veins and arteries in the involved skin. When a port wine birthmark involves the skin of the forehead, it may be associated with abnormalities of the eye and brain known as Sturge-Weber syndrome. Affected children should be checked for elevated intraocular (eye) pressure (glaucoma) and other eye defects as well as abnormalities of the brain. This evaluation may be performed by your pediatrician in collaboration with a pediatric neurologist, ophthalmologist, and dermatologist or in a center specializing in Sturge-Weber syndrome.

Since port wine birthmarks usually intensify during childhood and adult life, treatment with a pulsed dye laser, which involves multiple treatments spaced six to twelve weeks apart, could be considered in infancy or early childhood if desired by the family. Special medical makeup can also be used to camouflage these marks.

Infantile Hemangioma (IH)

Infantile hemangiomas (often referred to by parents as “strawberry marks”) occur in 10 percent of babies by 2 months of age, with most appearing by 2 to 3 weeks of age. They often are not present at birth or are only noted as subtle flat red spots that may be mistaken for bruises. They can involve any part of the body, but there is a predilection for the head and neck. Most children have a single IH, but in rare cases some infants have hundreds. For reasons that are not well understood, two-thirds to three-fourths occur in girls. IH are also much more common in premature infants, especially in infants of low birth weight. IH usually peak in size by 9 months of age, often looking reddish purplish in appearance, followed by slow but steady spontaneous regression over the next several years.

If your infant develops a hemangioma, have your pediatrician examine it so they can follow its course from the start. Newer, non-invasive treatments are available to help treat the hemangioma and prevent any future scarring. However, since the vast majority will gradually shrink in size without treatment, sometimes the best course of action is to leave it alone. Studies have shown that when this type of hemangioma is left untreated, few complications or cosmetic problems result.

At times, hemangiomas may need to be treated—namely, when they are large, on the face, or in an exposed area where they can be easily seen, as well as if the hemangioma occurs close to vital structures, such as the eye, throat, or mouth; when they seem to be growing much faster than usual; or when they are likely to ulcerate, which can lead to pain, infection, and scarring. Such conditions are uncommon but require careful evaluation and management by your pediatrician and pediatric dermatologist, ENT, cardiologist, or plastic surgeon. Several treatment options are available, including oral medications to help shrink the hemangioma, drops that can be placed directly on the skin, and, rarely, surgical removal.

Very rarely, IH are found in large numbers widely scattered over the skin surface. In some of these infants, IH may also be located on organs inside the body. If this is suspected, your pediatrician may need to conduct further tests. When large IH are present in certain locations (such as the head and neck, the chin in a beard-type distribution, and the lower spine), they may be associated with problems in underlying bony structures and soft tissues and may require additional evaluation by your pediatrician.

(See also *How Your Newborn Looks,* pages 11–12.)

Chickenpox (Varicella)

Chickenpox was once one of the most common childhood illnesses. But thanks to the varicella vaccine, far fewer children now get this disease. Chickenpox is a highly contagious infection causing an itchy, blister-like rash that can cover most of the body. Children often get a mild fever along with the rash.

The chickenpox rash is usually seen approximately two weeks after exposure to the virus that causes chickenpox. Small blisters, which may have

a red area around them, will begin to appear on the body and scalp, then spread to the face, arms, and legs. There may be as many as 250 to 500 of these blisters. Normally the blisters will crust over and heal, but tiny sores and possibly small scars may develop if your child scratches them and they become infected. The skin around some of the blisters may become darker or lighter, but this change in coloring will disappear gradually after the rash is gone. Blisters may also appear on the inside of your child's mouth and in the genital region or other mucosal surfaces.

TREATMENT

Chickenpox can be very itchy and uncomfortable, but try to discourage your child from scratching, which can lead to additional infection by bacteria. Acetaminophen or ibuprofen (in the appropriate dose for your child's age and weight) may decrease the discomfort from the rash or fever. Trimming fingernails and bathing daily with soap and water also can help prevent secondary bacterial infection. Oatmeal baths, available without prescription from your pharmacy, will ease the itch. Antihistamines can also be used to decrease the itch. (Be sure to follow the dosing instructions carefully.) A prescription medicine (acyclovir or valacyclovir) can modestly decrease the severity of the symptoms if started within twenty-four hours of the onset of the disease. This medicine should be considered for those at risk for moderate to severe disease (e.g., children with weakened immune systems or those with certain skin disorders such as eczema), but it is not recommended for healthy children younger than 12 years of age.

Do not give your child aspirin or any medication that contains aspirin or salicylates when they have chickenpox. These products increase the risk of Reye syndrome, a serious illness that involves the liver and brain. You should avoid steroids and any medicines that interfere with the immune system. If you are not sure about what medications you can safely use at this time, ask your pediatrician for advice.

Because chickenpox is now rare, doctors are likely to want to see your child and possibly do a blood test to confirm whether your child has the illness, but because it is so contagious, you should call and discuss whether your child needs to be seen before you make a trip to the doctor's office. Many times, what looks like possible chickenpox may be another virus. If

your child develops a complication such as a skin infection, trouble breathing, or a fever that rises above 102 degrees Fahrenheit (38.9 degrees Celsius) or lasts longer than four days, be sure to call your pediatrician immediately. Let the pediatrician know if areas of the rash become very red, warm, or tender, as this may indicate a bacterial infection. Be sure to call your pediatrician immediately if your child develops any signs of Reye syndrome or encephalitis: vomiting, nervousness, confusion, convulsions, lack of responsiveness, increasing sleepiness, or poor balance.

If your child does have chickenpox, you should tell all parents whose children may have been exposed (especially parents of infants too young to be vaccinated), as well as any pregnant women or anyone with a compromised immune system who may have been in contact with your child. Your child is contagious one to two days before the rash starts and for twenty-four hours after the last new blister appears (usually five to seven days). In some cases, the contagious period lasts until all the blisters are dry and crusted over. After they have recovered from the chickenpox, your child usually will be immune to chickenpox for the rest of their life, but they can get shingles later on in life since the virus stays in the nerve cells and can reactivate as shingles.

PREVENTION

A vaccine to protect against chickenpox is recommended for all healthy children, with the first dose given between 12 and 15 months of age, plus a second (booster) dose usually given between 4 and 6 years of age. Until your child has received this vaccine, the only sure way to protect them is to avoid exposure to the chickenpox virus. Protection from exposure is important for newborn infants, especially premature babies, in whom the disease can be more severe.

Most infants whose mothers have had chickenpox or have been vaccinated are immune to the disease for the first few months after birth, since mothers pass short-lived protective antibodies to their infants. Susceptible children who have diseases affecting the immune system (e.g., cancer) or who are using certain drugs (e.g., prednisone) should avoid being exposed to chickenpox. If these children are exposed, they may be eligible for a special medication that will provide protection against the disease for a

limited period. It's important to remember that since the varicella vaccine is a live virus vaccine, children who have a weakened immune system may not have a normal response to it and may not be able to receive the vaccine.

Cradle Cap and Seborrheic Dermatitis

Your beautiful 1-month-old baby has developed a scaly rash on their scalp. You're concerned and think maybe you shouldn't shampoo as usual. You may also be concerned if you see some redness in the creases of their neck and armpits and behind their ears. What is it and what should you do?

When this rash occurs on the scalp alone, it's known as cradle cap. Although it may start as scaling and/or redness of the scalp, it also can be found later in the other areas just mentioned. It can extend to the face, body, and diaper area, too. When it extends beyond the scalp, pediatricians call it seborrheic dermatitis. Seborrheic dermatitis is a non-infectious skin condition that's very common in infants, usually beginning in the first weeks after birth and slowly disappearing over a period of weeks or months. Unlike eczema or contact dermatitis (see pages 461–63), it's rarely uncomfortable or itchy.

Doctors think that seborrheic dermatitis is caused by a reaction that the skin has to certain common fungi that live on all human skin. Some doctors have speculated that it may be influenced by the mother's hormonal changes during pregnancy, which stimulate the infant's oil glands. This overproduction of oil may have some relationship to the scales and redness of the skin.

TREATMENT

If your baby's seborrheic dermatitis is confined to the scalp (and is therefore just cradle cap), you can treat it yourself. Don't be afraid to shampoo the hair; in fact, you should wash it (with a mild baby shampoo) more frequently than before. This, along with soft brushing, will help remove the scales. Stronger medicated shampoos (anti-dandruff or anti-seborrhea shampoos, such as those containing selenium sulfide, sulfur, salicylic acid, ketoconazole, or coal tar) may loosen the scales more quickly, but since they also can be irritating, use them only after consulting your pediatrician.

Some parents have found using petroleum jelly, ointments, or oils such as mineral oil, vegetable oil, or olive oil can help soften the scales and make them easier to remove. In some cases, especially if the seborrhea has spread to other areas of the body, your pediatrician may also recommend hydrocortisone cream or antifungal cream to help it clear. Once the condition has improved, in most cases you can prevent it from recurring by continuing with frequent hair washing with a mild baby shampoo. Fortunately, most babies' conditions clear up during the second half of the first year, so prolonged treatment is usually unnecessary.

Sometimes yeast infections occur on the affected skin, most likely in the crease areas rather than on the scalp. If this occurs, the area will become extremely reddened and quite itchy. In this case, your pediatrician might prescribe a medication such as an antifungal cream.

Rest assured that seborrheic dermatitis is not a serious condition. Nor is it an allergy to something you're using, or due to poor hygiene. It will go away without any scars.

Fifth Disease (Erythema Infectiosum)

Rosy cheeks are often considered a sign of good health, but if your child suddenly develops bright-red patches on their cheeks that are also raised and warm, they may have a viral illness known as fifth disease. Like so many other childhood illnesses, this one is spread from person to person. The virus causing this disease is called a parvovirus. Once your child is exposed to the virus, it usually takes four to fourteen days for symptoms to appear.

This is a mild disease, and most children feel well even when the rash appears. However, fifth disease can occur with mild cold-like symptoms, such as sore throat, headache, pinkeye, fatigue, a mild fever, or itching. In rare cases there may be aches in the knees or wrists. The disease process may be more severe in children with abnormal hemoglobin or red blood cells, such as sickle cell anemia, and in children with cancer.

The rash usually begins on the cheeks, causing them to look as if they've been slapped. During the next few days, the arms and then the trunk, thighs, and buttocks will develop a pink, slightly raised rash that has a lacy pattern. Fever is usually absent or mild. After five to ten days the rash will fade, with

the face clearing first, followed by the arms, and then the trunk and legs. Interestingly, the rash may reappear briefly weeks or months later, particularly if your child becomes hot from bathing, exercise, or sunlight, or spends time in the sun.

TREATMENT

For most children, fifth disease is not serious. The rash, however, may look similar to other rashes that may be more serious, as well as certain drug-related rashes; as a result, it's important to discuss the rash with your pediatrician and let them know about any medications your child may be taking. When you describe the symptoms over the phone, the doctor may suspect fifth disease, but they still may want to examine your child to be certain.

There is no specific medicine for fifth disease; treatment is geared to providing relief of the symptoms. For instance, if your child has a fever or aches and pains, you can treat them with acetaminophen or ibuprofen. If they exhibit new symptoms, feel sicker, or develop a high fever, call your pediatrician.

A child with fifth disease is contagious when they are suffering from the cold-like symptoms that *precede* the rash. But by the time they demonstrate a rash, they are no longer contagious. Nevertheless, as a rule, whenever your child has a rash or a fever, you should keep them away from other children until your doctor identifies the illness. As a precaution, wait until they no longer have a fever and are feeling normal before allowing them to play with other children. Also, it is important to keep your child away from pregnant women (particularly in their first trimester), since the virus that causes this disease may cause serious illness or even death in the fetus if the mother becomes infected.

Hair Loss (Alopecia)

Almost all newborns lose some amount of their hair within the first three to five months after birth. This is normal and can be expected. This loss of hair is due to the natural growth cycle that hair follicles go through in the neonatal period. This hair loss is most commonly seen on the back of the

head, where the scalp rubs against the crib mattress. This hair loss occurring within the first six months is not a cause for concern, and no treatment is needed.

In very rare cases, babies may be born with alopecia (hair loss), which can occur by itself or in association with certain abnormalities of the nails and the teeth. Injury or trauma to the scalp at birth may also cause hair loss at birth, which may or may not fully resolve. There are also some birthmarks that occur on the scalp leading to hair loss in those areas. Later in childhood, hair loss may be due to other reasons, including medications, a scalp injury, or a medical or nutritional problem.

An older child may also lose their hair if it's braided too tightly, when put into a ponytail that's too tight, or if it's pulled too hard when combing or brushing. Some children (under age 3 or 4) twirl their hair as a comforting habit and innocently break it off or pull it out. Other children (usually older ones) may pull their hair out on purpose but deny doing so, or they simply may be unaware that they are doing it; this may be a sign of emotional stress, which you should discuss with your pediatrician.

Alopecia areata is a common hair loss condition seen in children and teenagers. It is an autoimmune condition, where the immune system is attacking the hair follicle, causing the hair to fall out. In this disorder, children lose hair in a circular area, causing a bald spot. In general, when it's limited to a few patches, the outlook for complete recovery is good. But when the condition persists or worsens, steroid creams and even steroid injections and other forms of therapy at the site of the hair loss often are used. There are oral medications that can also be tried if the hair loss is more extensive, but if the hair loss is extensive, it may be difficult to renew its growth.

Because alopecia and other types of hair loss can be a sign of other medical or nutritional problems, bring these conditions to your pediatrician's attention whenever they occur after the first 6 months of age. The doctor will look at your child's scalp, determine the cause, and prescribe treatment. Sometimes a referral to a pediatric dermatologist is necessary.

Head Lice

Head lice, *Pediculus humanus capitis,* commonly occur in young children who play together, share clothing, hats, or hairbrushes, or are generally in close contact. Although often misunderstood and embarrassing to parents, head lice are neither painful nor a serious medical problem. Head lice do not transmit diseases or cause permanent problems. Many parents with children in school or childcare have received a note informing them of a case of head lice in their child's classroom. This condition, which occurs in all socioeconomic groups, is most common in children ages 3 to 12 years old.

Usually, a characteristic of head lice is an extremely itchy scalp. On close inspection, you may see little white dots in the hair or on the neck at the hairline. Sometimes you may confuse this with dandruff or seborrhea. Dandruff generates larger flakes, however, while lice infestation results in more discrete dots that usually are stuck onto the shaft of the hair near the scalp. These are the eggs of the lice. In addition, you may find living lice in the hair. They avoid light and will move rapidly to get out of the light, so living lice can be hard to see. Also, the itchiness of the scalp is usually far more uncomfortable with lice than with seborrhea or dandruff. Sometimes parents discover lice when they ask their pediatrician about a rash on their child's neck right below the hairline.

Lice is a very common condition. It is the result of having close contact with someone else who is infected with head lice. It is not unusual for lice to be spread from one sibling to another.

TREATMENT

Once you recognize that your child has head lice, there are several treatments available (both over-the-counter and by prescription). They come in a variety of forms, such as cream rinse, shampoo, gel, and mousse. While the treatments are effective at killing live lice, they may not always kill all the eggs, and thus a second treatment is usually needed seven to ten days after the first one.

Some available medications to help remove or kill lice are chemical-free and non-toxic, while others are potentially dangerous insecticides. Therefore, always use these medications strictly according to the package instructions and with your pediatrician's recommendations. Your pediatrician may

recommend use of a prescription medication if an over-the-counter product doesn't work.

Some parents also try home remedies for head lice, which often involve "washing" their child's hair with thick or oily substances like petroleum jelly, olive oil, tub margarine, or mayonnaise, and then leaving these products on the hair overnight. Proponents of these approaches believe that coating the hair will smother and kill the lice. However, there is no scientific proof that they work, even though they won't hurt your child if you decide to try them. On the other hand, certain home treatments must be avoided, particularly coating the hair with toxic or highly flammable substances such as gasoline or kerosene, or using products that are manufactured for use on animals.

After using one of the over-the-counter or prescription medications, carefully combing the hair with a fine-tooth comb can remove the "nits" (dead egg cases) and any eggs that have survived treatment. Combing is often tedious, but it is a good idea to remove any eggs or nits. Most pediatricians recommend combing once a day until no more are found and then every few days for a week or two. In most cases, as noted, a child must be retreated seven to ten days later.

To prevent reinfection, wash all bedclothes and clothing (including hats) that have been in contact with the child for the forty-eight hours immediately preceding your noticing the head lice. Use the hot cycle to wash the clothes, or have them dry-cleaned if you prefer. Items like stuffed animals that cannot be washed should be bagged up for two weeks. Head lice and nits cannot survive away from the scalp for longer than that, so after that time they should be safe to use again.

You can wash combs and brushes in a shampoo specific against lice, or soak them in boiling water for five to ten minutes. In addition, if your child has lice, it's important to inform the childcare center or school. However, the American Academy of Pediatrics believes that no healthy child should be excluded from or allowed to miss school because of head lice. The Academy also discourages "no nit" policies that require the absence of nits for a child to return to school. A child with an active head lice infestation likely has had this outbreak for a month or more by the time it is discovered. Because the child poses little risk to others, they should remain in class while trying to avoid direct head contact with other children. Also, to prevent your child

from contracting head lice, teach them not to share personal items such as hats, combs, and brushes. If your active, engaging 3-year-old has head lice, someone else in the group probably does, too. Because head lice are very contagious, *other family members also may need to be examined and treated* and have their clothing and bedding laundered.

Impetigo

Impetigo is a contagious bacterial skin infection that often appears around the nose, mouth, and ears. More than 90 percent of impetigo cases are caused by staphylococcal bacteria, while the rest are caused by streptococcal bacteria (which also are responsible for strep throat and scarlet fever).

If staphylococcal bacteria are to blame, the infection may cause blisters filled with clear or yellow fluid. These can break easily, leaving a raw, glistening area that soon forms a scab with a honey-colored crust. By contrast, infections with strep bacteria usually are not associated with blisters, but they do cause crusts over larger sores and ulcers.

TREATMENT

Impetigo needs to be treated with antibiotics, either topically or taken by mouth. Rarely, your pediatrician may order a culture in the lab to determine which bacteria are causing the rash. Make sure your child takes the medication for the full prescribed course, or the impetigo could return.

One other important point to keep in mind is that impetigo is contagious until the rash clears, or until at least two days of antibiotics have been given and there is evidence of improvement. Your child should avoid close contact with other children during this period, and you should avoid touching the rash. If you or other family members do come in contact with it, wash your hands and the exposed site thoroughly with soap and water. Also, keep the infected child's clothing, washcloths, and towels separate from those of other family members.

