



Newborn Discharge Instructions

Congratulations! Going home with your new baby is both an exciting and nerve-wracking experience. Both feelings are normal and expected. Many questions will arise during the first weeks and months of your baby's life. You may want to write them down so they can be reviewed during checkups. Since babies don't come with an instruction manual, we have listed several important instructions and resources to use as guidelines when you are home.

Weight loss: Babies will lose 5-10% of their body weight in the first week of life. They should be almost back to birth weight by 2 weeks of age.

Breastfeeding: Breastfeeding is an excellent source of nutrition for your baby. If it's your first time, ask the nurses, lactation consultant or pediatrician for help. In general, a full-term baby should feed every 1-3 hours in the first two weeks of life. Breast milk usually does not come in until the third or fourth day (if first child). Until then the baby is getting colostrum, which has adequate nutrition. When breast feeding, try to nurse 10-15 minutes each side. If you decide to pump, you can store breast milk for 5 days in the refrigerator and then it must be frozen or discarded. **See the link below for information on storage and proper handling of breast milk.**

1. Proper handling and storage of breast milk

Formula feeding: If you plan on bottle feeding, you can use any formula as long it contains iron.

About 1-1.5 oz. of formula per feeding is a good amount to start with. The baby should be fed every 3-4 hours (or on demand). Iron should not constipate your baby and she/he needs the iron to form red blood cells. Never microwave a bottle when heating it up. You should discard a prepared bottle of formula after 2 hours and an open container of premixed formula after 48 hours.

Bowel Movements: You may wonder if your baby is getting enough breast milk or formula. Initially 3-4 wet diapers per day are expected and then 6-7 by day 4 or 5. Infants will have 4-8 bowel movements (BMs) per day for the first week or so. By the second to third week, the frequency may decrease to 1-2 a day or less. This is especially true for formula fed babies. It's ok if babies go 7 days without a BM as long as they are not vomiting or in severe pain. Constipation is when the stools become pellet-like. You can supplement with 1-2 oz. of water a day but it's not recommended to use diluted prune juice until 4 months of age.

Jaundice: It's common for babies to get jaundice by the 3rd or 4th day of life, especially if they are breastfeeding. Jaundice is caused by an accumulation of bilirubin due to the liver not working right away and dehydration. The yellow color is usually first noticed on the baby's face. The more jaundiced the baby gets, the more the yellow color will spread down the body. It needs to be quite high before it becomes harmful. Usually if the baby is eating well, having good amounts of wet diapers and BMs, they will do just fine. If you notice the jaundice below the belly button, call your doctor.

Umbilical Care: Fold the diaper down with each diaper change, allowing the cord to dry up. You do not need to wipe the cord with alcohol. It should fall off in 7-21 days but may take up to a month. The belly button often drains small amounts of blood or fluid after the cord has fallen off. Simply wipe the drainage away with alcohol. If the area becomes red and hard or the drainage has an odor, please call your doctor.

Hydroceles and vaginal discharge: Boys may have swollen scrotal areas. This may be related to fluid filled sacs within the scrotum called hydroceles. These are not hernias and usually resolve on their own in 6-12 months. Girls may have a mucous or blood tinged discharge in the first 2-4 weeks. This is temporary and resolves as the hormonal influence disappears.

Penis Care: The decision to circumcise your baby is a personal one. If you have questions about this issue, please ask. As for the care, gently clean the penis with warm water. Apply Vaseline to the end of the penis for a few days after a

circumcision. If the glans or head and shaft of the penis become very red, inflamed, and swollen call your doctor. Care of the uncircumcised penis is easy – do nothing. Bathe infant as usual. Do not pull the foreskin back, it will retract on its own.

Skin Care: The simpler, the better. You can sponge bathe your newborn with a gentle soap every 2-3 days. You can tub bathe your baby in 1-2 inches of tepid water. Baby oil and creams are not necessary and may cause rashes. For peeling skin, you may use a moisturizing lotion or just leave it alone. It will resolve on its own. Diaper rash is quite common. Most rashes are caused by skin irritation due to exposure to stool and urine. Change the diaper frequently and apply an ointment like A&D or zinc oxide. Yeast can cause a rash in the groin as well. It will be red and irritated with small, raised spots. If you see this, call your doctor. If you notice white spots on the tongue or in the mouth that kind of looks like curds of cottage cheese, call your doctor. It may be another kind of yeast infection called thrush. For cradle cap, which is a dry scaly, rash on the scalp, you can apply oil to the affected area about an hour prior to bath time. Then shampoo the hair and use a comb or brush to dislodge the scales.

Fever: Fever in a newborn is any temperature under the arm over 99.4F (100.4F rectally). Be sure you are comfortable taking your baby's temperature before you leave the hospital. A baby less than 12 weeks of age with a fever should be seen. Give no medication. A fever is usually a sign of infection. **See the link below for information on fevers.**

1. Fever in Children

****Sleeping:** A baby should be placed on their back only sleeping to decrease the chance of SIDS (Sudden Infant Death Syndrome). It's also important to place the baby on a firm surface such as a bassinet or crib. Babies may sleep up to 20 hours a day in the first 2-4 weeks of life.

****Safety:** You should be familiar with your baby's car seat. It should be placed in the car's back seat, in the middle if possible, facing the rear window and firmly strapped to the seat with the Latch System or a seat belt. The base should not move more than one inch side to side or front to back. The chest clip should be placed at armpit level, then pinch the strap at your child's shoulder. If you are unable to pinch any excess webbing, you're good to go. We recommend having your car seat checked at a local car seat inspection station. Learn more at www.tallpinesafety.org.

1. Car Seat Safety Resources:
 - a. Basic car seat safety
 - b. Car seat safety tips
 - c. Car seat checkup

Your home should be equipped with a smoke detector and carbon monoxide detector. Absolutely no smoking around the baby. Also, avoid giving the baby honey until 1 year of age since it may cause botulism.

Activity & normal incidentals: Babies normally sneeze, hiccup, spit up after feedings, and pass gas. Some babies are very active while others are placid. Occasionally, they will startle suddenly, raising their arms and legs in a tremor type of motion – this is normal.

Metabolic state screening: Every baby born in the state of Maine is required to have a blood test for a number of metabolic diseases. Several of these diseases are easily cured by making changes in diet, so early detection is important. The test needs to be done after the baby is 24 hours old. If a baby goes home before 24 hours of age, by law, the test needs to be repeated within a few days.

Office Visits: You will be seeing a lot of your child's provider in the coming year. The first visit is within 1 week of discharge. Immunizations the first year include DTAP (diphtheria, tetanus, acellular pertussis), Hepatitis B, Hib (Hemophilus influenza type b), IPV (inactivated polio vaccine), Prevnar (against some types of strep Pneumoniae meningitis, pneumonia, and ear infections), and Rotavirus. After 1 year of age the Varicella vaccine (against chickenpox) as well as the MMR (measles, mumps, rubella), and Hepatitis A are recommended. We follow the recommendations of the American Academy of Pediatrics and Centers for Disease Control.