PREVENTION

The bacteria that cause impetigo thrive in breaks in the skin. The best ways to prevent this rash are to keep your child's fingernails clipped and clean and

to teach them not to scratch minor skin irritations. When they do have a scrape, cleanse it with soap and water, and apply an antibiotic cream or ointment. Be careful not to use washcloths or towels that have been used by someone else who has an active skin infection.

When certain types of streptococcal bacteria cause impetigo, a rare but serious complication called glomerulonephritis can develop. This disease injures the kidneys and may cause high blood pressure and blood in the urine. Therefore, if you notice any blood or a dark brown color in your child's urine, let your pediatrician know so they can evaluate it and order further tests if needed.

Measles

Thanks to vaccinations, cases of measles were on the decline. Unfortunately, they have been on the rise in the United States recently, with multiple outbreaks occurring in several states. The COVID-19 pandemic also led to a decline in vaccinations both in the United States and worldwide. According to the Centers for Disease Control and Prevention, eleven states reported approximately 206 measles cases in the United States from January 2019 to February 2019. Most of these cases were in people younger than 20 years old who were unvaccinated or whose vaccination status was unknown. Travelers who have not been immunized can bring measles back to the United States after traveling to a country where there is a reported outbreak. If your child has never been immunized or had the measles, they can get the disease if they are exposed. The measles virus is very contagious and passed through the air via droplets transmitted by an infected person. The virus can live up to nearly two hours in the air where an infected person coughed or sneezed. Almost everyone who breathes the droplets and is not immune to the disease will become infected.

SIGNS AND SYMPTOMS

For the first eight to twelve days after being exposed to the measles virus, your child will probably have no symptoms; this is called the incubation period. Then they may develop an illness that seems like a common cold, with a cough, runny nose, and pinkeye (conjunctivitis; see page 604). The

cough may be severe at times and will last for about a week, and your child probably will feel miserable.

During the first one to three days of the illness, the cold-like symptoms will become worse, and they'll develop a fever that may run as high as 103 to 105 degrees Fahrenheit (39.4–40.5 degrees Celsius). The fever will last until two to three days after the rash first appears.

After two to four days of illness, the rash will develop. It usually begins on the face and neck, then spreads down the trunk and out to the arms and legs. It starts as very fine red bumps, which may merge. If you notice tiny white spots, like grains of sand, inside their mouth next to their molars, you'll know the rash will follow soon. The rash will last five to eight days. As it fades, the skin may peel a little.

TREATMENT

Although there is no treatment for the disease, it is important that the pediatrician examine your child to determine that measles is, in fact, the cause of the illness. Call your doctor's office first before showing up so that they can take extra precautions not to expose others. If the illness is measles, a dose of vitamin A may be indicated, as treatment with vitamin A of children who have measles has been found to lessen the chances of the associated complications and death due to the infection. Your pediatrician will advise you on the correct dose of vitamin A.

Your child is contagious from several days before the rash breaks out until the fever and rash are gone. During this period, they should be kept at home (except for the visit to the doctor) and away from anyone who is not immune to the illness. At home, make sure your child drinks plenty of fluids, and give acetaminophen in the proper dose if your child is uncomfortable due to the fever. The conjunctivitis that accompanies measles can make it painful for the child to be in bright light or sunshine, so you may want to darken their room to a comfortable level for the first few days.

Sometimes infections develop as a complication of the measles. These most often include pneumonia (see page 500), middle ear infection (see page 542), and encephalitis (inflammation of the brain). In these cases, your child must be seen by the pediatrician, who may prescribe antibiotic treatment or admit your child to the hospital.

PREVENTION

Almost all children who receive two doses of the MMR (measles, mumps, rubella) vaccine after their first birthday are protected against measles for life. The first dose of the vaccine should be administered between ages 12 and 15 months, and the second one between ages 4 and 6 years old, although it can be given at a younger age as long as at least twenty-eight days have passed since the first dose. Because up to 5 percent of children may not have an adequate immune response to the initial vaccination, the second (booster) dose is recommended for all children. (See Chapter 34, *Immunizations.*)

If your unimmunized child has been exposed to someone who has the measles, or if someone in your household has the virus, notify your pediatrician at once. The following steps can help keep your child from getting sick.

1. If they are under 1 year old or have a weakened immune system, they can be given immune globulin up to six days following exposure. This may temporarily protect them from becoming infected, but it will not provide extended immunity.
2. An infant 6 through 11 months of age may receive the measles vaccine if they are exposed to the disease or if they are living in a community where exposure is highly likely or in an epidemic situation. If doses are given during these months, your child will still need additional doses to be fully immunized, as this dose is to address the exposure but does not count as part of the routine vaccine schedule.
3. If your child is otherwise healthy and at least 1 year old, they can be vaccinated. The vaccine may be effective if given within seventy-two hours of their exposure to an infected person and will provide extended immunity. If your child has previously received one dose of the measles vaccine and at least twenty-eight days have elapsed since that dose, they may be given a second dose after exposure.

Molluscum Contagiosum

Molluscum contagiosum is a common skin infection in young children that is caused by a virus. The small, raised lesions look like shiny flesh-colored or pinkish dome-shaped bumps or nodules on the skin with an indentation in the center. Some kids get a few, while others may get twenty or more on their body. The lesions tend to cluster and are found most often on the face, on the trunk, in body creases, and on extremities, but they may develop anywhere on the body. They are painless, harmless, non-cancerous growths in the skin's top layers, and sometimes they can itch. They can get inflamed just before they resolve, with an eczematous rash forming around lesions. The most annoying part is that they last for several months to a few years and sometimes spread to other areas of the body when children scratch lesions in one place and transmit them to another.

The disease is spread by direct contact with the skin of an infected person or sharing towels with someone who has the disease. Outbreaks have occasionally been reported in childcare centers. The incubation period varies between two and seven weeks, although it is sometimes much longer (up to six months).

Most often, molluscum lesions go away on their own without any treatment. This means that children with just one or a few widely scattered lesions do not need any special care. However, if the lesions are extensive, or if you and your child desire, your pediatrician or dermatologist may recommend topical medications to help the molluscum resolve sooner, or the bumps can be removed by a scraping procedure with a sharp instrument (curette) or by using peeling agents or freezing techniques (such as liquid nitrogen).

Mosquito-Borne Illnesses (Zika and West Nile)

There are many infections that spread to humans through the bite of an infected mosquito. Mosquitoes become carriers of the viruses by feeding on infected people or animals. Once the virus has been transmitted to a human through a bite, it can multiply in an individual's bloodstream and in some cases cause illness.

West Nile

The first outbreak of West Nile virus occurred in the United States in 1999. Although some children have become ill when infected with West Nile virus, most have mild symptoms or none at all. About one in five people with West Nile virus develop mild flu-like symptoms (fever, headaches, and body aches) and at times a skin rash. These symptoms tend to last only a few days. In fewer than 1 out of 100 infections, a severe illness can occur (West Nile encephalitis or meningitis), with symptoms such as a high fever, a stiff neck, tremors, muscle weakness, convulsions, paralysis, and loss of consciousness.

Zika

In children, Zika virus is rarely dangerous. In fact, as long as you aren't pregnant or of childbearing age, Zika is of little concern. Only one in five people infected with Zika virus have symptoms of illness. Because the disease affects people differently, some may have a rash, fever, pinkeye (conjunctivitis), joint and/or muscle pain, or headache. Symptoms usually clear up in less than a week, are mild, and rarely require hospitalization.

Zika virus is particularly dangerous, however, for women who are pregnant or who are planning to become pregnant, because the virus affects the developing fetus in the womb. Federal health officials have confirmed the Zika virus can cause microcephaly (babies born with a small head) and other brain, eye, and physical abnormalities in infants. Because the Zika virus can affect the fetus's developing brain and cause long-lasting negative consequences, prevention is critical.

PREVENTION OF MOSQUITO-BORNE INFECTIONS

Risk of contracting Zika or West Nile virus comes mostly from mosquito bites. The disease cannot be transmitted through casual person-to-person contact. However, Zika virus can be sexually transmitted to a pregnant woman or woman of childbearing age and affect a developing or future fetus.

There is currently no vaccine available in the United States to protect from such viruses. But you can reduce the likelihood of developing the disease by taking steps to reduce the chance of a bite from a mosquito that

could be carrying the virus. Here are some strategies to keep in mind. (Some of them are described in the *Insect Bites and Stings* section on page 469.)

- Apply insect repellent to you or your child, using just enough to protect the exposed skin. (See the chart *Available Insect Repellents* on page 717.) Wash the repellent off with soap and water when it is no longer needed to protect the skin.
- Avoid products that include insect repellent and sunscreen together because the sunscreen needs to be applied more frequently than insect repellent.
- Do not use DEET preparations on infants under 2 months of age. In older children, apply it sparingly around the ears, and don't use it on the mouth, hands, or eyes. Don't put it over cuts.
- Whenever possible, dress your child in long sleeves and long pants while they're outside. Use mosquito netting over a baby's infant carrier.
- Keep your child away from locations where mosquitoes are likely to congregate or lay their eggs, such as standing water (e.g., in birdbaths, flowerpot saucers, and pet water dishes). Remove such sources from around the outside of your home.
- Because mosquitoes are more likely to bite humans at certain times of day —most commonly at dawn, at dusk, and in the early evening—consider limiting the amount of time your child is outdoors during those hours.
- Repair any holes in your window screens.

TYPES OF INSECT REPELLENTS

Insect repellents come in many forms, including aerosols, sprays, liquids, creams, and sticks. Some are made from synthetic chemicals, and some have natural ingredients. Insect repellents prevent bites from biting insects but not stinging insects. Biting insects include mosquitoes, ticks, fleas, chiggers, and biting flies. Stinging insects include bees, hornets, and wasps.

MRSA Infections

Methicillin-resistant *Staphylococcus aureus* (MRSA) is the name of a type of staphylococcal bacterium that can cause infections not only on the surface

of the skin, but also into the soft tissue, where a boil or abscess can form. In recent years, MRSA has become a major public health problem because this bacterium has become resistant to antibiotics called beta-lactams, which include methicillin and other commonly prescribed antibiotics. This resistance has made treating these infections more difficult. While MRSA was once limited to hospitals and nursing homes, it has spread into the community in schools, households, and childcare centers, among other places. It can be transmitted from person to person through skin-to-skin contact, particularly through cuts and abrasions.

If your child has a wound that appears to be infected—specifically, if it is red, swollen, hot, and oozing pus—have it checked by your pediatrician. They may drain the infection and may prescribe topical and/or oral antibiotics. The most serious MRSA infections may cause pneumonia and bloodstream infections. Even though MRSA infections are resistant to some antibiotics, they are treatable with other medications.

To prevent your child from getting MRSA at school or other public places, the following strategies can be helpful:

- Follow good hygiene practices. Your child should wash their hands frequently with soap and warm water or use alcohol-based hand sanitizers.
- Use a clean, dry bandage to cover any cuts, scrapes, or breaks in your child's skin. These bandages should be changed at least daily.
- Don't let your child share towels, washcloths, or other personal items (including clothing) with anyone else.
- Frequently clean and disinfect surfaces that your child touches.
- Use a moisturizer regularly to help keep the skin barrier intact, especially in drier climates.

AVAILABLE INSECT REPELLENTS			
What's available?	**How well does it work?**	**How long does it protect?**	**Any special precautions?**
Chemical repellents with DEET (N,N-diethyl-meta-toluamide)	Considered the best defense against biting insects.	Lasts about 2 to 5 hours depending on the concentration of DEET in the product.	Caution should be used when applying DEET to children. Avoid under 2 months of age.
Picaridin Repellents made from essential oils found in plants such as citronella, cedar, eucalyptus, and soybean	In April 2005, the Centers for Disease Control and Prevention (CDC) recommended other repellents that may work as well as DEET: repellents with picaridin and repellents with oil of lemon eucalyptus or 2% soybean oil. Currently these products have a duration of action that is comparable to that of about 10% DEET.	Lasts about 3 to 8 hours depending on the concentration. Usually lasts less than 2 hours.	Although these products are considered safe when used as recommended, long-term follow-up studies are not available. Also, more studies need to be done to see how well they repel ticks. Allergic reactions are rare but can occur when using repellents made from essential oils.
Chemical repellents with permethrin	These repellents kill ticks on contact.	When applied to clothing, it lasts even after several washings.	Should only be applied to clothing, not directly to skin. May be applied to outdoor equipment such as sleeping bags and tents. Ensure that young children don't mouth or chew on treated fabrics.

Pinworms

Fortunately, the most common type of worm infesting children, the pinworm, is essentially harmless. The pinworm is unpleasant to look at and may cause rectal itching and vaginal itching and discharge, but it is not responsible for more serious health concerns. Pinworms cause more social concern than medical problems.

Pinworms are spread easily from one child to another by the transfer of eggs. Often an infected child scratches their anal area, picking up an egg, and then plays in the sandbox or touches a toilet seat, where another child unknowingly picks up the egg and later transfers it to their mouth. The eggs are swallowed and eventually hatch, and the pinworm makes its way to the anus to again deposit its eggs. Pinworms usually present with itching around your child's behind at night, and sometimes vaginal itching. If you look at the skin around the anus first thing in the morning before the child has gotten up from bed, you may see the adult worms, which are whitish gray and threadlike, measuring about ¼ to ½ inch (0.63–1.25 cm) long. Your pediatrician might collect some of the worms and eggs by applying the sticky side of a strip of clear cellophane tape to the skin around the anus. The tape can be examined under a microscope to confirm the presence of the parasite. Alternatively, your pediatrician may decide to treat your child based on history alone.

TREATMENT

Pinworms can be treated easily with an over-the-counter or prescription oral medication, taken in a single dose and then repeated in one to two weeks. This medication causes the mature pinworms to be expelled through bowel movements. Some pediatricians may advise treating the other family members as well, since one of them may be a carrier without having any symptoms. Also, when the infection is resolved, the child's underclothes, bedclothes, and sheets should be washed carefully to reduce the risk of reinfection.

PREVENTION

It is very difficult to prevent pinworms, but here are some hints that might be helpful:

- Encourage your child to wash their hands after using the bathroom.
- Encourage your child to wash their hands after playing in the sandbox.
- Encourage their sitter or childcare provider to wash shared toys frequently, particularly if pinworms have been detected in one or more of the children.
- Encourage your child to wash their hands after playing with a house cat or dog, since these pets can carry the eggs in their fur.
- Encourage your child to keep their fingers out of their mouth.

Poison Ivy, Poison Oak, and Poison Sumac

Poison ivy, poison oak, and poison sumac commonly cause skin rashes in children during the spring, summer, and fall seasons. An allergic reaction to the oil in these plants produces the rash. The rash occurs from several hours to three days after contact with the plant and begins in the form of bumps and blisters, accompanied by severe itching.

Contrary to popular belief, it is not the fluid in the blisters that causes the rash to spread. This spreading occurs when small amounts of oil remain under the child's fingernails, on their clothing, or on a pet's hair that then comes in contact with other parts of their body. The rash will not be spread to another person unless the oil that remains also comes in contact with that person's skin.

Poison ivy is a three-leafed green weed and grows in all parts of the country except the Southwest. Poison sumac is a shrub, not a vine, and has seven to thirteen leaves arranged in pairs along a central stem. Not nearly as abundant as poison ivy, it grows primarily in the swampy areas of the Mississippi River region, and it is seen primarily on the West Coast. Poison oak is most common on the West Coast and has leaves that look like oak leaves, with three to seven leaflets in a group. Poison oak grows as a vine or a shrub. All three plants produce similar skin reactions. These skin reactions are forms of contact dermatitis. (See *Eczema,* page 461.)

TREATMENT

Treating reactions to poison ivy—the most frequent of these forms of contact dermatitis—is a straightforward matter.

- Prevention is the best approach. Know what the plant looks like and teach your children to avoid it.
- If there is contact, wash all clothes and shoes in soap and water. Also, wash the area of the skin that was exposed with soap and water for at least ten minutes after the plant or the oil has been touched.
- If the eruption is mild, apply calamine lotion three or four times a day to cut down on the itching. Avoid preparations containing anesthetics or antihistamines, as often they can cause allergic eruptions themselves.
- Apply 1 percent hydrocortisone cream to the affected skin to decrease the inflammation.
- If the rash is severe, on the face, the genitals, or extensive parts of the body, the pediatrician may need to place your child on a high-potency topical steroid or oral steroids. These will need to be given for about ten to fourteen days, often with the dose tapering on a specific schedule determined by your pediatrician. This treatment should be reserved for the most severe cases.

Call the pediatrician if you notice any of the following:

- Severe eruption not responsive to the previously described home methods
- Any evidence of infection, such as spreading redness or pus-like or yellow oozing
- Any new eruption or rash
- Severe poison ivy on the face or genital area
- Fever

Ringworm (Tinea)

If your child has a scaly round patch on their scalp or elsewhere on their skin, and they seem to be losing hair in the same area of the scalp, the problem may be a contagious infection known as ringworm.

This disorder is caused not by worms but by a fungus. It's called ringworm because the infections tend to form round or oval spots that, as they enlarge, become smooth in the center but keep an active red scaly border.

Scalp ringworm is spread from person to person, sometimes when sharing infected hats, combs, brushes, or barrettes. If ringworm appears elsewhere on your child's body, they may have the type spread by infected dogs or cats. The first signs of infection on the body are red, scaly patches. They may not look like rings until they've grown to ½ inch (1.25 cm) in diameter, and they generally stop growing at about 1 inch (2.5 cm). Your child may have just one patch or several. These lesions may be mildly itchy and uncomfortable.

Scalp ringworm starts the same way the body variety does, but as the patches grow, your child may lose some hair in the infected area. Certain types of scalp ringworm produce less obvious rings and are easily confused with dandruff or cradle cap. Cradle cap, however, occurs only during infancy. If your child's scalp is continually scaly and they're over a year old, you should suspect ringworm and notify your pediatrician.

TREATMENT

A single ringworm patch on the body can be treated with an over-the-counter cream recommended by your pediatrician. The most frequently used ones are clotrimazole, tolnaftate, or miconazole. A small amount is applied to the patches or rash and just beyond their borders two or three times a day for at least a week, during which time some clearing should begin. If there are any patches on the scalp or more than one on the body, or if the rash is getting worse while being treated, check with your pediatrician again. They will prescribe a stronger medication and, in the case of scalp ringworm or widespread body ringworm, will use an oral antifungal preparation. Your child will have to take medicine for several weeks, depending on the medication, to clear the infection.

You also may need to wash your child's scalp with a special shampoo when they have scalp ringworm. If there's any possibility that others in the family have caught the infection, they also should use this shampoo and be

examined for possible signs of infection. Do not allow your child to share combs, brushes, hair clips, barrettes, or hats.