Reading List: Here is a list of books that may be helpful in the first few months:

1. Your Child's Health, A Pediatric Guide for Parents by Schmitt Baby
2. Child Care by Benjamin Spock
3. What to Expect the First Year by Eisenger

4. Baby411 by Brown
5. Health Sleep Habits, Happy Child by Weissbluth
6. Happiest Baby on the Block (and DVD) by Karp

Helpful Web Sites:

1. [The Barbara Bush Children's Hospital](#)
2. [The American Academy of Pediatrics](#)
3. [The Children's Hospital of Philadelphia's Vaccine Education Center](#)
4. [InterMed, P.A.](#)

Additional Resources:

1. Pediatric Environmental Health Toolkit
2. Your baby at... month (2 – 18 months)
3. Vitamin D Supplementation
4. Infant first aid for choking and CPR
5. Vaccines:
 - a. Q&A Facts about Childhood Vaccines
 - b. Vaccine- Preventable Diseases and the Vaccines that Prevent Them
 - c. Risk and Responsibilities of Not Vaccinating
 - d. What If you Don't Immunize Your Child
 - e. Vaccines Unrelated to Autism
6. Poisonous Plants
7. Food introduction
8. Good Toys and Activities for Young Children



Proper Handling and Storage of Breast Milk

By following safe preparation and storage techniques, nursing mothers and caretakers of breastfed infants and children can maintain the high quality of expressed breast milk and the health of the baby.

Safely Preparing and Storing Expressed Breast Milk

- Be sure to wash your hands before expressing or handling breast milk.
- When collecting milk, be sure to store it in clean containers, such as screw cap bottles, hard plastic cups with tight caps, or heavy-duty bags that fit directly into nursery bottles. Avoid using ordinary plastic storage bags or formula bottle bags, as these could easily leak or spill.
- If delivering breast milk to a child care provider, clearly label the container with the child's name and date.
- Clearly label the milk with the date it was expressed to facilitate using the oldest milk first.
- Do not add fresh milk to already frozen milk within a storage container. It is best not to mix the two.
- Do not save milk from a used bottle for use at another feeding.

Safely Thawing Breast Milk

- As time permits, thaw frozen breast milk by transferring it to the refrigerator for thawing or by swirling it in a bowl of warm water.
- Avoid using a microwave oven to thaw or heat bottles of breast milk
 - Microwave ovens do not heat liquids evenly. Uneven heating could easily scald a baby or damage the milk
 - Bottles may explode if left in the microwave too long.
 - Excess heat can destroy the nutrient quality of the expressed milk.
- Do not re-freeze breast milk once it has been thawed.

Storage Duration of Fresh Human Milk for Use with Healthy Full Term Infants

Location	Temperature	Duration	Comments
Countertop, table	Room temperature (up to 77°F or 25°C)	6–8 hours	Containers should be covered and kept as cool as possible; covering the container with a cool towel may keep milk cooler.
Insulated cooler bag	5-39°F or -15-4°C	24 hours	Keep ice packs in contact with milk containers at all times, limit opening cooler bag.
Refrigerator	39°F or 4°C	5 days	Store milk in the back of the main body of the refrigerator.
Freezer			Store milk toward the back of the freezer, where temperature is most constant. Milk stored for longer durations in the ranges listed is safe, but some of the lipids in the milk undergo degradation resulting in lower quality.
Freezer compartment of a refrigerator	5°F or -15°C	2 weeks	
Freezer compartment of refrigerator with separate doors	0°F or -18°C	3–6 months	
Chest or upright deep freezer	-4°F or -20°C	6–12 months	

FEVER IN CHILDREN

FEVER OVERVIEW — Fever is a normal response to a variety of conditions, the most common of which is infection. Fever occurs when the body's temperature is elevated as a result of the body's thermostat being reset to a higher-than-usual temperature.

Nearly every child will develop a fever at some point. The challenge for parents is to know when to be concerned. This topic review will discuss the definition of a fever, how to accurately measure a child's temperature, how and when to treat fever, and signs and symptoms that require further evaluation.

FEVER DEFINITION — Because of the normal variation in body temperature, there is no single value that is defined as fever. However, the following are generally accepted values:

- Rectal temperature above 100.4°F (38°C)
- Oral temperature above 100°F (37.8°C)
- Axillary (armpit) temperature above 99°F (37.2°C)
- Ear (tympanic membrane) temperature above 100.4°F (38°C) in rectal mode or 99.5°F (37.5°C) in oral mode
- Forehead (temporal artery) temperature above 100.4°F (38°C)

Axillary, ear, and forehead temperature measurements are easier to obtain than rectal or oral temperatures, but they are less accurate and may need to be confirmed rectally or orally in certain children.

FEVER CAUSES — Infection is the most common cause of fever in children. Common viral and bacterial illnesses like colds, gastroenteritis, ear infections, croup, bronchiolitis, and urinary tract infections are the most likely illnesses to cause fever.

There is little or no scientific evidence to support the widespread belief that teething causes fever. Although it is difficult to disprove this notion completely, alternative causes of fever should always be sought and temperatures above 102°F (38.9°C) should never be attributed to teething.

Bundling a child who is less than three months old in too many clothes or blankets can increase the child's temperature slightly. However, a rectal temperature of 101°F (38.5°C) or greater is not likely to be related to bundling and should be evaluated.

Some childhood immunizations can cause fever. The timing of the fever varies, depending upon which vaccination was given.

HOW DO I MEASURE MY CHILD'S TEMPERATURE? — The best way to measure a child's temperature depends upon several factors. In all children, a rectal temperature is the most accurate. However, it is possible to accurately measure the temperature in the mouth (for children older than four or five years) when the proper technique is used.

Temperatures measured in the armpit are less accurate but may be useful as a first test in an infant who is younger than three months or an older child who cannot hold the thermometer under his or her tongue. If the armpit temperature is over 99°F (37.2°C), the rectal temperature should be measured. Temperatures measured in the ear or on the forehead also are less accurate than temperatures measured rectally or orally and may need to be confirmed by one of these methods.

It is not accurate to measure a child's temperature by feeling the child's skin. This is called a tactile temperature, and it is highly dependent upon the temperature of the person who is feeling the child's skin.

Glass versus digital thermometers — Digital thermometers are inexpensive, widely available, and the most accurate way to measure temperature. A variety of styles are available.

Glass thermometers that contain mercury are not recommended due to the potential risks of exposure to mercury (which is toxic) if the thermometer is broken. If a digital thermometer is not available, be sure to carefully "shake down" the glass thermometer before use.

Other types of thermometers are available, including plastic strip and pacifier thermometers. However, these are not as accurate as digital thermometers and are not recommended.

Rectal temperature

- The child or infant should lie down on his or her stomach across an adult's lap.
- Apply a small amount of petroleum jelly (eg, Vaseline) to the end of the thermometer.
- Gently insert the thermometer into the child's anus until the silver tip of the thermometer is not visible (1/4 to 1/2 inch inside the anus) (figure 1).
- Hold the thermometer in place. A glass thermometer requires two minutes, while most digital thermometers need less than one minute.



Figure 1

Oral temperature — Do not measure the temperature in a child's mouth if he or she has consumed a hot or cold food or drink in the last 30 minutes.

- Clean the thermometer with cool water and soap. Rinse with water.
- Place the tip of the thermometer under the child's tongue toward the back. Ask the child to hold the thermometer with his or her lips.
- Keep the lips sealed around the thermometer. A glass thermometer requires about three minutes, while most digital thermometers need less than one minute.

Armpit temperature

- Place the tip of the thermometer in the child's dry armpit.
- Hold the thermometer in place by holding the child's elbow against the chest for four to five minutes.