PREVENTION

You can help prevent ringworm by identifying and treating any pets with the problem. Look for scaling, itchy, hairless areas on your dogs and cats, and have them treated right away. Any family members, playmates, or schoolmates who show symptoms also should be treated.

Roseola Infantum

Your 10-month-old doesn't look or act very ill, but they suddenly develop a fever between 102 and 105 degrees Fahrenheit (38.9–40.5 degrees Celsius). The fever lasts for three to seven days, during which time your child may have less appetite, mild diarrhea, a slight cough, and a runny nose, and seems mildly irritable and a little sleepier than usual. Their upper eyelids may appear slightly swollen or droopy. Finally, *after their temperature returns to normal,* they get a slightly raised, spotty pink rash on their trunk, which spreads only to their upper arms and neck and fades after just twenty-four hours. What's the diagnosis? Most likely it's a disease called roseola—a contagious viral illness that's most common in children under age 2. Its incubation period is thought to be nine to ten days. The key to this diagnosis is that the rash appears after the fever is gone. We now know that specific viruses (human herpes virus types 6 and 7) cause this condition.

TREATMENT

Whenever your infant under 3 months of age has a fever of 100.4 degrees Fahrenheit or higher, call your pediatrician. For infants over 3 months of age, if the fever is 102 degrees Fahrenheit (38.9 degrees Celsius) or higher for more than twenty-four to seventy-two hours, call your pediatrician, especially if there are no other symptoms. If the doctor suspects the fever is caused by roseola, they may suggest ways to control the temperature and advise you to call again if your child becomes worse or the fever lasts for more than three or four days.

Since illnesses that cause fever can be contagious, it's wise to keep your child away from other children, at least until you've conferred with your pediatrician. Once their fever is gone for twenty-four hours, even if the rash has appeared, your child can return to childcare or preschool and resume normal contact with other children. While your child has a fever, dress them in lightweight clothing. If they are very uncomfortable because of the fever, you can give them acetaminophen in the appropriate dose for their age and weight. (See Chapter 30, *Fever*.) Don't worry if their appetite is decreased, and encourage them to drink extra fluids.

Although this disease rarely is serious, be aware that early in the illness, when fever climbs very quickly, there's a chance of a febrile seizure (see *Seizures, Convulsions, and Epilepsy,* page 662). There may be a seizure regardless of how well you treat the fever, so it's important to know how to manage this, even though seizures that occur with roseola are usually quite mild and brief, if they occur at all.

Rubella (German Measles)

Although some of today's grandparents had rubella, or German measles, during their childhood, it is a rare illness now, thanks to an effective vaccine. Even when it was prevalent, however, rubella was usually a mild disease—unless contracted by a pregnant woman, in whom it can cause serious illness and long-term problems in the developing baby.

Rubella is characterized by a mild fever (100–102 degrees Fahrenheit [37.8–38.9 degrees Celsius]), swollen glands (typically on the back of the neck and at the base of the skull), and a rash. The rash, which varies from pinhead size to an irregular redness, is raised and usually begins on the face. Within two to three days, it spreads to the neck, the chest, and the rest of the body as it fades from the face.

Once exposed to rubella, a child usually will develop the disease in fourteen to twenty-one days. The contagious period for rubella begins several days before the rash appears and continues for five to seven days after it develops. Because the disease can be so mild, it goes unrecognized in about half the children who contract it.

Before the rubella vaccine was developed, this illness tended to occur in epidemics every six to nine years. Since the vaccine was introduced in 1968, there have been no significant epidemics in the United States. Even so, the disease still occurs. Each year unvaccinated and susceptible teenagers, often in college campus settings, develop the illness. Fortunately, except for causing fever, discomfort, and occasional pain in the joints, these small epidemics are of little consequence.

WHAT YOU CAN DO

If your pediatrician diagnoses rubella, you may be able to make your child more comfortable by giving them extra fluids, encouraging bed rest (if they're fatigued), and giving acetaminophen if they have a fever. Keep them away from other children or adults unless you are sure that they're immunized. As a general rule, children with rubella should not be in childcare or any other group setting for seven days after the rash first appears. Pregnant women should not be exposed to rubella, as it can infect the fetus and cause serious abnormalities.

If your child is diagnosed as having the congenital form of rubella, your pediatrician can advise you on the best way to manage their complex and difficult problems. Infants born with congenital rubella are often infectious for a year after birth and therefore should be kept out of any group childcare setting, where they could expose other susceptible children or adults to the infection.

WHEN TO CALL THE PEDIATRICIAN

If your child has a fever and a rash and appears uncomfortable, discuss the problem with your pediatrician. If rubella is diagnosed, follow the guidelines suggested earlier for treatment and isolation.

PREVENTION

Being immunized is the best way to prevent rubella, or German measles. The vaccine usually is administered as part of a three-in-one shot called MMR (measles, mumps, rubella) or a four-in-one shot called MMRV (measles, mumps, rubella, varicella), given when the child is 12 to 15

months old. A booster dose needs to be given as well. (See Chapter 34, *Immunizations.*)

A child can be immunized even if their mother is pregnant at the time. However, a susceptible pregnant woman should not be immunized herself. She also should be extremely careful to avoid contact with any child or adult who may be infected with the virus. After delivery, she should be immunized immediately.

Scabies

Scabies is caused by a microscopic mite that burrows under the top layers of skin and deposits its eggs. The rash that results from scabies is a reaction to the mite's body, eggs, and excretions. Once the mite gets into the skin, it takes two to four weeks for the rash to appear.

In an older child, this rash appears as numerous itchy, fluid-filled bumps that cluster around the wrists, ankles, armpits, and genitals and between the fingers and toes. In an infant, the bumps may be more scattered over the body, varying from few to many, and often are also found on the palms and soles. Because of scratch marks, crusting, or a secondary infection, this annoying rash often is difficult to identify. Young infants may demonstrate characteristic distinct linear burrows.

According to legend, when Napoleon's troops had scabies, one could hear the sound of scratching at night from over a mile away. A bit of exaggeration, perhaps, but it illustrates two key points to remember if you think your child has scabies: It's very itchy, and it's very contagious. Scabies is spread only by person-to-person contact, and this happens extremely easily. If one person in your family has the rash, the others may get it, too.

TREATMENT

If you notice that your child (and possibly others in the family) is scratching constantly, suspect scabies and call the pediatrician, who will examine the rash. The doctor may gently scrape a skin sample from the affected area and look under the microscope for evidence of the mite or its eggs. If scabies turns out to be the diagnosis, the doctor will prescribe one of several anti-scabies medications. Most are lotions that are applied over the entire body—

from the scalp to the soles of the feet—and are washed off after several hours. You may need to repeat the application one week later.

Most experts feel the whole family must be treated—even those members who don't have a rash. Any live-in help, overnight visitors, or frequent babysitters also should receive care.

To prevent infection caused by scratching, cut your child's fingernails. If the itching is very severe, your pediatrician may prescribe an antihistamine or other anti-itch medication. If your child shows signs of bacterial infection in the scratched areas, notify the pediatrician. They may want to prescribe an antibiotic or another form of treatment.

Following treatment for scabies, the itching may continue for two to four weeks, because this is an allergic rash. If it persists past four weeks, call your doctor, because the scabies may have returned and need retreatment.

Incidentally, there is some controversy over the possible spread of scabies from clothing or bedding. While it is rare, clothing and bedding can host live mites, so washing everything in hot water and drying with heat can help prevent reinfection.

Scarlet Fever

When your child has strep throat (see page 552), there's a chance that they'll get a rash. This is known as scarlet fever. The symptoms of scarlet fever begin with a sore throat, a fever of 101 to 104 degrees Fahrenheit (38.2–40 degrees Celsius), and headache. This is followed within twenty-four hours by a red rash covering the trunk, arms, and legs. The rash is slightly raised, which makes the skin feel rough like fine sandpaper. Your child's face may turn red, too, with a pale area around their mouth. The red rash will disappear in three to five days, leaving peeling skin in the areas where the rash was most intense (neck, underarms, groin, fingers, and toes). They may also have a white-coated, then reddened, tongue, and mild abdominal pain.

TREATMENT

Call your pediatrician whenever your child complains of a sore throat, especially when a rash or fever also is present. The doctor will examine them and swab their throat to check for streptococcal bacteria. If the streptococcal

bacteria are found, an antibiotic (usually penicillin or amoxicillin) will be given. If your child takes the antibiotic by mouth instead of as an injection, it's extremely important to complete the entire course because shorter treatment sometimes results in a return of the disease.

Most children with streptococcal throat infections respond very quickly to antibiotics. The fever, sore throat, and headache usually are gone within twenty-four hours. The rash, however, will remain for about three to five days. If your child's condition does not seem to improve with treatment, notify your pediatrician. If other family members develop a fever or sore throat at this time—with or without a rash—they, too, should be examined and tested for strep throat.

If not treated, scarlet fever (like strep throat) can lead to ear and sinus infections, swollen neck glands, and pus around the tonsils. The most serious complication of untreated strep throat is rheumatic fever, which results in joint pain and swelling and sometimes heart damage. Very rarely, the streptococcal bacteria in the throat can lead to glomerulonephritis, or inflammation of the kidneys, causing blood in the urine and sometimes high blood pressure.

Sunburn

While those with darker skin coloring tend to be less sensitive to the sun, everyone is at risk for sunburn and the aftereffects of this skin injury. Children especially need to be protected from the sun's burning rays, since most long-term sun damage occurs in childhood. Like other burns, sunburn will leave the skin red, warm, and painful. In severe cases it may cause blistering, fever, chills, headache, and a general feeling of illness.

Your child doesn't have to be burned, however, in order to be harmed by the sun. The effects of sun exposure build over the years, so even moderate exposure during childhood can contribute to wrinkling, toughening, freckling, and even skin cancer. Also, some medications can cause a skin reaction to sunlight, and some medical conditions may make people more sensitive to the sun.

TREATMENT

The signs of sunburn usually appear six to twelve hours after exposure, with the greatest discomfort during the first twenty-four hours. If your child's burn is just red, warm, and painful, you can treat it yourself. Apply cool compresses to the burned areas or bathe the child in cool water. You also can give acetaminophen to help relieve the pain. (Check the package for appropriate dosage for their age and weight.)

If the sunburn causes blisters, fever, chills, headache, or a general feeling of illness, call your pediatrician. Severe sunburn must be treated like any other serious burn, and if it's very extensive, hospitalization sometimes is required. In addition, the blisters can become infected, requiring treatment with antibiotics. Sometimes extensive or severe sunburn also can lead to dehydration (see *Diarrhea,* page 435, for signs of dehydration) and, in some cases, fainting (heatstroke). Such cases need to be examined by your pediatrician or the nearest emergency facility.

PREVENTION

Many parents incorrectly assume that the sun is dangerous only when it's shining brightly. In fact, it's not the visible light rays but rather the invisible ultraviolet rays that are harmful. Your child may be exposed to more ultraviolet rays on foggy or hazy days because they'll feel cooler and therefore stay outside for a longer time. Exposure is also greater at higher altitudes. Even a big hat or an umbrella is not absolute protection because ultraviolet rays reflect off sand, water, snow, and many other surfaces.

Try to keep your child out of the sun when the peak ultraviolet rays occur (between 10 A.M. and 4 P.M.). In addition, follow these guidelines:

- Always use a sunscreen to block the damaging ultraviolet rays. Choose a sunscreen made for children with a sun protection factor (SPF) of 30 or higher and with broad-spectrum coverage for UVA and UVB light. (Check the label.) Apply the protection half an hour before going outside. Keep in mind that *no* sunscreens are truly waterproof, and thus they need to be reapplied every ninety minutes to two hours, particularly if your child spends a lot of time in the water. Consult the instructions on the bottle and choose a product that is labeled "water resistant."

- Dress your child in lightweight cotton clothing with long sleeves and long pants. SPF-rated clothing and hats are also a good idea to protect your child's skin when they're outdoors.
- Have them wear a hat with a wide brim.
- Use a beach umbrella or similar shade structure to keep them in the shade as much as possible.
- Babies under 6 months of age should be kept out of direct sunlight. If adequate clothing and shade are not available, sunscreen may be used on small areas of the body, such as the face and the backs of the hands.

(See also *Burns,* page 565.)

Warts

Warts are caused by a virus—the human papillomavirus (HPV). These firm bumps (although they also can be flat) are yellow, tan, grayish, black, or brown. They usually appear on the hands, on the toes, around the knees, and on the face, but can occur anywhere on the body. When they're on the soles of the feet, doctors call them plantar warts. Although warts can be contagious, they appear infrequently in children under the age of 2.

TREATMENT

Your pediatrician can give you advice on treating warts. Sometimes they will recommend an over-the-counter medication that contains salicylic acid or even treat them in the office using a liquid-nitrogen-based solution or spray. If any of the following are present, they may refer you to a dermatologist:

- Multiple, recurring warts
- A wart on the face or genital area
- Large, deep, or painful plantar warts (warts on the soles of the feet)
- Warts that are particularly bothersome to your child

Some warts will just go away by themselves. Others can be removed using prescription or non-prescription preparations. However, surgical removal by scraping, cauterizing, or freezing is sometimes necessary with

multiple warts, those that continue to recur, or deep plantar warts. Although surgery or laser treatment might help, there are no good, well-controlled studies showing that painful, destructive treatments are any better than no treatment at all. Fortunately, most children develop immunity against warts within two to five years, resulting in clearing of warts even without treatment.

CHAPTER 38

Your Child's Sleep

Sleep is an essential, healthy part of your child's life. In the same way that good nutrition is important for the development of their body, sleep is crucial for the development of their brain. When kids don't get enough sleep, it can affect their behavior, their health, and how they learn. Good sleep in infancy is also linked with good physical health, including a lower risk for obesity later in childhood. In turn, how much your child sleeps will also affect *your* sleep and *your* health. As your young child establishes and maintains a regular sleep schedule, they are more likely to consistently sleep longer and less likely to awaken during the night, allowing them to access all the health benefits of sleep. When you provide your child's growing brain with sufficient sleep, your child will be better able to concentrate, and their temperament will be more even.

(While this chapter focuses on your child's sleep needs, sleep training, implementing a sleep plan, and maintaining a bedtime routine, more detailed information and specific guidance on sleep for particular age groups, including safe sleep tips, can be found in various chapters in Part 1 of the book.

How Much Sleep Does My Child Need?

Many parents worry about the sleep habits and behaviors of their child: "Are they getting too little sleep? Or too much? How important are naps, and how many hours of napping are enough? Should I let them cry themselves to sleep at night, or should I pick them up when they're in tears? Why do they seem to go to sleep later—or earlier—than other children of the same age?" The good news is that many of these concerns can easily be addressed.

Sleep requirements are one of the most common issues pediatricians are asked about, and while there are normal variations in sleep patterns between children, the following are specific recommendations on how many hours of sleep a child needs.

The American Society of Sleep Medicine and the AAP recommend the following amounts of sleep:

- *Infants (4 months to 12 months):* 12 to 16 hours per 24 hours (including naps) on a regular basis to promote optimal health.
- *Children (1 year to 2 years):* 11 to 14 hours per 24 hours (including naps) on a regular basis to promote optimal health.
- *Children (3 years to 5 years):* 10 to 13 hours per 24 hours (including naps) on a regular basis to promote optimal health.

In addition to sleep duration, another common question many parents have is "When will my baby sleep through the night?" While this is an understandable question, the answer isn't the same for all infants. After all, not all children are alike. Some babies may develop regular sleep rhythms in the first several months; others, however, may have unpredictable sleep behaviors that stay that way for many months—or longer.

SCENARIO #1

The mother of a 4-month-old baby complained to friends that while her infant had slept extremely well in the first week after birth, the baby's sleep patterns seemed to have unraveled after that. More than anything, their sleep times were erratic and unpredictable. She explained that she tried to keep her baby awake well into the evening so her husband could play with the infant upon returning home from work between 8:00 and 8:30 P.M. Before his arrival, her baby would often fuss and cry, and even though they seemed drowsy at times, she would keep them awake for a little while longer, awaiting her husband's arrival. More often than not, the infant had become so overtired that they just couldn't be consoled.

Mother and father were conflicted over what to do: Dad seemed comfortable with the baby crying until he arrived home, while Mom worried they were being heartless. Sometimes she would try putting the baby down for a brief nap in the very late afternoon, but the child would still become cranky later that night, and tension escalated between husband and wife.

They decided to ask their pediatrician for advice. The doctor explained the importance of being respectful of the child's evolving sleep schedule. For a typical 4-to 8-month-old, a healthy nightly bedtime is between 6 and 8 P.M. Keeping the child up longer to greet the father would leave the child overtired and out of sync with their own biological rhythms.

Always be mindful of your own child's sleep needs. Their biological clock is evolving, and when they feel the need to sleep, they should be allowed to do so. If their sleep-wake schedule is artificially disrupted, they will probably become moody and less attentive when they are awake. If they go to bed earlier, they may get up a *little* earlier, but their total night sleep will be longer. This will allow more time for a working parent to spend with their child in the morning. If any adjustments in schedules need to be made, they should begin with Mom and Dad, who should find a way to be available to their child when the child is awake and alert.

In most cases, your baby will learn to stretch out their nighttime feeds over the first few months. You can help your infant achieve this by having a consistent bedtime routine, such as bath, breast or bottle, book, and bed (placed on their back to sleep). Also, allow them to soothe themselves to sleep at night, keep the room dark and quiet, and ensure that they get plenty of time outdoors (weather permitting) and that they feed well during the day.

As an infant gets older, they will continue to stretch out their nighttime sleep, as long as you let them do so. Their distinctive temperament could be influencing their sleep behavior. Also, family circumstances can vary, affecting when, how long, and how well a child sleeps. In general, as long as you have a good sleep routine, your child will adjust on those evenings where the routine changes, such as sleeping at a different house or being woken early for a sibling playdate.

GETTING SLEEP IN SYNC

Despite parental concerns—or in some cases, perhaps because of them—moms, dads, and other caregivers sometimes unknowingly disrupt children's sleep. For example, even though parents want to do what's healthy for their child, they don't always understand the effect that their own busy schedules and family decision-making may have on their child's sleep.

Most commonly, parents may not recognize the importance of adopting a lifestyle that keeps their child in sync with their emerging biological system. When it comes to sleep, timing is everything, or nearly so. It is important to understand that *when* your children sleep is probably more important than *how long* they sleep. The quality of a child's sleep, which can restore alertness and maintain an even temperament, depends largely on when sleep occurs. That means encouraging them to sleep in rhythm with

their own biological clock. A consistent bedtime that is in sync with a child's biological clock will typically result in restful and prolonged sleep.