Ear temperature — Ear thermometers are not as accurate as rectal or oral thermometers. If the child has been outside on a cold day, wait 15 minutes before measuring the ear temperature. Ear tubes and ear infections do not affect the accuracy of an ear temperature.

- To measure temperature accurately in the ear, the parent must pull the child's outer ear backward before inserting the thermometer (figure 2).
- Hold the ear probe in the child's ear for about two seconds.

Temporal artery temperature — The temperature of the temporal artery can be taken by a device that is run over the forehead and in front of the ear (contact) or one that takes the temperature without touching your child using an infrared sensor (non-contact). These devices are not as accurate as a rectal or oral temperature but may be used to screen for fever in children older than four years of age.



Figure 2

SHOULD I TREAT MY CHILD'S FEVER? — There are pros and cons of treating fever. Fever may play a role in fighting infection, but it can also make a child uncomfortable.

The height of a child's fever is not always the best indicator of whether the child needs to be treated and/or evaluated. Instead, it is important to note how a child behaves and appears. Fever is usually accompanied by other symptoms. Some of these symptoms require evaluation by a healthcare provider, even if there is no fever. The table provides a list of some of these symptoms ([table 1](#)).

In most cases, a child with a fever can be observed and/or treated at home. However, it is important for parents to know when a child with a fever needs to be evaluated by a healthcare provider, when fever should be treated, and when it is reasonable to observe the child without treating the fever.

The guidelines provided below are general guidelines that do not apply to every situation; parents who have questions or are concerned about their child should contact their child's healthcare provider for advice.

Evaluation recommended — A healthcare provider should be consulted in the following situations:

- Infants who are less than three months of age who have a rectal temperature of 100.4°F (38°C) or greater, regardless of how the infant appears (eg, even well-appearing young infants should be evaluated). These patients should not receive fever medication (eg, acetaminophen) until they have consulted with their healthcare provider.
- Children who are three months to three years who have a rectal temperature of 100.4°F (38°C) or greater for more than three days or who appear ill (eg, fussy, clingy, refusing to drink fluids).
- Children who are 3 to 36 months who have a rectal temperature of 102°F (38.9°C) or greater.
- Children of any age whose oral, rectal, tympanic membrane, or forehead temperature is 104°F (40°C) or greater or whose axillary temperature is 103°F (39.4°C) or greater.
- Children of any age who have a febrile seizure. Febrile seizures are convulsions that occur when a child (between six months and six years of age) has a temperature greater than 100.4°F (38°C).
- Children of any age who have recurrent fevers for more than seven days, even if the fevers last only a few hours.
- Children of any age who have a fever and have a chronic medical problem such as heart disease, cancer, lupus, or sickle cell anemia.
- Children who have a fever as well as a new skin rash.

Treatment recommended — Treatment of fever is recommended if a child has an underlying medical problem, including diseases of the heart, lung, brain, or nervous system. In children who have had febrile seizures in the past, treatment of fever has not been shown to prevent seizures, but is still a reasonable precaution.

Treatment of fever may be helpful if the child is uncomfortable, although it is not necessary.

Treatment not required — In most cases, it is not necessary to treat a child's fever. A child older than three months who has a rectal temperature less than 102°F (38.9°C) and who is otherwise healthy and acting normally does not require treatment for fever.

Parents who are unsure if their child's fever needs treatment should contact the child's healthcare provider.

FEVER TREATMENT OPTIONS

Medications — The most effective way to treat fever is to use a medication such as acetaminophen (sample brand name: Tylenol) or ibuprofen (sample brand names: Advil, Motrin). These treatments can reduce the child's discomfort and lower the child's temperature by 2 to 3°F (1 to 1.5°C). Aspirin is not recommended for children under age 18 years due to concerns that it can cause a rare but serious illness known as Reye syndrome.

-Acetaminophen may be given every four to six hours as needed, but should not be given more than five times in a 24-hour period. Acetaminophen should not be used in children younger than three months of age without consultation with a healthcare provider. The dose of acetaminophen should be calculated based upon the child's weight (not age).

-Ibuprofen may be given every six hours. Ibuprofen should not be used in children younger than six months of age. The dose of ibuprofen should be calculated based upon the child's weight (not age).

Please note: Giving combinations of acetaminophen and ibuprofen or alternating acetaminophen and ibuprofen increases the chance of giving the wrong dose of one or the other of the medications.

Fever-reducing medications should only be given as needed, and discontinued once bothersome symptoms have resolved.

Increase fluids — Having fever can increase a child's risk of becoming dehydrated. To reduce this risk, parents should encourage their child to drink an adequate amount of fluids. Children with fever may not feel hungry, and it is not necessary to force them to eat. However, fluids such as milk (cow's or breast), formula, and water should be offered frequently. Older children may eat flavored gelatin, soup, or frozen popsicles. If the child is unwilling or unable to drink fluids for more than a few hours, the parent should consult the child's healthcare provider.

Rest — Having a fever causes most children to feel tired and achy. During this time, parents should encourage their child to rest as much as the child wants. It is not necessary to force the child to sleep or rest if he or she begins to feel better. Children may return to school or other activities when the temperature has been normal for 24 hours.

Sponging and baths — Sponging is not as effective as medications for fever and generally is not recommended. Alcohol should not be used for sponging because of the risk of toxicity if it is absorbed through the skin.

WHERE TO GET MORE INFORMATION — Your child's healthcare provider is the best source of information for questions and concerns related to your child's medical problem.

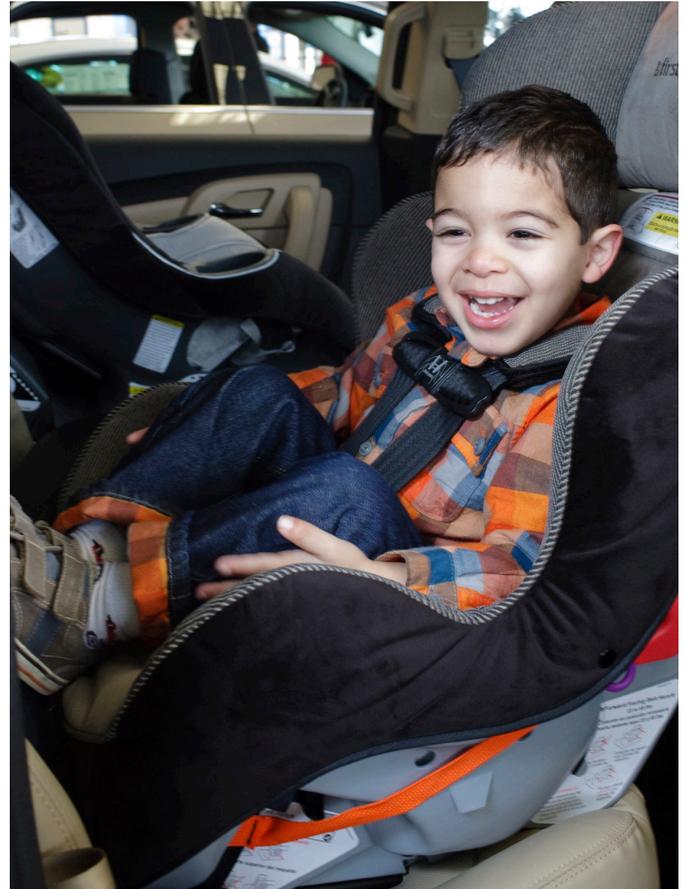
BASIC CAR SEAT SAFETY

Be sure to buckle up the right way on every ride!