Pay attention to your child, and you'll find that, just like adults, they have drowsy times during the day. If they sleep during these drowsy periods, the quality of that sleep will be better than sleep that occurs out of phase with their biological cycles. But if you wait to place them for sleep until well after they've shown signs of drowsiness, they're likely to be overtired by then, which may make it more difficult for them to fall asleep.

The First Year

As a parent, you need to nurture and support your child's need to sleep. As much as possible, encourage them to sleep during those times of the day when they're likely to benefit the most from it. However, adopting an optimal sleep schedule won't happen overnight. Give it time, and it will develop naturally. Your challenge as a parent is to be sensitive to those moments when their body is telling them (and you) that they're ready for sleep. Otherwise, you may be placing them in their crib way too early or way too late, and the ease with which they fall asleep—and the restorative capacity of that sleep—will be affected.

Your Toddler or Preschool-Age Child

For clues on whether your older child is getting enough sleep—particularly quality sleep—observe them at the end of the day. Are they sweet, adaptable, friendly, cooperative, independent, and engaging? Or are they whiny, crabby, excitable, wired, and irritable? They may be running out of steam as the day draws to a close, all because of mild but chronic sleep deprivation. So pay attention to them, and you'll find that, just like with adults, they experience a drowsy time during the day. If they're consistently melting down, you may need to make some adjustments in their bedtime. They may need to go to bed earlier. The earlier bedtime will get rid of their unpleasant behavior near the end of the day.

Also keep the following caveat in mind: When parents move their child's bedtime earlier, they may see no improvement in the child's pre-sleep behavior. In cases like this, the earlier bedtime may still be too late and needs to be adjusted further, so that it is even earlier.

Sleep Routines and Dealing with Crying

Some babies cry every night when they're placed in their crib for sleep; others almost never do. For many parents, it can be gut-wrenching when a baby cries in their crib for long periods of time. As your baby cries, your heart may be breaking, and it can be anguishing to keep your distance while you wait for them to fall asleep. Or you might feel frustration or anger at their apparent unwillingness or inability to quiet down and sleep. Even just a few minutes of tears can seem like an eternity.

Often concerned about why their baby is crying, parents may wonder whether the infant is simply letting off steam, is feeling lonely, or is really in distress. Not surprisingly, some of the most common questions asked of pediatricians are "Should I let my baby cry themselves to sleep, or should I pick them up and comfort them?" and the more fundamental question "How much sleep should they really be getting?" To a large degree, the answers to these questions depend on the age of the infant.

The First Month

During this period, your baby will spend most of their time asleep. When you place them on their back in their crib for sleep, or when they awaken, try to avoid letting them cry. Instead, respond to those tears and do whatever you can to soothe your baby, such as singing quietly, talking to them quietly, playing soft music, keeping the lights dim, and/or rocking them gently. Pick them up if necessary, placing them back in the crib again five to ten minutes later. By minimizing their discomfort in whatever way works, you'll maximize their sleep time and its quality. (For additional information about soothing a crying baby, see the information later in this section, as well as pages 732 and 735 later in this chapter.)

When is an infant of this age ready for sleep, whether or not they're crying? In general, after they have been awake for one to two hours, they need sleep. Sometimes they may need to fall asleep even before an hour goes by, and rarely they may stay awake for three hours. If they are a little fussy or have some low-level crying, wait to see if it escalates once you place them back in the crib, and if it does, then of course pick them up. But they just might drift off to sleep.

Generally, no matter what the circumstances, they will begin to show signs of being overtired and irritable if they don't get their nap when they need it. So start soothing them to sleep. After they've been awake for an hour or two, they may need to be soothed. Place them in their crib when they're drowsy but still awake (this approach will be particularly helpful for daytime napping). If you wait too long, they're likely to become cranky and have even more difficulty falling asleep. (For more information on crying and colic, see page 108.)

Sharing the Bedtime Routine

During these early weeks after birth, it can help to get other adults, such as your spouse or partner, a grandparent, a sitter, or a nanny, involved in bedtime rituals. When you are the only one participating in getting your child to bed, they will associate only you with going to sleep. The more people who are involved, the less likely it is that your baby will associate a certain scenario with falling asleep.

Parent Sleep Deprivation

In your baby's first weeks after birth, another issue may surface: You may be sleep-deprived. A newborn's sleep schedule may leave either parent anxious and overwhelmed, particularly if they feel that they now have more responsibilities when they are feeling so sleep-deprived and exhausted. Support each other, and when necessary, provide the caregivers with additional periods for a break, a nap, or another way to recharge their batteries.

Planning ways to reduce caregiver exhaustion is also important to protect infants from sudden infant death syndrome (SIDS), as new research has demonstrated that parents are more likely to disregard safe sleep guidance when they are overly fatigued and desperate to get rest. Understanding your options when both caregivers are struggling with sleep and creating a plan for those times is a wise way to keep your baby safe.

Implementing a Sleep Plan

It is important that every adult who is involved with sleep time agree to a sleep plan for your child. If there is inconsistency, the plan is unlikely to succeed. Decide together whether to adopt any new steps gradually or quickly. Many pediatricians advise small, simple steps first, making it a little easier for both parent and child to adjust. A slightly earlier bedtime, for example, may improve your child's mood and lead to less disappointment.

Whenever a change is made, wait and watch for a while to see how successful it is. Do not make your evaluation on a day-by-day (or night-by-night) basis. Try a new approach for at least several days before concluding that the change is worth continuing.

- *At about 6 weeks of age (counting from the baby's due date for an infant born prematurely):* Your baby's sleep-wake schedule will start to settle into more of a routine at this time. They will begin to sleep longer at night, and may exhibit signs of drowsiness (and perhaps some crying) earlier in the evening. For example, while they may have once been ready for sleep between 9 and 11 P.M., they may start to need sleep somewhat earlier—perhaps between 6 and 8 P.M. Their longest sleep period will be in the late evening, lasting for three to five hours.

  Variations exist, of course, so be sensitive to your own baby's needs and anticipate that they may require an earlier bedtime—no longer at 11 P.M. but rather at 8 P.M. So to minimize crying, try an earlier bedtime, spend some time soothing them if needed (although if they fuss a little, it won't cause any harm), and let their own biological rhythm dictate whether it will turn into a thirty-minute nap or a four-hour snooze.

  As you and your baby get in tune with their rhythms, they'll gradually learn to soothe themselves to sleep when you place them in the crib. As that happens, there will be little or no crying. By about 3 months of age, some babies sleep six to eight hours in one stretch. If they awaken too early, you might be able to encourage them to go back to sleep by soothing them and keeping the lights off and the shades drawn.

- *4 to 12 months of age:* With a 4-month-old, and continuing into the weeks and months ahead, keep working at being sensitive to your baby's bodily rhythms, which will minimize episodes of crying. From 4 months

through the rest of the first year, most infants need at least two naps, one at midmorning and the other at midday; some children may nap a third time later in the afternoon. Try to get them on a schedule of napping at about 9 A.M., then at 1 P.M., and finally a late afternoon nap if they need it. Most parents hate to awaken a young child from a nap. Let them nap for as long as they wish unless they have difficulty falling asleep at night; in that case, talk to your pediatrician about waking them from their afternoon nap a little earlier than they might wake up on their own. If they take late and lengthy naps, it might be because their bedtime is too late, and they are partially compensating for lost sleep at night by taking long naps. Skipping the third nap and having an earlier bedtime might be warranted. By about 9 months of age, try to dispense with late afternoon naps so that they'll be ready for bedtime for the night at an earlier time than if those late afternoon naps continued.

At this age, a baby's nighttime sleep will be their longest sleep period of the day, and by about 8 months old, it should last from ten to twelve hours without them awakening for a nighttime feeding. But if a baby of this age seems overtired and they cry at the mere sight of their crib, their naps may be too short (less than thirty minutes long), their naps may not be occurring in sync with their sleep rhythms, or perhaps bedtime is too late at night. In the last case, place them in the crib much earlier, at least temporarily—perhaps at 5:30 or 6 P.M.—to respond to their excessive tiredness. If they cry, check on them and console them with a few comforting words. Change their diaper if needed, and make sure they are comfortable, but keep the lights dim and don't arouse them more fully by picking them up and walking with them. Then leave the room quietly. As the days and weeks pass, gradually give them less attention at night; this will help them stop anticipating that you'll show up whenever they cry or call out for you, and they'll be more likely to learn self-soothing techniques such as sucking on their hand, rocking their head, or rubbing the sheet.

It's important to keep in mind that there are times when you may need to let your baby cry themselves to sleep; it won't cause any harm. Remember, you have all day to show your infant how much you love them and care for them. At night, they'll get the message that nighttime is

for sleeping, and on those nights when you let them cry, you're helping them learn to soothe themselves. They won't be thinking that you're abandoning them or that you don't love them anymore; they know by your daytime behaviors that this isn't the case at all. In other words, there's no need to worry.

SCENARIO #2

A mother and father brought their 5-month-old daughter to the pediatrician and explained that her napping (or lack of it) had become a serious problem that affected the entire family. They would place her in her crib for a daytime nap, but she would awaken about thirty-five to forty minutes later, ready to continue her day, at least for a while. They agreed that their baby needed lengthier naps, but were frustrated in their attempts to make them longer. They had tried leaving the baby in her crib for twenty more minutes after awakening, but she would cry nonstop and resisted returning to sleep.

Their pediatrician explained that in infants 4 to 5 months old, it can be challenging to initiate a regular nap schedule because their biological rhythms are continuing to change and mature; nap times may not become well established for about another month or two. The doctor suggested that they could try extending the naps by responding promptly when the child first makes noises or calls out for attention. When that happens, they can try gently patting their baby or giving her a massage for a short time. With this approach, many children will fall back asleep for another twenty to thirty minutes, providing a truly restorative nap that leads to greater alertness and attention spans later in the day.

As a child becomes older, however, these particular approaches can become more stimulating than soothing in some children, and thus become counterproductive. After discussing the matter further with the parents, the pediatrician felt there were a couple of factors at play. The child's bedroom might not be dark enough and the apartment might not be quiet enough to encourage sleep. But more important, the timing of the child's naps was likely not in sync with her natural rhythms. The pediatrician recommended that they adjust the sleep environment to make it more conducive to napping, and to be patient until their child's biological rhythms made her body more agreeable to predictable daytime napping.

Daytime Nap Evolution

- *About ages 10 to 12 months:* The morning nap will begin to taper off in a few infants around 10 to 12 months. Around 12 months of age, some babies may drop their morning nap altogether. As that happens, you can start moving their nighttime bedtime somewhat earlier (perhaps by about twenty to thirty minutes); the afternoon nap can be started a little sooner,

too. Your baby's bedtime may vary for a while, depending on factors such as how tired your baby seems and the quality of their daytime napping.

- *13 to 23 months of age:* The amount of time that your child spends napping will begin to change during this time. By age 15 months, about half (but certainly not yet all) children will be taking only one nap a day, typically in the afternoon. The morning nap may simply fade away on its own, although there could be some rough periods as this transition to a single daily nap takes place. Even so, for most children, the morning nap will gradually disappear. As that happens, if you put your child to bed earlier for the night, they'll actually be less likely to miss those morning naps, and they're more likely to wake up rested.
- *24 months of age:* By this time, nearly all children have transitioned to just a single afternoon nap, although this napping remains biologically important for them to function well during the rest of the day.
- *Between 2 and 3 years old:* Most children continue needing one daytime nap so that they're not irritable and fussy by late afternoon. By about 3 years old, the average child will sleep about two hours during the daytime. However, some will sleep more and others less (as little as an hour in some cases). Try to make the timing of naps and nighttime sleep regular, although the need for some flexibility is inevitable. Some children will go through periods where they resist napping, even though their body is telling them (and you) that they need a nap; in those instances, try out an earlier or later bedtime at night, and see if that helps your child rest better during the day.

The best rule of thumb about the length of napping is that your child's naps should be long enough to be restorative. There is some evidence that longer naps tend to improve a child's attention span and their ability to learn. Conversely, if they're having very brief mini-naps that are just a few minutes in length, those naps simply won't sustain them through the day. A child's need for an afternoon nap about one to two hours in length tends to persist until they are about 3 years old, and then the length will shorten after that. Research shows that 90 percent of 3-year-olds are still napping.

- *3 to 5 years of age:* Most children in this age range are ready for nighttime sleep between 7 and 9 P.M., or earlier if naps are brief or absent, and they'll sleep through the night until about 6:30 to 8 A.M. Naps tend to become less common in some children by age 3 or 4.

  During this age, get in tune with your child's need for sleep, and set a regular bedtime. With less napping time and greater physical activity, the sleep needs at night actually increase for some children.

SCENARIO #3

Many parents recognize the importance of bedtime routines—but for some parents, these routines don't always work. One mother tried out many she had heard about, including bathing her 3-month-old baby, massaging them after the bath, singing soft lullabies, and swaddling the baby, but none was effective. In fact, her baby often became *more* irritable with these approaches.

When this mother expressed her frustration to her pediatrician, the pediatrician offered some pointers to make these bedtime routines more effective. They told the mother to begin using these routines early, *before* the baby is already overtired and becoming crabby. They also urged her to be consistent, using the same bedtime routines day after day until the baby begins to associate them with sleep. The pediatrician stressed persistence, explaining that changes don't happen overnight, and that routines need to be consistent over time to have a positive effect.

The pediatrician had another suggestion. They asked the parents to place their infant in the crib for a nap about twenty to thirty minutes *before* they thought the nap should actually begin. As the baby relaxed in their crib, they almost always had a bowel movement within ten to twenty minutes, which prompted them to cry. But then once their diaper was changed, they were now in the correct biological time frame for the nap to begin. The parents soothed them, and the baby fell asleep for a lengthy nap.

Getting the Most Out of Sleep

So how do you prepare and soothe your child to sleep? Soothing techniques may vary based on the age of your child. Some gentle massage can help at almost any age. For young infants, patting them, kissing their forehead, touching your cheek to theirs in a rhythmic pattern that coincides with their breathing, or encouraging sucking behavior with a pacifier or finger may be useful.

Bedtime routines can start as early as 4 to 6 months of age, which will help get your baby ready for rest, particularly as they start to associate these

routines with sleep. Stop all screen time one to two hours before bedtime. Read them a story. Or give them a warm bath or a massage, sing them a lullaby, or play soothing music. Cut down on rambunctious playtime with them right before bedtime, close the curtains, dim the lights, and avoid using your mobile phone.

More important than your choice of a specific routine or ritual, you need to continue to stay in sync with your child's circadian rhythm. When it's time to sleep, keep your child away from situations where there is a lot of stimulation, which can lead to crankiness and make sleep difficult. Family activities with the baby before bedtime should be low-key, so as not to overstimulate them. Remember, timing is the key to healthy sleep. So while it's fine to sit quietly with your child for ten to twenty minutes and read them a story, what you choose to do is usually of less importance than the time you choose to do it.

Do you have to keep to the bedtime routine every single night? No! Once your child adopts a regular schedule in sync with their own internal clock, you can occasionally take your child out for special events without too much problem.

If your infant is in childcare during the first year, ask their caregivers to keep them on a regular napping schedule as much as possible. It should be the same schedule that you follow at home to minimize disruptions. Sometimes you may not even notice if your child is overtired because they are so excited to see you when you pick them up at the childcare facility, and you are so enthusiastic to see them. But pay attention to what they're experiencing. The staff's willingness to adapt to your own preferences for napping may be an important factor when you're choosing a facility.

SCENARIO #4

A father called the family's pediatrician with a problem that he and his wife were trying to solve. They understood the value of keeping their 9-month-old infant on a sleep schedule. At the same time, however, they had two older children with activities that didn't always fit in with the parents' commitment to be protective of their baby's need to nap.

Their pediatrician recommended that the parents work hard at finding a balance between the older children's social needs and the baby's biological requirement to nap during the day. Noting that they may not always find the perfect solution that meets the needs of everyone, the doctor added that compromises may be necessary. "Sometimes," they said, "you may have to

tell an older child, 'You'll be a little late to your playdate because we're going to wait a few extra minutes until the baby finishes sleeping.' But other times, when the older child has a special event, you may decide to wake up the infant to make sure the older sibling gets to where they need to go on time."

It's true that, in most cases, you should try to avoid awakening a sleeping baby. But a slightly shorter nap now and then won't cause harm, as long as it doesn't become a regular pattern.

Of course, many (but not all) childcare facilities are willing and able to make the timing of napping a priority. However, depending on where your child is being cared for, there may not be a dark, quiet room for napping, which can make sleeping difficult. Your child may be ready for a nap between 9 and 10 A.M. and then again between 1 and 3 P.M.—but the childcare environment may not be conducive to napping at those times. There might be too much light, or lots of noise (including crying) from other children. As a result, they may not get the sleep they need at the time when they most need it. When that happens, they could be overtired when you pick them up at the end of your workday, and an early bedtime may be most appropriate. If you're missing that evening bonding time, you may be able to shift some of that time to the morning, when you can spend time bathing, feeding, and dressing your baby.

Try your best to continue your child's weekday sleep schedule on the weekends and during vacations. Nevertheless, some disruptions in sleep schedules are inevitable. Holidays, vacations, or a family gathering can keep your child from napping or getting to bed on time. Because the temperament of children varies, some are much more adaptable to changes like these than others; while one child will adjust to changing circumstances very easily, others may not.

As much as possible, respect your child's nature, and try to maintain normal sleep routines. At the same time, if you know that a disruption of their sleep schedule is on the horizon, they will fare better and adapt more successfully—and have a cheerier disposition—if they are more rested ahead of time. So when you look ahead to a family party, for example, try to keep your child well rested in the preceding day or two so that this intrusion into their sleep schedule will unfold as smoothly as possible. The more rested your child is, the better their temperament and the more adaptable they will be to changes in their environment—and the better they will sleep.

How often can you disrupt your child's sleep schedule? Exceptions to sleep routines, when you can adjust naps and bedtimes, can occur once or twice a month, so you and your baby can enjoy holidays, birthdays, and other special events. Most well-rested children adapt to these occasional events.

If your baby does get off schedule—perhaps because of a grandparent's visit, or when an unexpected illness occurs—think of the notion of a "reset" that lasts just one night. For this night of readjustment, place your child in bed very early, ignoring protest crying related to the sleep debt they have accumulated. A more gradual approach often fails due to the child's overtiredness and their battle to get extra attention. It can be frustrating for parents, but a single "reset" night should resolve the problem. The key here is to get back to the normal bedtime routine.

Dealing with Other Sleep Concerns

If your child is having difficulty with nighttime sleep, it often helps to establish routines before bedtime. A 4-year-old may respond positively to having a schedule of a bath, brushing their teeth, and a bedtime story before the lights are turned off. You might also try setting bedtime earlier rather than later; the nighttime struggles over sleep might subside when your child is less tired and cranky. Your child's need for naps may also gradually subside during this period.

Night terrors can be an issue for this age group. Occasionally your preschooler will be in bed and appear to be awake and upset, perhaps even screaming and thrashing, eyes wide open and terrified, but won't respond to you. In this case, the child is neither awake nor having a nightmare. Rather, you're witnessing a night terror (or sleep terror)—a mysterious and, to parents, distressing form of sleep behavior common during the preschool and early school years. Typically, the child falls asleep without difficulty but wakes up a few hours later, wide-eyed and terrified. They may point to imaginary objects, kick, scream, call out ("No, no!" or "I can't!"), and be generally inconsolable. Parents find these experiences particularly disturbing because the child looks different from usual and acts so differently. (These events are much more unsettling for parents than for the child.) The only

thing you can do is hold your child to protect them from hurting themselves. Reassure them: "You're fine. Mommy and Daddy are here." Keep the lights dim and speak softly. After ten to thirty minutes, they'll settle down and go back to sleep. Prolonged interactions with your child may extend these episodes. The next morning, they'll remember nothing about the occurrence.

Some children may have just one episode of night terrors, while others experience several. It's not typical, however, for them to recur frequently or for a prolonged period. In cases of very frequent night terrors, sleep medications prescribed by your pediatrician may help, but the best strategy seems to be to wait them out. Since some children have night terrors when they're overtired, try putting your child to bed thirty minutes earlier than usual and see if the episodes diminish in frequency. In any case, they'll disappear naturally as the child grows older. (For more information on night terrors, see the box on page 739.)

Sometimes family issues can affect your child's sleep. For example, if you have trouble setting limits during the day, if parents (and grandparents) aren't on the same page, or if you've had an exhausting day at work, sleep in your home may be more challenging for everyone, especially your child. Dealing effectively with everyday problems can help your entire family get appropriate sleep.

Also, does your child have health or developmental issues, such as colic, autism spectrum disorder, severe eczema, or sleep apnea, that make sleeping difficult? (Colic is a frequent cause of sleep-disrupting fussiness in very young babies; see page 108 for more information and guidance.) Or your child could have a short-term health problem like an ear infection that is causing pain and keeping them awake. Tend to their immediate needs, then talk with your pediatrician and/or pediatric specialist and follow their instructions on how to manage the problem and ease your child's discomfort.

HOW TO TELL A NIGHTMARE FROM A NIGHT TERROR

Sometimes it's difficult to tell the difference between a nightmare and a night terror. This chart should help.

Nightmare	Night Terror

APPEARANCE AND BEHAVIOR	
Frightening dream; child may awaken afraid and crying	Screaming, crying, thrashing during sleep; may appear partially aroused, anxious, and agitated
AT WHAT AGE DOES IT START?	
Frequently first occurs in toddlers and older	May begin at age 4 or 5 (or occasionally later)
TIMING OF EPISODES	
Often in the second part of the night during intense dreaming	Mostly during non-dreaming sleep; episodes start within two hours of going to sleep and last five to fifteen minutes; occur most often when child has a fever or sleep schedules are disrupted
RETURN TO SLEEP	
May have trouble going back to sleep due to anxiety	Goes back to sleep quickly
MEMORY OF EXPERIENCE	
May remember the dream and talk about it	No memory of the episode
UNDERLYING ISSUES	
Not associated with emotional problems, but may reflect inner fears surfacing in dreams	Not associated with emotional problems
MANAGEMENT	
Awaken and comfort your child; talk to them to ease any stress that may be bothering them; avoid watching TV before bedtime	Treatment with medications not effective; try putting child to bed a little earlier to avoid overtiredness
LONG-TERM	
Talk to pediatrician if child complains of nightly nightmares	Most children outgrow having night terrors
Source: Adapted with permission from Marc Weissbluth, *Healthy Sleep Habits, Happy Child* (Ballantine Books, 2021).	

Putting Sleep in Perspective

When it comes to your child's sleep, do the best you can, but don't feel bad if things don't always go smoothly. Make a concerted effort to get your child to bed on time for naps and at night. If your baby spends time at childcare or

with a nanny and you're not present at nap time, make sure that their caregivers understand and try to be consistent with your own preferences about your child's sleep schedule. But you also need to set aside any anxiety and blame you might feel if you aren't doing everything perfectly. Inevitably, there will be days and nights when your child doesn't sleep well. Don't beat yourself up if your child goes to bed a little late for a night or two (or more). Just get back on track as soon as possible, and help them return to a normal sleeping routine. Dealing effectively with your child's sleeping problems is important, not only for your child, but also because their sleep difficulties can interfere with your own need to rest. Meeting your own sleep needs (as well as those of your partner) is important to effectively care for your baby and the rest of your family. Chronically overtired parents also have a greater risk of becoming depressed.

As we mentioned earlier, sleep is an essential, healthy part of your child's life. Helping your child sleep can be one of parenting's biggest challenges. But it can have an enormous payoff in terms of your child's health, now and in the future. Many adults are chronically poor sleepers because of patterns that may have begun during their own childhood. Sleeping poorly is a learned behavior, and when a child doesn't get quality sleep, they may not learn how to sleep well. In many cases, such sleep issues are likely to become part of their life for many years. The younger your child is when you begin to deal with their sleep problems, the more likely you are to resolve them. Remember that your pediatrician can be an ongoing source of support, advice, and reassurance. Additionally, many pediatric medical centers have individuals who specialize in helping children sleep better.

Appendix

Recommendations for Preventive Pediatric Health Care

Bright Futures/American Academy of Pediatrics

Each child and family is unique; therefore, these Recommendations for Preventive Pediatric Health Care are designed for the care of children who are receiving nurturing parenting, have no manifestations of any important health problems, and are growing and developing in a satisfactory fashion. Developmental, psychosocial, and chronic disease issues for children and adolescents may require more frequent counseling and treatment visits separate from preventive care visits. Additional visits also may become necessary if circumstances suggest concerns.

These recommendations represent a consensus by the American Academy of Pediatrics (AAP) and Bright Futures. The AAP continues to emphasize the great importance of continuity of care in comprehensive health supervision and the need to avoid fragmentation of care.

AGE[1]	Prenatal[2]	Newborn[3]	3-5 d[4]	By 1 mo	2 mo	4 mo	6 mo	9 mo	12 mo	15 mo	18 mo	24 mo	30 mo
HISTORY Initial/Interval	●	●	●	●	●	●	●	●	●	●	●	●	●
MEASUREMENTS													
Length/Height and Weight		●	●	●	●	●	●	●	●	●	●	●	●
Head Circumference		●	●	●	●	●	●	●	●	●	●	●	
Weight for Length		●	●	●	●	●	●	●	●	●	●		
Body Mass Index[5]												●	●
Blood Pressure[6]		★	★	★	★	★	★	★	★	★	★	★	★
SENSORY SCREENING													
Vision[7]		★	★	★	★	★	★	★	★	★	★	★	★
Hearing		●[8]	●[9] →	→	→	★	★	★	★	★	★	★	★
DEVELOPMENTAL/SOCIAL/BEHAVIORAL/MENTAL HEALTH													
Maternal Depression Screening[11]				●	●	●	●						
Developmental Screening[12]								●			●		●
Autism Spectrum Disorder Screening[13]											●	●	
Developmental Surveillance		●	●	●	●	●	●		●	●		●	
Behavioral/Social/Emotional Screening[14]		●	●	●	●	●	●	●	●	●	●	●	●
Tobacco, Alcohol, or Drug Use Assessment[15]													
Depression and Suicide Risk Screening[16]													
PHYSICAL EXAMINATION[17]		●	●	●	●	●	●	●	●	●	●	●	●
PROCEDURES[18]													
Newborn Blood		●[19]	●[20] →	→	→								
Newborn Bilirubin[21]		●											
Critical Congenital Heart Defect[22]		●											
Immunization[23]		●	●	●	●	●	●	●	●	●	●	●	●
Anemia[24]						★			●	★	★	★	★
Lead[25]							★	★	● or ★[26]		★	● or ★[26]	
Tuberculosis[27]				★			★		★			★	
Dyslipidemia[28]												★	
Sexually Transmitted Infections[29]													
HIV[30]													
Hepatitis B Virus Infection[31]		★ →	→	→	→	→	→	→	→	→	→	→	→
Hepatitis C Virus Infection[32]													
Sudden Cardiac Arrest/Death[33]													
Cervical Dysplasia[34]													
ORAL HEALTH[35]							●[36]	●[36]	★		★	★	★
Fluoride Varnish[37]							←	→	→	→	● →	→	→
Fluoride Supplementation[38]							★	★	★		★	★	★
ANTICIPATORY GUIDANCE	●	●	●	●	●	●	●	●	●	●	●	●	●

KEY: ● = to be performed ★ = risk assessment to be performed with appropriate action to follow, if positive ← ★ or ● → = range during which a service may be provided

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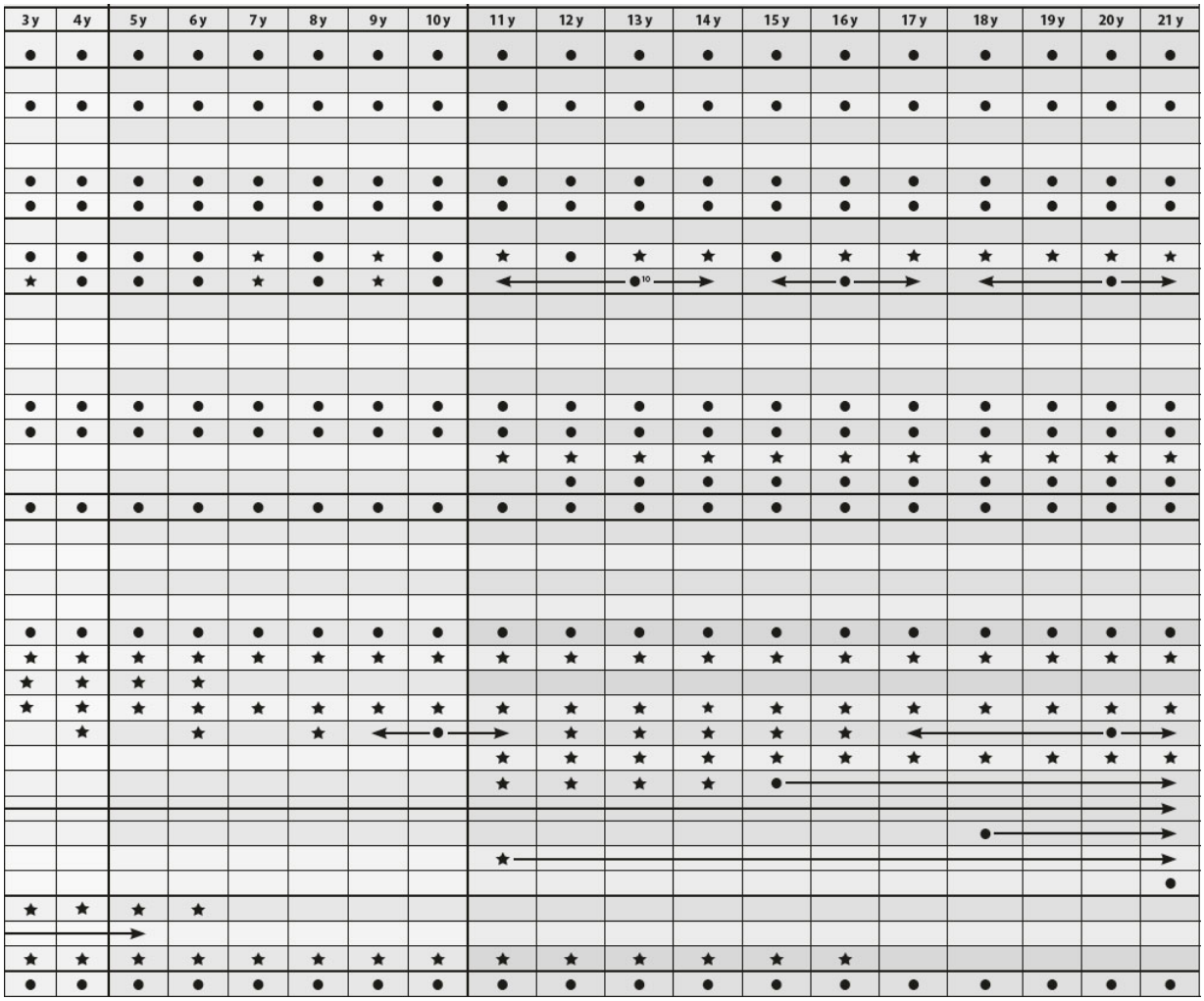
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Refer to the specific guidance by age as listed in the *Bright Futures Guidelines* (Hagan JF, Shaw JS, Duncan PM, eds. *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents.* 4th ed. American Academy of Pediatrics; 2017).

The recommendations in this statement do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

The Bright Futures/American Academy of Pediatrics Recommendations for Preventive Pediatric Health Care are updated annually.



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1. If a child comes under care for the first time at any point on the schedule, or if any items are not accomplished at the suggested age, the schedule should be brought up to date at the earliest possible time.
2. A prenatal visit is recommended for parents who are at high risk, for first-time parents, and for those who request a conference. The prenatal visit should include anticipatory guidance, pertinent medical history, and a discussion of benefits of breastfeeding and planned method of feeding, per "The Prenatal Visit" (https://doi.org/10.1542/peds.2018-1218).
3. Newborns should have an evaluation after birth, and breastfeeding should be encouraged (and instruction and support should be offered).
4. Newborns should have an evaluation within 3 to 5 days of birth and within 48 to 72 hours after discharge from the hospital to include evaluation for feeding and jaundice. Breastfeeding newborns should receive formal breastfeeding evaluation, and their mothers should receive encouragement and instruction, as recommended in "Breastfeeding and the Use of Human Milk" (https://doi.org/10.1542/peds.2011-3552). Newborns discharged less than 48 hours after delivery must be examined within 48 hours of discharge, per "Hospital Stay for Healthy Term Newborn Infants" (https://doi.org/10.1542/peds.2015-0699).
5. Screen, per "Expert Committee Recommendations Regarding the Prevention, Assessment, and Treatment of Child and Adolescent Overweight and Obesity: Summary Report" (https://doi.org/10.1542/peds.2007-2329C).
6. Screening should occur per "Clinical Practice Guideline for Screening and Management of High Blood Pressure in Children and Adolescents" (https://doi.org/10.1542/peds.2017-1904). Blood pressure measurement in infants and children with specific risk conditions should be performed at visits before age 3 years.
7. A visual acuity screen is recommended at ages 4 and 5 years, as well as in cooperative 3-year-olds. Instrument-based screening may be used to assess risk at ages 12 and 24 months, in addition to the well visits at 3 through 5 years of age. See "Visual System Assessment in Infants, Children, and Young Adults by Pediatricians" (https://doi.org/10.1542/peds.2015-3596) and "Procedures for the Evaluation of the Visual System by Pediatricians" (https://doi.org/10.1542/peds.2015-3597).
8. Confirm initial screen was completed, verify results, and follow up, as appropriate. Newborns should be screened, per "Year 2007 Position Statement: Principles and Guidelines for Early Hearing Detection and Intervention Programs" (https://doi.org/10.1542/peds.2007-2333).
9. Verify results as soon as possible, and follow up, as appropriate.
10. Screen with audiometry including 6,000 and 8,000 Hz high frequencies once between 11 and 14 years, once between 15 and 17 years, and once between 18 and 21 years. See "The Sensitivity of Adolescent Hearing Screens Significantly Improves by Adding High Frequencies" (https://www.sciencedirect.com/science/article/abs/pii/S1054139X16000483).
11. Screening should occur per "Incorporating Recognition and Management of Perinatal Depression Into Pediatric Practice" (https://doi.org/10.1542/peds.2018-3259).
12. Screening should occur per "Promoting Optimal Development: Identifying Infants and Young Children With Developmental Disorders Through Developmental Surveillance and Screening" (https://doi.org/10.1542/peds.2019-3449).

13. Screening should occur per "Identification, Evaluation, and Management of Children With Autism Spectrum Disorder" (https://doi.org/10.1542/peds.2019-3447).
14. Screen for behavioral and social-emotional problems per "Promoting Optimal Development: Screening for Behavioral and Emotional Problems" (https://doi.org/10.1542/peds.2014-3716), "Mental Health Competencies for Pediatric Practice" (https://doi.org/10.1542/peds.2019-2757), "Clinical Practice Guideline for the Assessment and Treatment of Children and Adolescents With Anxiety Disorders" (https://pubmed.ncbi.nlm.nih.gov/32439401), and "Screening for Anxiety in Adolescent and Adult Women: A Recommendation From the Women's Preventive Services Initiative" (https://pubmed.ncbi.nlm.nih.gov/32510990). The screening should be family centered and may include asking about caregiver emotional and mental health concerns and social determinants of health, racism, poverty, and relational health. See "Poverty and Child Health in the United States" (https://doi.org/10.1542/peds.2016-0339), "The Impact of Racism on Child and Adolescent Health" (https://doi.org/10.1542/peds.2019-1765), and "Preventing Childhood Toxic Stress: Partnering With Families and Communities to Promote Relational Health" (https://doi.org/10.1542/peds.2021-052582).
15. A recommended assessment tool is available at http://crafft.org.
16. Screen adolescents for depression and suicide risk, making every effort to preserve confidentiality of the adolescent. See "Guidelines for Adolescent Depression in Primary Care (GLAD-PC): Part I. Practice Preparation, Identification, Assessment, and Initial Management" (https://doi.org/10.1542/peds.2017-4081), "Mental Health Competencies for Pediatric Practice" (https://doi.org/10.1542/peds.2019-2757), "Suicide and Suicide Attempts in Adolescents" (https://doi.org/10.1542/peds.2016-1420), and "The 21st Century Cures Act & Adolescent Confidentiality" (https://www.adolescenthealth.org/Advocacy/Advocacy-Activities/2019-(1)/NASPAG-SAHM-Statement.aspx).
17. At each visit, age-appropriate physical examination is essential, with infant totally unclothed and older children undressed and suitably draped. See "Use of Chaperones During the Physical Examination of the Pediatric Patient" (https://doi.org/10.1542/peds.2011-0322).
18. These may be modified, depending on entry point into schedule and individual need.
19. Confirm initial screen was accomplished, verify results, and follow up, as appropriate. The Recommended Uniform Screening Panel (https://www.hrsa.gov/advisory-committees/heritable-disorders/rusp/index.html), as determined by The Secretary's Advisory Committee on Heritable Disorders in Newborns and Children, and state newborn screening laws/regulations (https://www.babysfirsttest.org/) establish the criteria for and coverage of newborn screening procedures and programs.
20. Verify results as soon as possible, and follow up, as appropriate.
21. Confirm initial screening was accomplished, verify results, and follow up, as appropriate. See "Hyperbilirubinemia in the Newborn Infant ≥35 Weeks' Gestation: An Update With Clarifications" (https://doi.org/10.1542/peds.2009-0329).
22. Screening for critical congenital heart disease using pulse oximetry should be performed in newborns, after 24 hours of age, before discharge from the hospital, per "Endorsement of Health and Human Services Recommendation for Pulse Oximetry Screening for Critical Congenital Heart Disease" (https://doi.org/10.1542/peds.2011-3211).
23. Schedules, per the AAP Committee on Infectious Diseases, are available at https://publications.aap.org/redbook/pages/immunization-schedules. Every visit should be an opportunity to update and complete a child's immunizations.