**SAFE
KIDS**
WORLDWIDE™

All children must use a car seat, booster seat or seat belt.

- My child always rides in a back seat and never in front of an airbag.
- Everyone in my car buckles up on every ride using the right car seat, booster seat or seat belt for each person's age and size.
- My child's car seat has all of its parts, labels and instructions and has never been in a crash.
- I follow the instructions for my car and my car seat so that my child is buckled in right and tight.
- My child's car seat has never been in a crash.
- I never leave my child alone in a car.



Use our online [Ultimate Car Seat Guide](http://www.safekids.org/ultimate-car-seat-guide) for information on all your car seat needs.
www.safekids.org/ultimate-car-seat-guide

Babies under 2 use rear-facing car seats

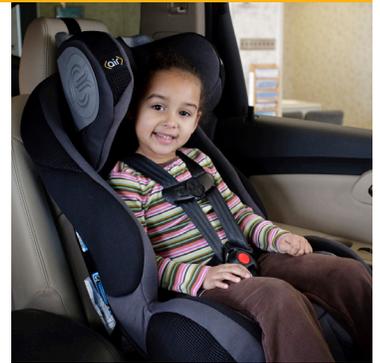
- My child always rides in a back seat and never in front of an air bag.
- My child always rides in a car seat made for his or her size and age.
- My child sits facing the back of the car in his or her car seat.
- The harness straps are snug on my child, and I can't pinch the buckled strap at the shoulder.
- My child's car seat is buckled tightly in the car and doesn't move more than one inch when I pull it where the seatbelt is buckled/attached.
- My child uses a bigger rear-facing car seat until he or she outgrows the harness. Many harnesses go to 35, 40 or 45 pounds.
- I never leave my child alone in a car.



Toddlers and big kids use forward-facing car seats with a top tether

If my child is over age 2 AND has outgrown the weight or height limits for the rear-facing seat:

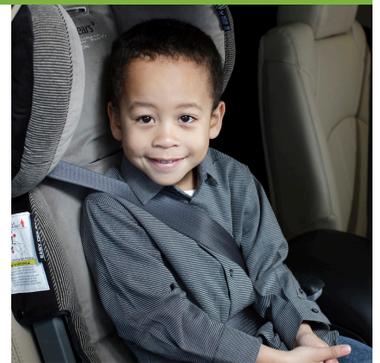
- My child always rides in a back seat.
- My child always rides in a car seat made for his or her size and age.
- The harness straps are snug on my child, and I can't pinch the buckled strap at the shoulder.
- My child's car seat is buckled tightly in the car and doesn't move more than one inch when I pull it at the belt path. I use the top tether.
- My child uses this car seat until he or she outgrows the harness. Many harnesses go to 50 pounds or more.



Older, bigger kids use booster seats with lap and shoulder seat belts

If my child has outgrown the weight or height limit of the forward-facing car seat:

- My child always rides in a back seat.
- My child always rides on a booster seat using a lap and shoulder seat belt.
- The lap belt sits low on his or her hips, not the stomach.
- The shoulder belt is on my child's shoulder – not on the neck, under the arm or behind the back.
- The seat belt is snug, flat and comfortable on my child.
- My child may be between 8-12 years of age before the seat belt fits without a booster.



Kids ready for seat belts

If my child has outgrown the booster seat:

- My child always rides in a back seat until age 13.
- My child always uses a lap and shoulder seat belt.
- The lap belt sits low on my child's hips, not the stomach.
- The shoulder belt is on my child's shoulder – not on the neck, under the arm or behind the back.
- My child's back is firmly against the vehicle seat back, his or her knees bend at the front edge of the vehicle seat, and he or she can sit this way for the whole ride.
- The seat belt is snug, flat and comfortable on my child. If the seat belt does not fit right, my child must use a booster seat.





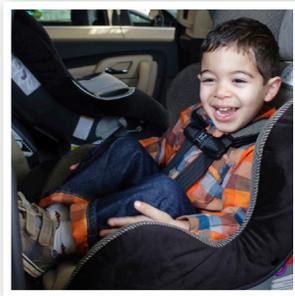
Car Seat Safety Tips

Everything you need to know to keep your kids safe in cars.

Engineers are working hard to ensure that cars and car seats are designed to keep kids as safe as possible. But it's up to every parent to take full advantage of these innovations by making sure car seats and booster seats are used and installed correctly. Here's what you need to know to ensure that your most precious cargo is safe in cars.

Choose the Right Direction: Rear- or Forward-Facing

- For the best protection, keep your baby in a rear-facing car seat for as long as possible – usually until about 2 years old. You can find the exact height and weight limit on the side or back of your car seat. Kids who ride in rear-facing seats have the best protection for the head, neck and spine. It is especially important for rear-facing children to ride in a back seat away from the airbag.
- When your children outgrow a rear-facing seat usually around age 2, move them to a forward-facing car seat. Keep the seat in the back and make sure to attach the top tether after you tighten and lock the seat belt or lower anchors (LATCH). Use the top tether until your car seat labels tell you not to. Check both your child restraint and vehicle manuals to see if there is a weight limit for the top tether. If they both agree to a higher weight, it is fine to follow their directions.
- Kids can remain in some forward-facing car seats until they're 65 pounds or more depending on the car seat limits. Check labels to find the exact measurements for your seat. Discontinue use of lower attachment when your child reaches the limits set by your car seat and car manufacturers. Continue to use the top tether. You must read both manuals to know about those limits. Not



to worry: Once your child meets the lower anchor weight limits, you will switch to a seat belt. Seat belts are made to protect very heavy adults as well as children in car seats and booster seats.

Check Car Seat Labels

- Look at the label on your car seat to make sure it's appropriate for your child's age, weight and height.
- Your car seat has an expiration date. Find and double check the label to make sure it's still safe. Discard a seat that is expired in a dark trash bag so that it cannot be pulled from the trash and reused.

Know Your Car Seat's History

- Buy a used car seat only if you know its full crash history. That means you must buy it from someone you know, not from a thrift store or over the internet. Once a car seat has been in a crash, it needs to be replaced.



Road injuries are the leading cause of preventable deaths and injuries to children in the United States. Correctly used child safety seats can reduce the risk of death by as much as 71 percent.

Make Sure Your Car Seat is Installed Correctly

- **Inch Test.** Once your car seat is installed, give it a good tug at the base where the seat belt goes through it. Can you move it more than an inch side to side or front to back? A properly installed seat will not move more than an inch.
- **Pinch Test.** Make sure the harness is tightly buckled and coming from the correct slots (check your car seat manual). With the chest clip placed at armpit level, pinch the strap at your child's shoulder. If you are unable to pinch any excess webbing, you're good to go.
- For both rear- and forward-facing child safety seats, use either the car's seat belt or the lower anchors and for forward-facing seats, use the top tether to lock the car seat in place. Don't use both the lower anchors and seat belt at the same time. They are equally safe- so pick the one that gives you the best fit.
- If you are having even the slightest trouble, questions or concerns, certified child passenger safety technicians are able to help or even double check your work. Visit a certified technician to make sure your car seat is properly installed. [Find a technician](#) or [car seat checkup event](#) near you.