24. Perform risk assessment or screening, as appropriate, per recommendations in the current edition of the AAP *Pediatric Nutrition: Policy of the American Academy of Pediatrics* (Iron chapter).
25. For children at risk of lead exposure, see "Prevention of Childhood Lead Toxicity" (https://doi.org/10.1542/peds.2016-1493) and "Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention" (https://www.cdc.gov/nceh/lead/docs/final_document_030712.pdf).
26. Perform risk assessments or screenings as appropriate, based on universal screening requirements for patients with Medicaid or in high prevalence areas.
27. Tuberculosis testing per recommendations of the AAP Committee on Infectious Diseases, published in the current edition of the AAP *Red Book: Report of the Committee on Infectious Diseases.* Testing should be performed on recognition of high-risk factors.
28. See "Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents" (http://www.nhlbi.nih.gov/guidelines/cvd_ped/index.htm).
29. Adolescents should be screened for sexually transmitted infections (STIs) per recommendations in the current edition of the AAP *Red Book: Report of the Committee on Infectious Diseases.*
30. Screen adolescents for HIV at least once between the ages of 15 and 21, making every effort to preserve confidentiality of the adolescent, as per "Human Immunodeficiency Virus (HIV Infection: Screening" (https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/human-immunodeficiency-virus-hiv-infection-screening); after initial screening, youth at increased risk of HIV infection should be retested annually or more frequently, as per "Adolescents and Young Adults: The Pediatrician's Role in HIV Testing and Pre- and Postexposure HIV Prophylaxis" (https://doi.org/10.1542/peds.2021-055207).
31. Perform a risk assessment for hepatitis B virus (HBV) infection according to recommendations per the USPSTF (https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/hepatitis-b-virus-infection-screening) and in the 2021–2024 edition of the AAP *Red Book: Report of the Committee on Infectious Diseases*, making every effort to preserve confidentiality of the patient.
32. All individuals should be screened for hepatitis C virus (HCV) infection according to the USPSTF (https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/hepatitis-c-screening) and Centers for Disease Control and Prevention (CDC) recommendations (https://www.cdc.gov/mmwr/volumes/69/rr/rr6902a1.htm) at least once between the ages of 18 and 79. Those at increased risk of HCV infection, including those who are persons with past or current injection drug use, should be tested for HCV infection and reassessed annually.
33. Perform a risk assessment, as appropriate, per "Sudden Death in the Young: Information for the Primary Care Provider" (https://doi.org/10.1542/peds.2021-052044).
34. See USPSTF recommendations (https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/cervical-cancer-screening). Indications for pelvic examinations prior to age 21 are noted in "Gynecologic Examination for Adolescents in the Pediatric Office Setting" (https://doi.org/10.1542/peds.2010-1564).
35. Assess whether the child has a dental home. If no dental home is identified, perform a risk assessment (https://www.aap.org/en/patient-care/oral-health/oral-health-practice-tools/) and refer to a dental home. Recommend brushing with fluoride toothpaste in the proper dosage for

age. See "Maintaining and Improving the Oral Health of Young Children" (https://doi.org/10.1542/peds.2014-2984).

36. Perform a risk assessment (https://www.aap.org/en/patient-care/oral-health/oral-health-practice-tools/). See "Maintaining and Improving the Oral Health of Young Children" (https://doi.org/10.1542/peds.2014-2984).
37. The USPSTF recommends that primary care clinicians apply fluoride varnish to the primary teeth of all infants and children starting at the age of primary tooth eruption (https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/prevention-of-dental-caries-in-children-younger-than-age-5-years-screening-and-interventions1). Once teeth are present, apply fluoride varnish to all children every 3 to 6 months in the primary care or dental office based on caries risk. Indications for fluoride use are noted in "Fluoride Use in Caries Prevention in the Primary Care Setting" (https://doi.org/10.1542/peds.2020-034637).
38. If primary water source is deficient in fluoride, consider oral fluoride supplementation. See "Fluoride Use in Caries Prevention in the Primary Care Setting" (https://doi.org/10.1542/peds.2020-034637).



Summary of Changes Made to the Bright Futures/AAP Recommendations for Preventive Pediatric Health Care (Periodicity Schedule)

This schedule reflects changes approved in December 2022 and published in April 2023. For updates and a list of previous changes made, visit www.aap.org/periodicityschedule.

CHANGES MADE IN DECEMBER 2022

HIV

The HIV screening recommendation has been updated to extend the upper age limit from 18 to 21 years (to account for the range in which the screening can take place) to align with recommendations of the US Preventive Services Task Force and AAP policy ("Adolescents and Young Adults: The Pediatrician's Role in HIV Testing and Pre- and Postexposure HIV Prophylaxis").

- Footnote 30 has been updated to read as follows: "Screen adolescents for HIV at least once between the ages of 15 and 21, making every effort to preserve confidentiality of the adolescent, as per 'Human Immunodeficiency Virus (HIV) Infection: Screening' (https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/human-immunodeficiency-virus-hiv-infection-screening); after initial screening, youth at increased risk of HIV infection should be retested annually or more frequently, as per 'Adolescents and Young Adults: The Pediatrician's Role in HIV Testing and Pre- and Postexposure HIV Prophylaxis' (https://doi.org/10.1542/peds.2021-055207)."

CHANGES MADE IN NOVEMBER 2021

HEPATITIS B VIRUS INFECTION

Assessing risk for HBV infection has been added to occur from newborn to 21 years (to account for the range in which the risk assessment can take place) to be consistent with recommendations of the USPSTF and the 2021–2024 edition of the AAP *Red Book-Report of the Committee on Infectious Diseases*.

- Footnote 31 has been added to read as follows: "Perform a risk assessment for hepatitis B virus (HBV) infection according to recommendations per the USPSTF (https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/hepatitis-b-virus-infection-screening) and in the 2021–2024 edition of the AAP *Red Book: Report of the Committee on Infectious Diseases*, making every effort to preserve confidentiality of the patient."

SUDDEN CARDIAC ARREST AND SUDDEN CARDIAC DEATH

Assessing risk for sudden cardiac arrest and sudden cardiac death has been added to occur from 11 to 21 years (to account for the range in which the risk assessment can take place) to be consistent with AAP policy ("Sudden Death in the Young: Information for the Primary Care Provider").

- Footnote 33 has been added to read as follows: "Perform a risk assessment, as appropriate, per 'Sudden Death in the Young: Information for the Primary Care Provider' (https://doi.org/10.1542/peds.2021-052044)."

DEPRESSION AND SUICIDE RISK

Screening for suicide risk has been added to the existing depression screening recommendation to be consistent with the GLAD-PC and AAP policy.

- Footnote 16 has been updated to read as follows: "Screen adolescents for depression and suicide risk, making every effort to preserve confidentiality of the adolescent. See 'Guidelines for Adolescent Depression in Primary Care (GLAD-PC): Part I. Practice Preparation, Identification, Assessment, and Initial Management' (https://doi.org/10.1542/peds.2017-4081), 'Mental Health Competencies for Pediatric Practice' (https://doi.org/10.1542/peds.2019-2757), 'Suicide and Suicide Attempts in Adolescents' (https://doi.org/10.1542/peds.2016-1420), and 'The 21st Century Cures Act & Adolescent Confidentiality' (https://www.adolescenthealth.org/Advocacy/Advocacy-Activities/2019-(1)/NASPAG-SAHM-Statement.aspx)."

BEHAVIORAL/SOCIAL/EMOTIONAL

The Psychosocial/Behavioral Assessment recommendation has been updated to Behavioral/Social/Emotional Screening (annually from newborn to 21 years) to align with AAP policy, the American College of Obstetricians and Gynecologists (Women's Preventive Services Initiative) recommendations, and the American Academy of Child & Adolescent Psychiatry guidelines.

- Footnote 14 has been updated to read as follows: "Screen for behavioral and social-emotional problems per 'Promoting Optimal Development: Screening for Behavioral and Emotional Problems' (https://doi.org/10.1542/peds.2014-3716), 'Mental Health Competencies for Pediatric Practice' (https://doi.org/10.1542/peds.2019-2757), 'Clinical Practice Guideline for the Assessment and Treatment of Children and Adolescents With Anxiety Disorders' (https://pubmed.ncbi.nlm.nih.gov/32439401), and 'Screening for Anxiety in Adolescent and Adult Women: A Recommendation From the Women's Preventive Services Initiative' (https://pubmed.ncbi.nlm.nih.gov/32510990/). The screening should be family centered and may include asking about caregiver emotional and mental health concerns and social determinants of health, racism, poverty, and relational health. See 'Poverty and Child Health in the United States' (https://doi.org/10.1542/peds.2016-0339), 'The Impact of Racism on Child and Adolescent Health' (https://doi.org/10.1542/peds.2019-1765), and 'Preventing Childhood Toxic Stress: Partnering With Families and Communities to Promote Relational Health' (https://doi.org/10.1542/peds.2021-052582)."

FLUORIDE VARNISH

- Footnote 37 has been updated to read as follows: "The USPSTF recommends that primary care clinicians apply fluoride varnish to the primary teeth of all infants and children starting at the age of primary tooth eruption (https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/prevention-of-dental-caries-in-children-younger-than-age-5-years-screening-and-interventions1). Once teeth are present, apply fluoride varnish to all children every 3 to 6 months in the primary care or dental

office based on caries risk. Indications for fluoride use are noted in 'Fluoride Use in Caries Prevention in the Primary Care Setting' (https://doi.org/10.1542/peds.2020-034637)."

FLUORIDE SUPPLEMENTATION

- Footnote 38 has been updated to read as follows: "If primary water source is deficient in fluoride, consider oral fluoride supplementation. See 'Fluoride Use in Caries Prevention in the Primary Care Setting' (https://doi.org/10.1542/peds.2020-034637)."

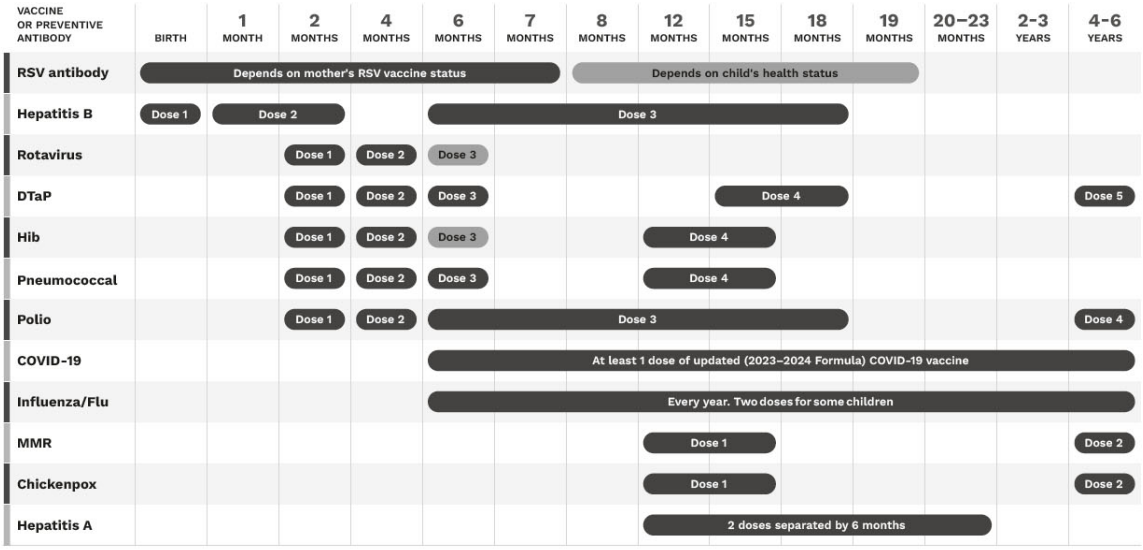
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Your child needs vaccines as they grow!

2024 Recommended Immunizations for Birth Through 6 Years Old

Want to learn more?
Scan this QR code to find out which vaccines your child might need. Or visit **www.cdc.gov/vaccines/tool/child.html**



KEY

- ALL children should be immunized at this age.
- SOME children should get this dose of vaccine or preventive antibody at this age

Talk to your child's health care provider for more guidance if:

1. Your child has any medical condition that puts them at higher risk for infection.
2. Your child is traveling outside the United States.
3. Your child misses a vaccine recommended for their age.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

FOR MORE INFORMATION
Call toll-free: 1-800-CDC-INFO (1-800-232-4636)
Or visit: www.cdc.gov/vaccines/parents

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What diseases do these vaccines protect against?

BIRTH–6 YEARS OLD

VACCINE-PREVENTABLE DISEASE	DISEASE COMPLICATIONS
RSV (Respiratory syncytial virus) Contagious viral infection of the nose, throat, and sometimes lungs; spread through air and direct contact	Infection of the lungs (pneumonia) and small airways of the lungs; especially dangerous for infants and young children
Hepatitis B Contagious viral infection of the liver; spread through contact with infected body fluids such as blood or semen	Chronic liver infection, liver failure, liver cancer, death
Rotavirus Contagious viral infection of the gut; spread through the mouth from hands and food contaminated with stool	Severe diarrhea, dehydration, death
Diphtheria* Contagious bacterial infection of the nose, throat, and sometimes lungs; spread through air and direct contact	Swelling of the heart muscle, heart failure, coma, paralysis, death
Pertussis (Whooping Cough)* Contagious bacterial infection of the lungs and airway; spread through air and direct contact	Infection of the lungs (pneumonia), death; especially dangerous for babies
Tetanus (Lockjaw)* Bacterial infection of brain and nerves caused by spores found in soil and dust everywhere; spores enter the body through wounds or broken skin	Seizures, broken bones, difficulty breathing, death
Hib (Haemophilus influenzae type b) Contagious bacterial infection of the lungs, brain and spinal cord, or bloodstream; spread through air and direct contact	Depends on the part of the body infected, but can include brain damage, hearing loss, loss of arm or leg, death
Pneumococcal	Depends on the part of the body infected, but can include infection of the lungs

Bacterial infections of ears, sinuses, lungs, or bloodstream; spread through direct contact with respiratory droplets like saliva or mucus	(pneumonia), blood poisoning, infection of the lining of the brain and spinal cord, death
Polio Contagious viral infection of nerves and brain; spread through the mouth from stool on contaminated hands, food or liquid, and by air and direct contact	Paralysis, death
COVID-19 Contagious viral infection of the nose, throat, or lungs; may feel like a cold or flu. Spread through air and direct contact	Infection of the lungs (pneumonia); blood clots; liver, heart or kidney damage; long COVID; death
Influenza (Flu) Contagious viral infection of the nose, throat, and sometimes lungs; spread through air and direct contact	Infection of the lungs (pneumonia), sinus and ear infections, worsening of underlying heart or lung conditions, death
Measles (Rubeola)† Contagious viral infection that causes high fever, cough, red eyes, runny nose, and rash; spread through air and direct contact	Brain swelling, infection of the lungs (pneumonia), death
Mumps† Contagious viral infection that causes fever, tiredness, swollen cheeks, and tender swollen jaw; spread through air and direct contact	Brain swelling, painful and swollen testicles or ovaries, deafness, death
Rubella (German Measles)† Contagious viral infection that causes low-grade fever, sore throat, and rash; spread through air and direct contact	Very dangerous in pregnant people; can cause miscarriage or stillbirth, premature delivery, severe birth defects
Chickenpox (Varicella) Contagious viral infection that causes fever, headache, and an itchy, blistering rash; spread through air and direct contact	Infected sores, brain swelling, infection of the lungs (pneumonia), death
Hepatitis A Contagious viral infection of the liver; spread by contaminated food or drink or close contact with an infected person	Liver failure, death

*__DTaP__ protects against tetanus, diphtheria, and pertussis

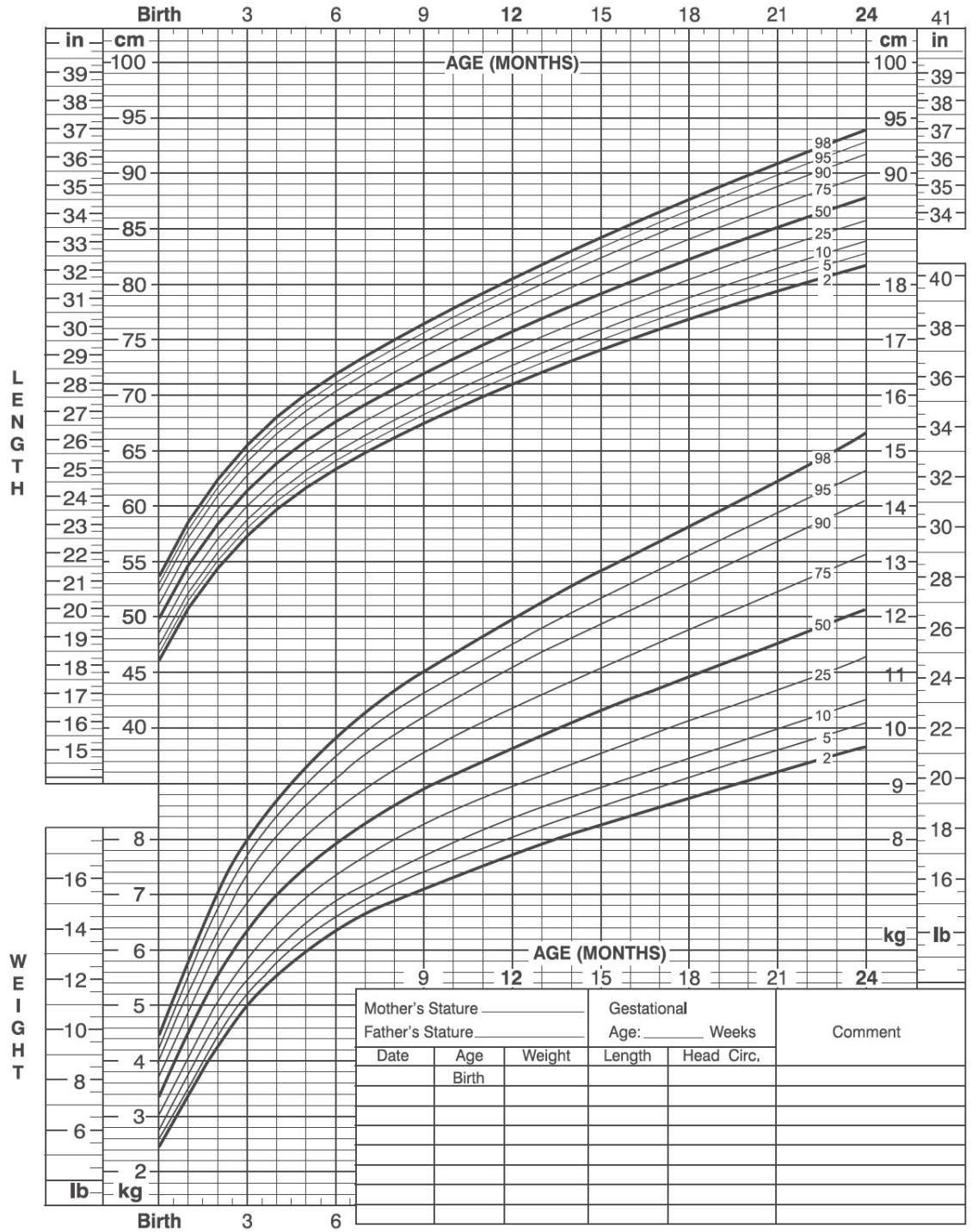
†__MMR__ protects against measles, mumps, and rubella