Check Your Car Seat

- Seventy-three percent of car seats are not used or installed correctly, so before you hit the road, check your car seat. [Here's a quick car seat checklist to help you out.](#) It takes only 15 minutes.
- Learn how to install your car seat for free. Safe Kids hosts car seat inspection events across the country where certified technicians can help make sure your car seat is properly installed. They also serve in fixed locations called inspection stations during specific days and times in some communities. You may find an inspection station with certified technicians at a GM dealership, a hospital or even a fire house. They will teach you so that you can always be sure your car seat is used correctly. [Find a Safe Kids car seat checkup event](#) where we use only certified technicians near you.

Register Your Car Seat

- Register your new or currently used car seat, ensuring that you are promptly notified about future recalls. You can register online with your car seat manufacturer, using the information found

on the sticker on your car seat at safercar.gov. You can also register by filling out the registration card that came with your car seat. It's pre-populated with your car seat's information. Mail the card; no postage required.

Is it Time for a Booster Seat?

- Take the next step to a booster seat when you answer "yes" to any of these questions:
 - Does your child exceed the car seat's height or weight limits?
 - Are your child's shoulders above the car seat's top harness slots?
 - Are the tops of your child's ears above the top of the car seat?
- If the car seat with a harness still fits, and your child is within the weight and height limits, continue to use it until it is outgrown. It provides more protection than a booster seat or seat belt for a small child.



Be Wary of Toys

- Toys can injure your child in a crash, so be extra careful to choose ones that are soft and will not hurt your child. Secure loose objects and toys to protect everyone in the car.

Buckle Up

- We know that when adults wear seat belts, kids wear seat belts. So be a good example and buckle up for every ride. Be sure everyone in the vehicle buckles up, too.
- Buckling up the right way on every ride is the single most important thing a family can do to stay safe in the car.

Prevent Heatstroke

- Never leave your child alone in a car, not even for a minute. While it may be tempting to dash out for a quick errand while your babies are sleeping in their car seats, the temperature inside your car can rise 20 degrees and cause [heatstroke](#) in the time it takes for you to run in and out of the store.
- Leaving a child alone in a car is against the law in many states.



Car Seat Checkup

Top 5 Things to Do



- Right Seat.** This is an easy one. Check the label on your car seat to make sure it's appropriate for your child's age, weight and height. Like milk, your car seat has an expiration date. Just double check the label on your car seat to make sure it is still safe.



- Right Place.** Kids are VIPs, just ask them. We know all VIPs ride in the back seat, so keep all children in the back seat until they are 13.



- Right Direction.** You want to keep your child in a rear-facing car seat for as long as possible, usually until around age 2. When he or she outgrows the seat, move your child to a forward-facing car seat. Make sure to attach the top tether after you tighten and lock the seat belt or lower anchors.



- Inch Test.** Once your car seat is installed, give it a good shake at the base. Can you move it more than an inch side to side or front to back? A properly installed seat will not move more than an inch.



- Pinch Test.** Make sure the harness is tightly buckled and coming from the correct slots (check car seat manual). Now, with the chest clip placed at armpit level, pinch the strap at your child's shoulder. If you are unable to pinch any excess webbing, you're good to go.

Please read the vehicle and car seat instruction manuals to help you with this checklist. If you are having even the slightest trouble, questions or concerns, don't worry about a thing. Certified child passenger safety technicians are waiting to help or even double check your work.

Visit safekids.org to find a car seat inspection event in your community.

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Pediatric Environmental Health Toolkit Anticipatory Guidance

Discuss tobacco use and the risks of secondhand smoke at all visits, when relevant.

ANTICIPATORY GUIDANCE

VISIT	CONCERNS	
Prenatal	Diet/Water	Avoid eating fish high in mercury or PCBs/dioxins. Know water source. If public supply, read Community Consumer Confidence Report. If well water, test for arsenic, nitrates, coliforms, and other contaminants depending on local surface and ground water concerns.
	Home	Know lead status of home. Renovations may increase exposure to lead dust and solvents.
	Occupations/Hobbies ¹	Know the chemicals you are exposed to at work or doing hobbies.
Birth	Infant feeding	Encourage breastfeeding. Review formula preparation – if concerned about lead in tap water, run cold water for 1-2 minutes before formula prep. Test well water. Avoid polycarbonate bottles, which may leach the chemical bisphenol A. Choose colored or opaque plastic bottles made from safer plastics such as polyethylene or polypropylene, or tempered glass baby bottles that do not break as easily as regular glass ones.
	Mercury exposure	Exchange mercury thermometer for digital at town recycling center or call local health department for disposal information. If breastfeeding, avoid fish high in mercury (see mercury section of Reference Card).
2 weeks	Gas heat/stove	Carbon monoxide detectors/alarms and yearly professional furnace maintenance.
	Fire safety	Smoke alarms (check batteries).
	Pesticide use (indoor, outdoor, on pets)	Avoid use of pesticides whenever possible – if unavoidable, use baits/traps/gels instead of sprays/dust. Store and dispose of safely. Choose outdoor treatment vs. indoor – hire only licensed professionals. (See AAP's Pediatric Environmental Health handbook for guidance.)
1-2 mos.	Indoor air pollutants	Test for radon; if unknown or high (above 4 pCi/L), avoid basement sleep and play areas – if high, consider remediation. Call 1-800-SOS-RADON. To keep mold at bay, prevent water leaks, ventilate well, clean gutters, and drain water away from foundations. Avoid using pesticides, household cleaners that contain bleach or ammonia, products with solvents (paints, paint strippers). ²
4-6 mos.	Lead exposure	Review all possible sources of lead – paint chips/dust in home/day care settings built before 1978, contaminated soils, lead-lined water pipes, traditional remedies. Homes with possible lead-hazard should be inspected and repaired by a trained expert. Wash children's hands to remove lead dust and other contaminants.
	Review parents' occupations/hobbies	Remove shoes/workplace clothing before entering house – launder work clothing separately. Tailor to specific concerns. ¹
6-9 mos.	Poison control/home safety measures	Choose safer alternatives – avoid products with skull and crossbones, ammonia, chlorine (never combine). Do not use Ipecac, call poison control center (800) 222-1222. Cover electrical sockets.
	Sun exposure	Avoid sun – to minimize exposure, wear protective clothing, hats, sunscreen w/SPF 15 or higher.
	Pesticide residues on food	Wash, peel fruits/vegetables, buy organic if possible.

Discuss tobacco use and the risks of secondhand smoke at all visits, when relevant.

VISIT	CONCERNS	ANTICIPATORY GUIDANCE
12 mos.	Healthy eating habits	5-6 portions fruits, vegetables daily. Limit junk food, processed/high fat food. Avoid fish high in mercury, PCBs/dioxins while maintaining the nutritional benefits of fish; heed local fishing advisories.
	Lead Exposure	Screen all children with a blood lead test at 1 year of age and again at 2 years. "At risk" children may need to be screened earlier, and more frequently.
	TV	AAP does not recommend TV for children 2 or younger.
15-18 mos.	Arsenic exposure	Seal CCA-preserved (pressure-treated) wood decking and play structures every 1-2 years. Wash hands after playing on CCA-preserved wood.
2 yrs.	Healthy schools/day care	Make sure schools/day care sites have policies to prevent exposures and promote alternatives to pesticides, toxic cleaning and art products.
	Healthy pets	Avoid, or use least toxic, pesticides on pets. Keep pets clean and wash pets' bedding frequently to keep away fleas.
3 yrs.	Arts and crafts	Use nontoxic markers and other low volatile organic compound (VOC) materials. Avoid imported art products as safety standards overseas may be less stringent.
	Physical activity	Choose family activities that encourage physical activity (walking, tag, short hikes, etc.). Take stairs over escalators. Walk or bike rather than drive.
	Local air quality	Follow activity guidelines associated with the Air Quality Index (AQI), reported in newspapers, on television, on radio, and at www.epa.gov/airnow . Children with asthma or respiratory illness are at higher risk.
4-5 yrs.	Healthy eating habits	5-6 portions fruits, vegetables daily. Limit junk food, processed/high fat food. Avoid fish high in mercury, PCBs/dioxins while maintaining the nutritional benefits of fish; heed local fishing advisories. Safer fish choices include pollock, wild salmon or canned "chunk light" tuna.
6-10 yrs.	Review healthy eating habits	See guidelines for 12 months/4-5 years. In addition, review food choices at school and in vending machines.
	Other lifestyle issues	Exercise more. Take stairs over escalators. Walk or bike rather than drive; minimize TV, computer, and other electronic games. Wear helmet for biking, skate boarding, down hill skiing.
Teen visits	Noise exposure	Review use of head phones/exposure to loud music.
	Occupational/hobby exposures	Review work related injuries/exposure risks. Review access to Material Safety Data Sheets (MSDS) information.
	Tobacco use and substance abuse	Review risks related to tobacco, alcohol, and other substances.
	Sun exposure	Avoid sun – to minimize exposure, wear protective clothing, hats, sunscreen w/SPF 15 or higher. Avoid tanning salons/booths.

Notes: ¹ Occupations and hobbies of potential concern include: painting/refinishing, auto body/repair, jobs that require use of solvents and other toxic chemicals such as janitors, dry cleaning, carpet and floor installation, pesticide application, nail salon staff, and some arts and crafts etc. ² Products containing chlorine are sometimes necessary for disinfection but should be used carefully and in the lowest concentration necessary.



Your Baby at 2 Months

Information for Parents

Social

- Watches faces
- Smiles at People
- Recognizes parents

Language

- Blinks
- Startles
- Pays attention to sounds
- Coos
- Make sounds when talked to

Motor

- Grasps rattle placed in hands
- Head control improves
- Begins to get hands to mouth

Feeding

- Breast milk or formula has everything your baby needs
- Feedings range from every 2 to every 4 hours
- Burp well

Toys

- Mobiles
- Rattles
- Things to look at

Sleep

- May sleep 4 to 7 hours at night with 2 or 3 daytime naps
- The safest sleeping position for newborns is on their back only on flat, firm surface.

What you can do for your baby

- Cuddle and tickle
- Talk, coo, and babble
- Sing and play music
- Smile, laugh, and giggle
- Hold up objects to look at
- Change his/her position often

Safety

- Car seat a must. Face the seat toward the **rear of the car**. **Always** put the car seat in the back seat.
- Never leave baby alone on the bed, table, or counter.
- Do not hold baby when drinking hot liquids.
- Consider getting CPR and child safety training
- Wash your hands often
- Avoid people with colds or other illnesses.
- Do not smoke or allow others to smoke in the house.



INTERMED

Your Baby at 4 Months

Information for Parents

Social

- Responds to and returns smiles
- “Chatters” back when talked to

Language

- Laughs and squeals
- Babbles vowel sounds
- Makes noises to self

Motor

- May roll from stomach to back
- Begins kicking legs
- Has good head control (with bobbing when tired)
- Raises head and chest when on stomach
- Reaches for things
- Plays with hands

Feeding

- Breast fed infants feed 5 to 7 times in 24 hours. Formula fed infants take 4 to 8 bottles in 24 hours (about 24-36 ounces)
- Middle-of-night feedings may no longer be needed
- Ask your pediatrician when to start solid foods (around 4-6 months is usual)

Toys

- Soft toys to hold in one hand
- Squeak toys
- Bright, colored things

Sleep

- Many infants now sleep 7 to 9 hour stretches at night with 2 or 3 daytime naps
- Babies should be put to sleep on their backs. Don’t worry if your baby rolls over during sleep. You don’t need to reposition.

What you can do for your baby

- Cuddle and tickle
- Talk, laugh, sing, and play music
- Dance together
- Give an infant massage
- Let your baby “exercise” on the floor

Safety

- Car seat a must. Face the seat toward the **rear of the car**. **Always** put the car seat in the back seat.
- Take special care to protect your baby from falls off beds and counters.
- Keep hot drinks out of reach.
- Avoid cooking with your infant in your arms.
- Always hold on to your baby in the bath.
- No strings on toys or clothing.
- Make sure babysitters are well-trained.
- Get information on how to save your baby from choking.
- Do not smoke or allow others to smoke in the house.



INTERMED

Your Baby at 6 Months

Information for Parents

Social

- Demands to be cuddled and kissed
- Responds to people's emotions and facial expressions
- Cries when parent or caretaker is out of sight
- Begins to explore

Language

- Uses many different sounds
- May imitate sounds
- May repeat consonants sounds (like "dada")
- Can make some needs known with movements or noises

Motor

- Rolls both ways
- Sits with support
- Bears full weight on legs with support
- Brings feet to mouth
- Puts things in mouth to explore
- Grabs and transfers things from hand to hand

Feeding

- Continues breast or formula feeding
- Eats infant cereals
- Begins to feed self crackers
- May start fruits and vegetables

Toys

- Cloth and board books
- Stuffed animals
- Unbreakable mirrors
- Teething Rings

Sleep

- May need 1 less nap or begin to take shorter ones
- If you have not already, begin to set a regular bedtime

What you can do for your baby

- Cuddle and tickle
- Talk and play sound games
- Read stories or poems together
- Sing and dance together
- Play peek-a-boo

Safety

- Child-proof the house:
 - Put gates across stairs
 - Install plug covers and cabinet locks
 - Remove tablecloths
 - Lock away medicines and household poisons
 - Get rid of poisonous house plants
 - Keep Poison Control number taped to your phone
 - Keep floor free of small objects
- Car seat a must. Face the seat toward the **rear of the car.** **Always** put the car seat in the back seat.
- Put crib mattress all the way down
- Have a safe place (like a playpen) for your baby when you are busy.
- Do not use walkers.