Last updated January 2024

Birth to 24 months: Boys
Length-for-age and Weight-for-age percentiles

NAME _____

RECORD #



Mother's Stature _____ Father's Stature _____			Gestational Age: _____ Weeks		Comment
Date	Age	Weight	Length	Head Circ.	
	Birth				

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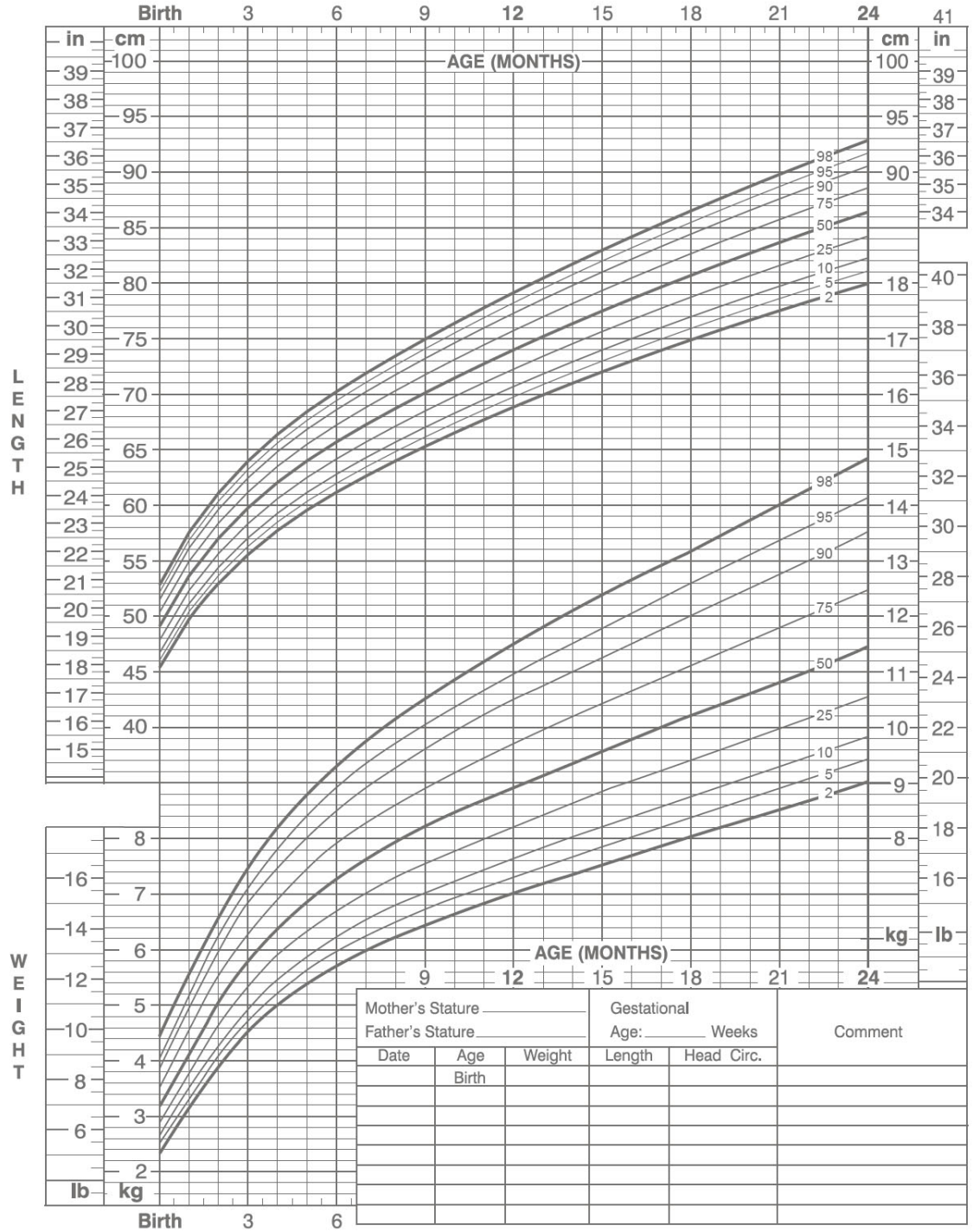
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HE0510

Birth to 24 months: Girls
Length-for-age and Weight-for-age percentiles

NAME _____

RECORD # _____



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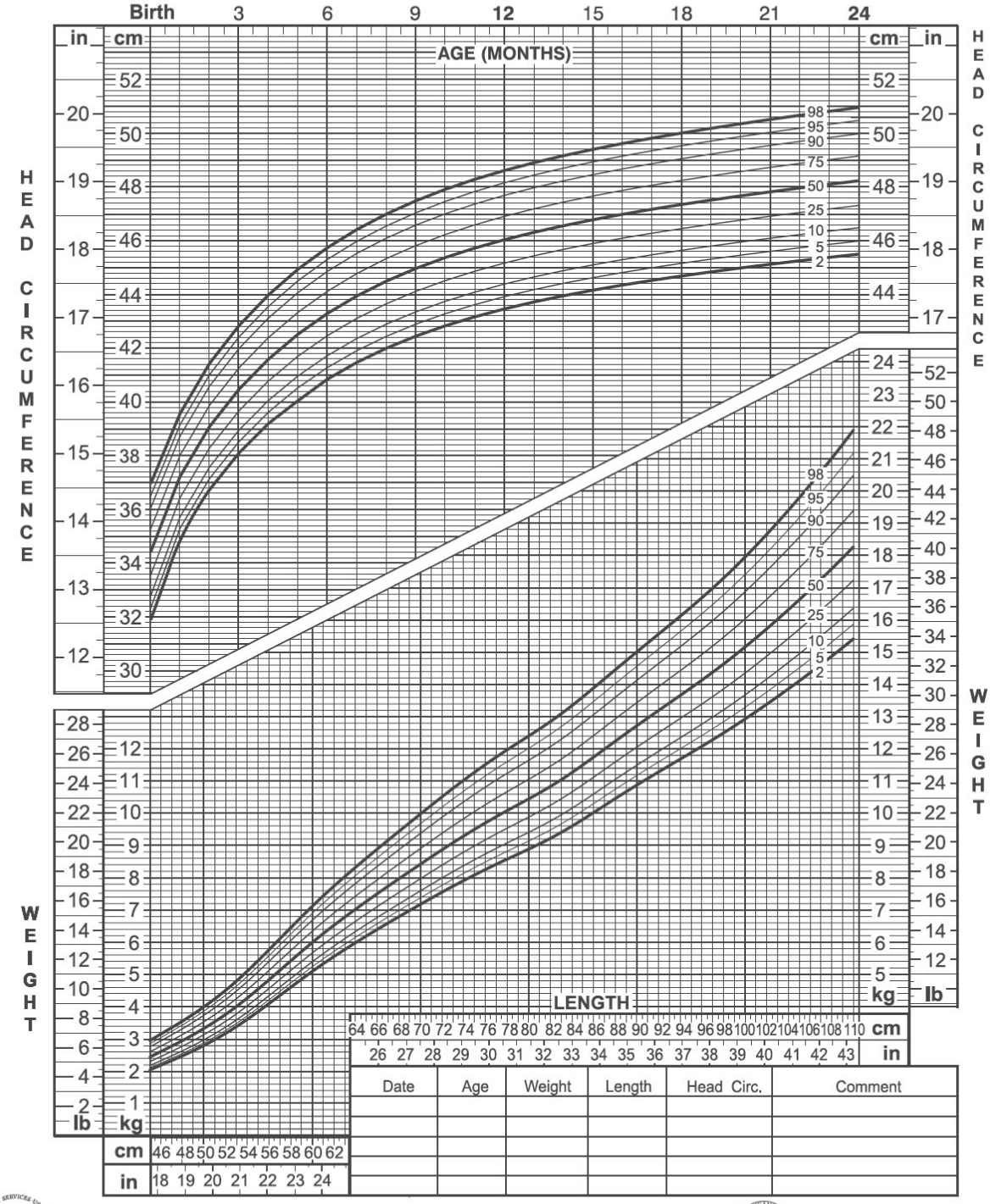
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9-284/rep1122 HE0511

Birth to 24 months: Boys
Head circumference-for-age and Weight-for-length percentiles

NAME _____

RECORD # _____



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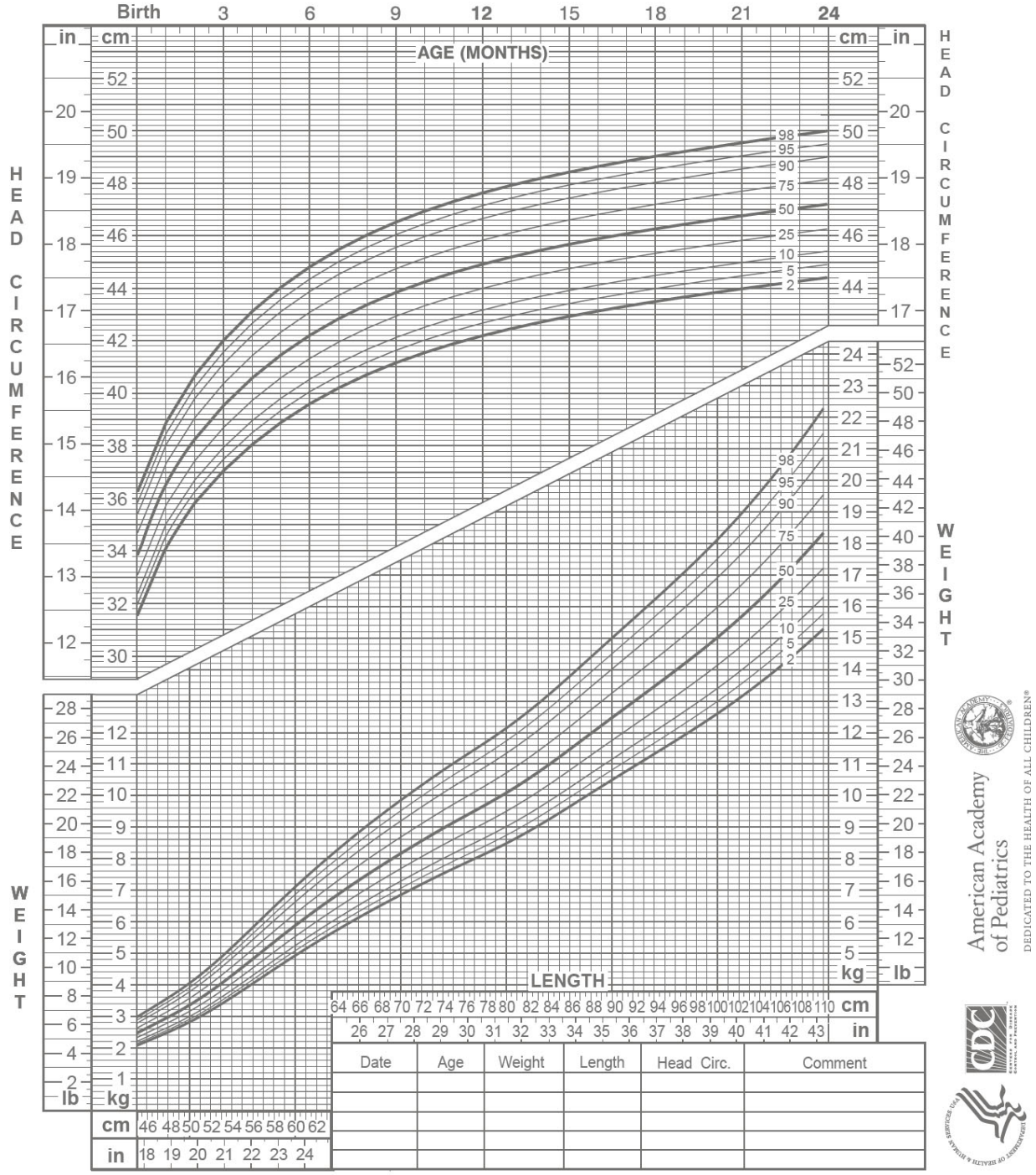
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Birth to 24 months: Girls
Head circumference-for-age and Weight-for-length percentiles

NAME _____

RECORD # _____



Date	Age	Weight	Length	Head Circ.	Comment

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2 to 20 years: Boys
Stature-for-age and Weight-for-age percentiles

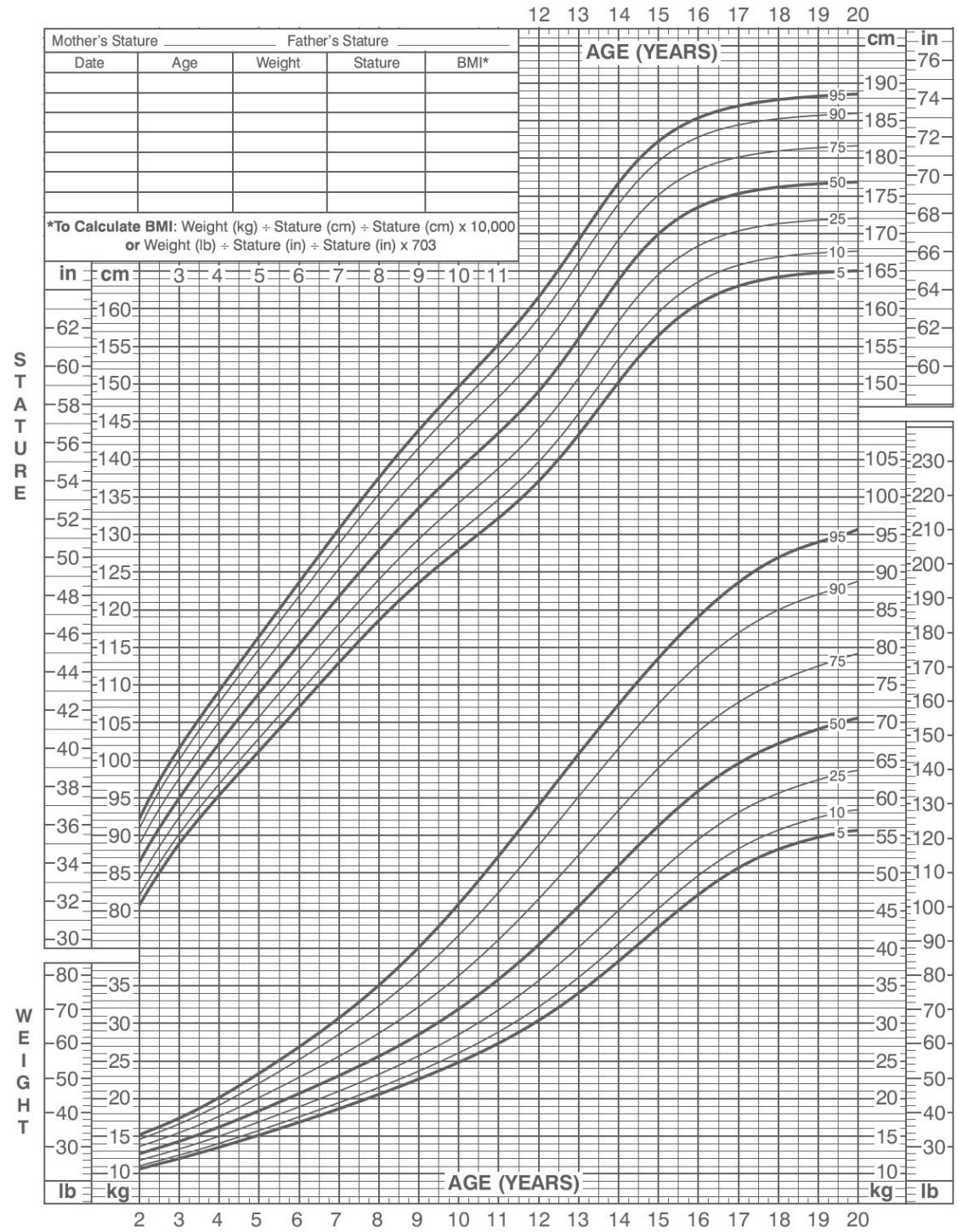
NAME _____

RECORD # _____

Mother's Stature _____ Father's Stature _____

Date	Age	Weight	Stature	BMI*

***To Calculate BMI**: Weight (kg) ÷ Stature (cm) ÷ Stature (cm) x 10,000
or Weight (lb) ÷ Stature (in) ÷ Stature (in) x 703



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http://www.cdc.gov/growthcharts

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2 to 20 years: Girls
Stature-for-age and Weight-for-age percentiles