Your Baby at 9 Months

Information for Parents

Social

- Shy with strangers
- May grow attached to a “security” blanket or a certain toy
- May begin whining or showing neediness

Language

- Imitates speech sounds
- Turns to voices
- Understands own name
- Uses body movements to let you know wishes
- Makes sounds that show mood

Motor

- Pulls self to standing
- Crawls
- May “cruise” along furniture
- Grasps with thumb and finger
- Holds bottle
- Picks up 2 objects at a time

Feeding

- Continues breast or formula feeding
- Eats with fingers
- Eats meat and fish
- Can manage food with a lumpy texture
- Starting table foods

Toys

- Cloth and board books
- Stuffed animals
- Blocks

Sleep

- May give up some naps
- If you have not already, establish a bedtime routine

What you can do for your baby

- Cuddle and tickle
- Play patty-cake, itsy-bitsy spider, this little piggy, ring around the rosy
- Hide things for him/her to find
- Teach him/her to wave “bye-bye”
- Read nursery rhymes together
- Sing and dance together

Safety

- Continue child-proofing the house:
 - Put gates across stairs
 - Install plug covers and cabinet locks
 - Remove tablecloths
 - Lock away medicines and household poisons
 - Get rid of poisonous house plants
 - Keep Poison Control number taped to your phone
 - Keep floor free of small objects
- Car seat a must. Face the seat toward the **rear of the car.** **Always** put the car seat in the back seat.
- Do not serve foods baby could choke on like nuts, raisins or popcorn
- Never leave baby alone in bath
- Do not use walkers



Your Baby at 12 Months

Information for Parents

Social

- Imitates people
- May have some fears
- Wants to do things by him/herself
- Demands attention
- Loves an audience

Language

- Has names for parents
- May say 1 or 2 other words
- May repeat a word constantly
- Learns gestures that go with words

Motor

- Stands alone well
- May walk alone
- May stoop to pick things up
- Stacks 2 or 3 blocks
- Pours things out of containers and may put them back

Feeding

- Feed self with fingers
- Begins to use spoon
- Drinks well from cup
- Start whole milk and whole eggs
- May start honey

Sleep

- Probably only has 2 naps
- Nighttime fear of being away from parents may develop

What you can do for your baby

- Cuddle and tickle
- Roll a ball together
- Play follow-the-leader
- Read stories together
- Go different places together

Toys

- Picture books
- Blocks
- Toy telephones
- Pots and pans
- Pull toys
- Cones and rings
- “Fisher Price” snap-lock beads

Safety

- Check that all bookcases and cabinets are stable.
- Remove dangerous things from places baby can climb.
- Keep crib free of toys baby can climb on to get out of crib.
- Keep the Poison Control phone number on hand.
- Always use a car seat, rear-facing in the back seat. Keep the car seat rear-facing as long as possible (at least to age 2).



Your Baby at 15 Months

Information for Parents

Social

- Shows affection
- Enjoys older children
- Learns by exploring and imitating
- Easily entertained

Language

- Says a few simple words
- Repeats some words he/she hears
- Recognizes names of familiar people and things
- Understands simple requests

Motor

- Walks alone
- Steps sideways or backwards
- Can push or pull a toy wagon
- Can carry toys and walk at the same time
- Begins to run
- Climbs stairs on hands and knees
- Can scribble with a crayon

Feeding

- Has more control getting food to mouth
- Eats less than when younger
- Likes to choose own food

Sleep

- Overtiredness is a common problem. (Find quiet ways for your toddler to rest without sleep.)
- Nightmares may begin

What you can do for your baby

- Cuddle and tickle
- Play physical games
- Read stories together
- Go to the playground or library together
- Let him/her “help” you do chores or garden
- Begin to set limits on negative behavior

Toys

- Picture books
- Big balls
- Toy with switches, buttons, and knobs
- Nesting toys
- Drums, xylophones
- Puppets
- Things with different texture

Safety

- Never leave toddler alone in or near water.
- Keep the Poison Control phone number on hand.
- Always use a car seat, rear-facing, in the back seat. Keep your child rear-facing as long as possible (at least to age 2).



Your Baby at 18 Months

Information for Parents

Social

- Plays near or with other children
- Begins to do what is asked
- Seeks attention, prefers negative attention to being ignored
- Imitates housework
- Removes clothes
- Has temper tantrums

Language

- Begins to say some words clearly
- May put 2 words together
- Calls self by name
- Uses “no” often
- Sings
- Identifies things by pointing

Motor

- Can walk fast
- Runs stiffly
- Walks upstairs held by hand
- Begins to creep down stairs backwards
- Climbs on furniture
- Scribbles in circles
- Can string large beads

Feeding

- Wants to feed self
- Uses spoon well
- Appetite varies

Sleep

- Probably takes only 1 nap a day
- Nightmares may begin

What you can do for your baby

- Cuddle and tickle
- Blow bubbles
- Play hide and seek
- Play word games
- Teach him/her words to songs
- Read stories together
- Join a small play group
- Continue setting limits on negative behavior

Toys

- Picture books
- Big balls
- Push-pull toys
- Toy vacuum or lawnmower
- Child table and chairs

Safety

- Consider a bed instead of a crib if baby is climbing
- Falls and scrapes and bruises are common
- Never leave toddler alone in or near water
- Keep the Poison Control phone number on hand.
- Always use a car seat in the back seat. Keep your child rear-facing as long as possible (at least age 2).

Vitamin D Supplementation

While breastfeeding is the recommended method of infant feeding and provides infants with necessary nutrients and immune factors, breast milk alone does not provide infants with an adequate intake of vitamin D. Most breastfed infants are able to synthesize additional vitamin D through routine sunlight exposure. However, published reports of cases of vitamin D deficiency rickets among breastfed infants in the United States caused researchers to take another look at whether all breastfed infants were getting adequate vitamin D.

Vitamin D deficiency rickets among breastfed infants is rare, but it can occur if an infant does not receive additional vitamin D from a vitamin supplement or from adequate exposure to sunlight. A number of factors decrease the amount of vitamin D a person will synthesize from sunlight. These factors include:

- Living at high latitudes (closer to the polar regions), particularly during winter months
- Air quality conditions: high levels of air pollution
- Weather conditions: dense cloud covering
- The degree to which clothing covers the skin
- Use of sunscreen
- Skin pigmentation: darker skin types

Furthermore, there exists a major public health effort to decrease the risk of skin cancer by encouraging people to limit their sunlight exposure.

As a result, in April 2003, the American Academy of Pediatrics (AAP) published guidelines for vitamin D intake, recommending that all infants have a minimum intake of 200 IU of vitamin D per day, beginning during the first 2 months of life. In November 2008, the AAP published a new statement to replace their 2003 guidelines. The 2008 report recommends a daily intake of vitamin D of 400 IU/day for all infants and children beginning in the first few days of life.

Human milk typically contains a vitamin D concentration of 25 IU per liter or less. Therefore, a supplement of 400 IU per day of vitamin D is recommended for all breastfed infants. Adequate amounts of vitamin D can be achieved by currently available multivitamin products containing 400 IU of vitamin D per mL or the newly available preparations that contain 400 IU/mL vitamin D alone without other vitamins. These products are available over the counter. Prescription preparations of vitamin D have very high vitamin D concentration and are not for routine home use.

If an infant is weaned to vitamin-D fortified infant formula (consuming at least 1000 mL per day) or a child one year of age or older is weaned to vitamin-D fortified milk, then further supplementation is not necessary.

Some Common Q&As

Q: Why do babies and older children need more vitamin-D?

A: Vitamin-D is needed to help your body develop strong bones.

Q: Why is it necessary to give vitamin-D supplements to my breastfeeding baby? Doesn't human milk have all the essential nutrients for babies?

A: The AAP recommends breastfeeding of infants for at least 12 months and for as long thereafter as the mother and infant desire. However, human milk does not contain enough vitamin-D to prevent rickets. Sunlight is the usual source of vitamin-D production in the skin.

Q: If my baby goes out in the sunlight every day of every other day for an hour or so, isn't that enough?