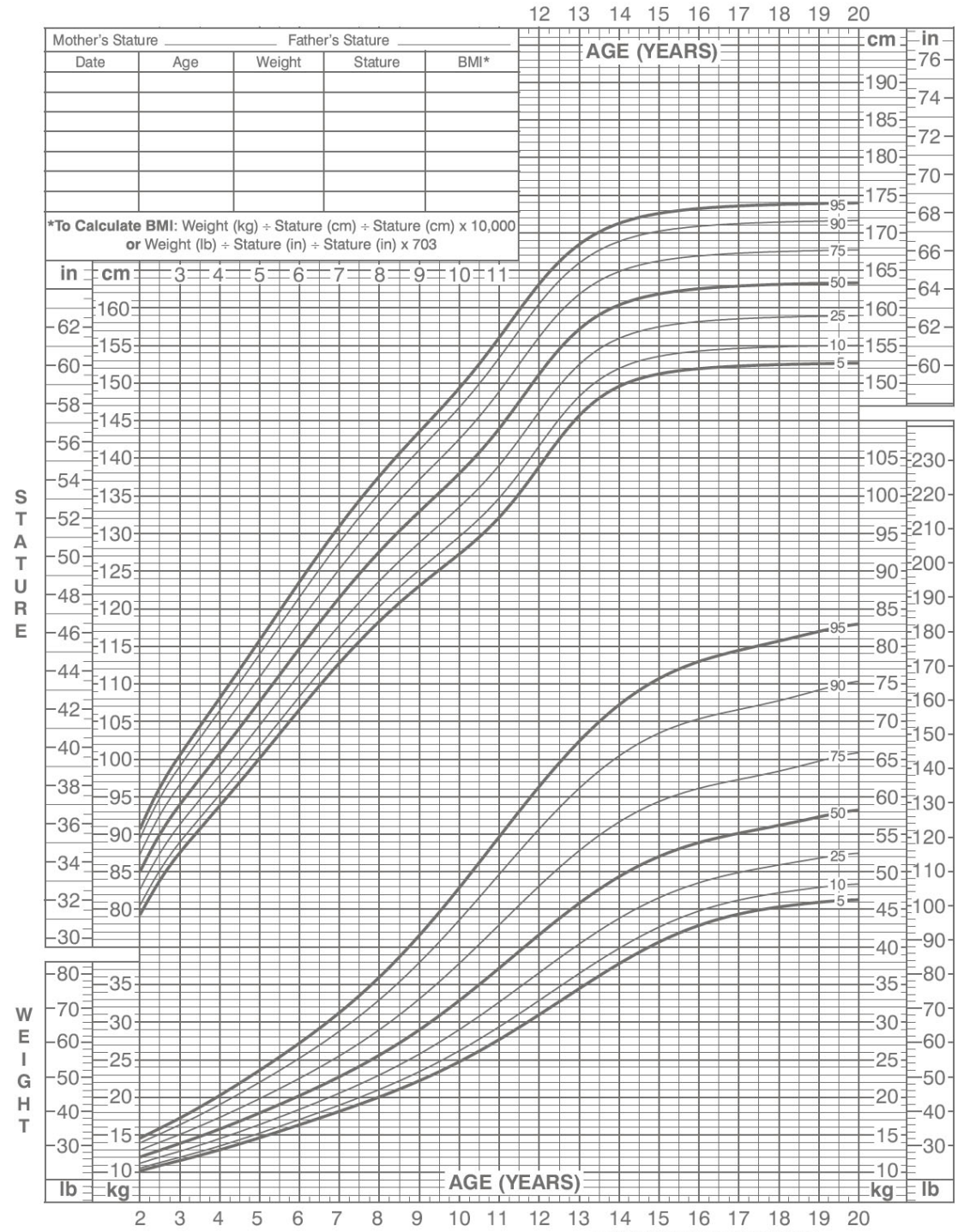
NAME _____

RECORD # _____

Mother's Stature _____ Father's Stature _____

Date	Age	Weight	Stature	BMI*

***To Calculate BMI:** Weight (kg) ÷ Stature (cm) ÷ Stature (cm) x 10,000
or Weight (lb) ÷ Stature (in) ÷ Stature (in) x 703



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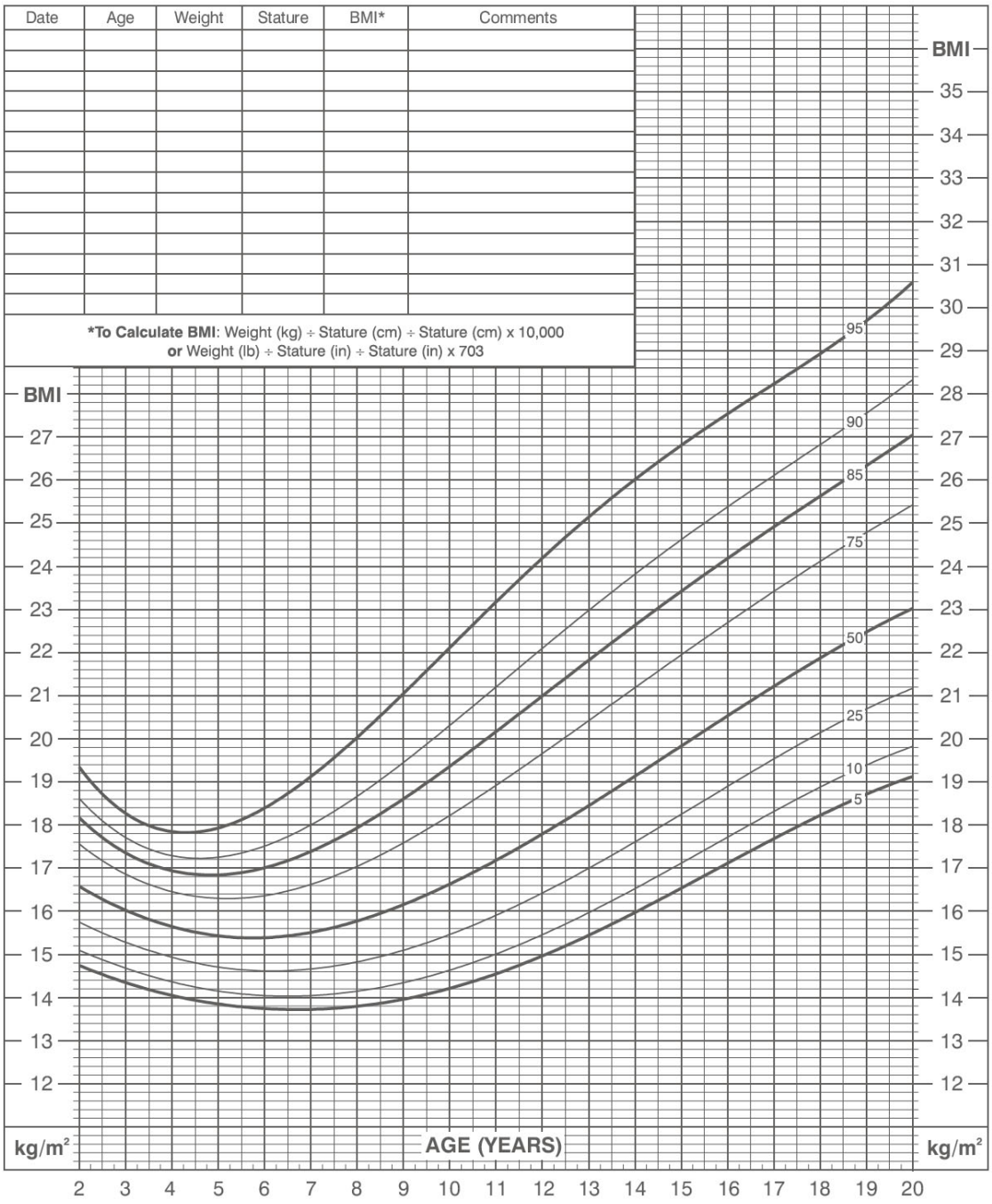
2 to 20 years: Boys
Body mass index-for-age percentiles

NAME _____

RECORD # _____

Date	Age	Weight	Stature	BMI*	Comments

***To Calculate BMI**: Weight (kg) ÷ Stature (cm) ÷ Stature (cm) x 10,000
or Weight (lb) ÷ Stature (in) ÷ Stature (in) x 703



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9-8/rep1121

HE0304

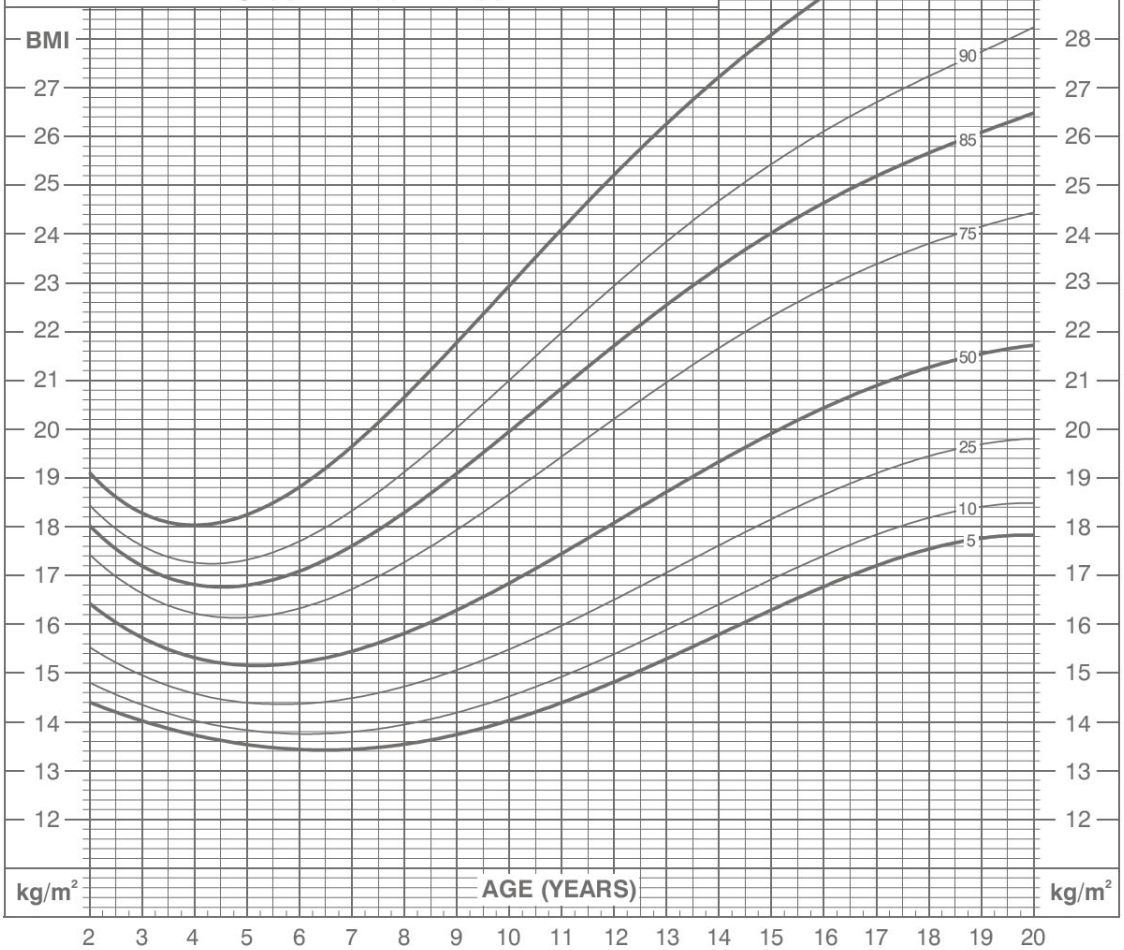
2 to 20 years: Girls
Body mass index-for-age percentiles

NAME _____

RECORD # _____

Date	Age	Weight	Stature	BMI*	Comments

***To Calculate BMI**: Weight (kg) ÷ Stature (cm) ÷ Stature (cm) x 10,000
or Weight (lb) ÷ Stature (in) ÷ Stature (in) x 703



American Academy of Pediatrics
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SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).
http://www.cdc.gov/growthcharts

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The recommendations in this publication do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

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9-10/rep1121 HE0306

CHOKING/CPR

LEARN AND PRACTICE CPR (CARDIOPULMONARY RESUSCITATION).

IF ALONE WITH A CHILD WHO IS CHOKING...

1. SHOUT FOR HELP. 2. START RESCUE EFFORTS. 3. CALL 911 OR YOUR LOCAL EMERGENCY NUMBER.

START FIRST AID FOR CHOKING IF	DO *NOT* START FIRST AID FOR CHOKING IF
• The child cannot breathe at all (the chest is not moving up and down). • The child cannot cough or talk or looks blue. • The child is found unconscious/unresponsive. (Go to CPR.)	• The child can breathe, cry, or talk. • The child can cough, sputter, or move air at all. The child's normal reflexes are working to clear the airway.

FOR INFANTS YOUNGER THAN 1 YEAR

INFANT CHOKING

If the infant is choking and is unable to breathe, cough, cry, or speak, follow these steps. Have someone call 911.



ALTERNATING WITH



Alternate back blows (slaps) and chest compressions until the object is dislodged or the infant becomes unconscious/unresponsive. If the infant becomes unconscious/unresponsive, begin CPR.

INFANT CPR

To be used when the infant is **UNCONSCIOUS/UNRESPONSIVE** or when breathing stops. Place infant on flat, hard surface.

1 START CHEST COMPRESSIONS.

- Place 2 fingers of 1 hand on the breastbone just below the nipple line.
- Compress chest at least ⅓ the depth of the chest, or about 4 cm (1.5 inches).
- After each compression, allow chest to return to normal position. Compress chest at a rate of 100 to 120 times per minute.
- Do 30 compressions.



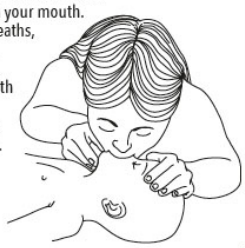
2 OPEN AIRWAY.

- Open the airway (head tilt-chin lift).
- If you see a foreign body, sweep it out with your finger. Do NOT do blind finger sweeps.



3 START RESCUE BREATHING.

- Take a normal breath.
- Cover infant's mouth and nose with your mouth.
- Give 2 breaths, each for 1 second. Each breath should make the chest rise.



4 RESUME CHEST COMPRESSIONS.

- Continue with cycles of 30 compressions to 2 breaths.
- After 5 cycles of compressions and breaths (about 2 minutes), and if no one has called 911 or your local emergency number, call it yourself.



FOR CHILDREN 1 TO 8 YEARS OF AGE

CHILD CHOKING (HEIMLICH MANEUVER)

Have someone call 911. If the child is choking and is unable to breathe, cough, cry, or speak, follow these steps.

1. Perform Heimlich maneuver.
   - Place hand, made into a fist, and cover with other hand just above the navel. Place well below the bottom tip of the breastbone and rib cage.
   - Give each thrust with enough force to produce an artificial cough designed to relieve airway obstruction.
   - Perform Heimlich maneuver until the object is expelled or the child becomes unconscious/unresponsive.
2. If the child becomes UNCONSCIOUS/UNRESPONSIVE, begin CPR. →



CHILD CPR

To be used when the child is **UNCONSCIOUS/UNRESPONSIVE** or when breathing stops.
Place child on flat, hard surface.

1 START CHEST COMPRESSIONS.

- Place the heel of 1 or 2 hands over the lower half of the sternum.
- Compress chest at least ⅓ the depth of the chest, or about 5 cm (2 inches).
- After each compression, allow chest to return to normal position. Compress chest at a rate of 100 to 120 times per minute.
- Do 30 compressions.



1-hand technique



2-hand technique

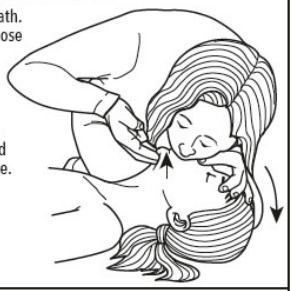
2 OPEN AIRWAY.

- Open airway (head tilt-chin lift).
- If you see a foreign body, sweep it out with your finger. Do NOT do blind finger sweeps.



3 START RESCUE BREATHING.

- Take a normal breath.
- Pinch the child's nose closed, and cover child's mouth with your mouth.
- Give 2 breaths, each for 1 second. Each breath should make the chest rise.



4 RESUME CHEST COMPRESSIONS.

- Continue with cycles of 30 compressions to 2 breaths until the object is expelled.
- After 5 cycles of compressions and breaths (about 2 minutes), if no one has called 911 or your local emergency number, call it yourself.

If at any time an object is coughed up or the infant/child starts to breathe, stop rescue breaths and call 911 or your local emergency number.

Ask your pediatrician for information on choking/CPR instructions for children older than 8 years and for information on an approved first aid or CPR course in your community.

TURN OVER FOR CHOKING PREVENTION INFORMATION.

This American Academy of Pediatrics Choking/CPR chart (2020 American Heart Association Guidelines for CPR and ECC) was current at the time of publication.

Adding Peanut Protein to Your Baby's Diet

These are general instructions for feeding peanut-containing foods to your baby. When introducing peanut-containing foods, *pick a time when your infant is healthy and able to have your full attention for at least 2 hours* to watch for an allergic reaction.

If your baby has severe eczema or an egg allergy, please wait to give peanut-containing foods until your doctor says it is okay.

How To Introduce

Offer a small amount* of smooth peanut butter on the tip of a baby spoon.

↓

Wait 10 minutes to see how your baby responds.

↓

If there is no allergic reaction (see below), continue feeding your baby.

Allergic Reaction Signs

MILD symptoms include new rash or hives, especially around the mouth.

SEVERE symptoms include:

Lip or tongue swelling	Widespread hives
Vomiting or diarrhea	Skin color changes
Wheezing	Repetitive coughing
Difficulty breathing	Sudden fatigue

911 *Concerned about your baby's response to peanut? Call 911 for medical attention.*

Recipe #1

Smooth Thinned Peanut Butter

***Start with one serving containing 2g of peanut protein. Gradually increase to three servings per week, adapting to your baby's appetite and preferences.**

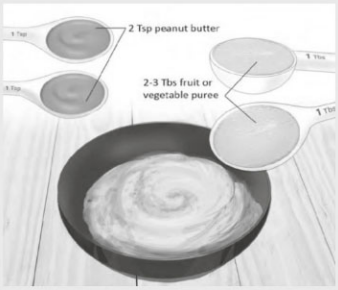


1. Measure 2 teaspoons of smooth peanut butter.
2. Add 2-3 teaspoons of hot water and stir until mixed, thinned, and blended. Let mixture cool.
3. Add water or baby cereal to make the mixture as thin or thick as your baby likes.

Contains 2g of peanut protein per serving.

Recipe #2

Smooth Peanut Butter Puree



1. Measure 2 teaspoons of smooth peanut butter.
2. Add 2-3 tablespoons of a fruit or vegetable puree that your baby has eaten before. Stir until well blended.
3. Add more puree to make the mixture as thin or thick as your baby likes.

Contains 2g of peanut protein per serving.