A: It may be enough sunlight exposure in some parts of the country throughout the year, but sunlight exposure is difficult to measure. Factors such as the amount of pigment in your baby's skin and skin exposure affect how much vitamin-D is produced by your body from sunlight. In the more northern parts of the country during the winter, the amount of sunlight is not enough for any baby. Exposing infants and children's skin to sunlight has been shown to increase the risk for skin cancer later in life. We now recommend that infants and young children not be in direct sunlight when they are outside, particularly infants younger than 6 months of age. Sunscreens should be used on all children when in sunlight but it prevents vitamin-D formation in the skin.

Q: Do I need to give vitamin-D supplements to infants who are fed infant formula?

A: No. All formulas sold in the United States have a sufficient amount of vitamin-D that infants need as long as they are given 27 to 32 ounces of infant formula per day.

Q: When I take my baby outside, I always cover all of their skin with sunscreen, just as the AAP recommends. Isn't that enough to protect them from cancer and yet give them vitamin-D?

A: No, the sunscreen prevents the skin from making vitamin-D.

Q: How do I give vitamin-D to my infant?

A: Liquid multivitamin drops with vitamin-D are available. If you give your baby the recommended amount from the dropper in the vitamin-D bottle, the baby will get all the vitamin-D needed to prevent rickets.

Q: When should I start giving vitamin-D drops?

A: You should start during the first few days of life.

Q: How often do I give the vitamin-D drops?

A: You should give the drops once a day, every day. If you forget a day it is alright. The vitamin-D is stored in the baby's body and there will be enough built up to prevent rickets.

Q: If I give the vitamin drops to the baby, will the baby not want to breastfeed?

A: No, the drops will not interfere with breastfeeding. The amount is very small and giving a few drops from the dropper in to the corner of the baby's mouth toward the cheek will not give the baby any problem with breastfeeding.

Q: Don't the vitamin drops taste bad?

A: Some vitamin drops do have a strong taste, especially the ones that contain vitamin-B, but the triple vitamin drops that contain only vitamins A, C, and D taste fine.

Q: Do babies need vitamins A and C as well?

A: Breastfed babies do not need vitamins A and C, but giving them these additional vitamins in the dosage is not harmful. In some parts of Africa, there is deficiency in vitamin A, so *those* babies could use the vitamin A.

Q: How long do I keep giving the vitamin-D drops to my baby?

A: You should keep giving the drops until your child has weaned from breastfeeding and is receiving 27 to 32 ounces of infant formula every day. The AAP recommends that "infants weaned before 12 months of age should not receive cow's milk feedings but should receive iron-fortified infant formula". Once your child begins drinking at least a quart of vitamin-D-fortified milk after 12 months of age, they do not need additional vitamin-D drops or tablet. If, however, your child drinks less than one quart of regular milk, you should give them vitamin-D drops or tablet. This recommendation applies to children of all ages and even to adults.

Q: How will I know if my baby or child has rickets from vitamin-D deficiency?

A: Rickets is a disease of the bones and is difficult to diagnose clinically without an x-ray before your infant begins to walk, at which time there will be excessive bowing of the legs. There may also be swelling of the wrists and ankles. Many infants with vitamin-D deficiency will have slow growth. Some may have breathing and heart problems.

Q: My older children do not drink any milk. How can they get extra vitamin-D?

A: There are the same concerns for protecting the skin of these children from direct sunlight exposure to prevent skin cancer later in life. Vitamin-D-fortified milk is the sole dietary source of vitamin-D. Any child who is not consuming at least 32 ounces of vitamin-D-fortified milk should receive vitamin-D as part of a vitamin drop or pill to ensure adequate vitamin-D intake. It is now recommended that even adults consume vitamin-D in milk or vitamin pills.

Infant first aid for choking and CPR: An illustrated guide

*Reviewed by health and safety services experts at the American Red Cross in January 2014.
Portions of content provided by the Red Cross.*

We all hope we'll never be put in the position of having to save a baby's life, but it could happen. Babies can and do choke on food and toys, slip under the water in the tub or a pool, and get caught in drawstrings and curtain cords.

This step-by-step guide explains the basics of first aid for choking and CPR, but please don't rely on it as your sole source of information. Set aside a few hours to take an infant and child CPR course to learn and practice the proper techniques. These techniques differ depending on the age of the child, and doing them improperly can be harmful.

To find a class in your area, visit the Red Cross website or call (800) 733-2767 (800-RED-CROSS).

The following instructions are for babies younger than 12 months old.

Step 1: Assess the situation quickly.

If a baby is suddenly unable to cry or cough, something is probably blocking her airway, and you'll need to help her get it out. She may make odd noises or no sound at all while opening her mouth. Her skin may turn bright red or blue.

If she's coughing or gagging, it means her airway is only partially blocked. If that's the case, let her continue to cough. Coughing is the most effective way to dislodge a blockage.

If the baby isn't able to cough up the object, ask someone to call 911 or the local emergency number while you begin back blows and chest thrusts (see step 2, below).

If you're alone with the baby, give two minutes of care, then call 911.

On the other hand, if you suspect that the baby's airway is closed because her throat has swollen shut, call 911 immediately. She may be having an allergic reaction – to food or to an insect bite, for example – or she may have an illness, such as croup.

Also call 911 right away if the baby is at high risk for heart problems.

Step 2: Try to dislodge the object with back blows and chest thrusts.

First do back blows

If a baby is conscious but can't cough, cry, or breathe and you believe something is trapped in his airway, carefully position him faceup on one forearm, cradling the back of his head with that hand.

Place the other hand and forearm on his front. He is now sandwiched between your forearms.

Use your thumb and fingers to hold his jaw and turn him over so that he's facedown along the other forearm. Lower your arm onto your thigh so that the baby's head is lower than his chest.

Using the heel of your hand, deliver five firm and distinct back blows between the baby's shoulder blades to try to dislodge the object. Maintain support of his head and neck by firmly holding his jaw between your thumb and forefinger.

Next, place your free hand (the one that had been delivering the back blows) on the back of the baby's head with your arm along his spine. Carefully turn him over while keeping your other hand and forearm on his front.



Then do chest thrusts

Use your thumb and fingers to hold his jaw while sandwiching him between your forearms to support his head and neck. Lower your arm that is supporting his back onto your opposite thigh, still keeping the baby's head lower than the rest of his body.

Place the pads of two or three fingers in the center of the baby's chest, just below an imaginary line running between his nipples. To do a chest thrust, push straight down on the chest about 1 1/2 inches. Then allow the chest to come back to its normal position.

Do five chest thrusts. Keep your fingers in contact with the baby's breastbone. The chest thrusts should be smooth, not jerky.

Repeat back blows and chest thrusts

Continue alternating five back blows and five chest thrusts until the object is forced out or the baby starts to cough forcefully, cry, or breathe on his own. If he's coughing, let him try to cough up the object.

If the baby becomes unconscious

If a baby who is choking on something becomes unconscious, you'll need to do what's called modified CPR. Here's how to do modified CPR on a baby:

Open his mouth and look for an object. If you can see an object, remove it with your little finger.

Give him two rescue breaths. If the air doesn't go in (you don't see his chest rise), tilt his head and try two rescue breaths again.

If his chest still doesn't rise, do 30 chest compressions.

Look in his mouth and remove the object if you see it. Give him two more rescue breaths.

Repeat the chest compressions and so on, until help arrives.

How to perform CPR

What is CPR?

CPR stands for cardiopulmonary resuscitation. This is the lifesaving measure you can take to save a baby who shows no signs of life (consciousness or effective breathing).

CPR uses chest compressions and "rescue" breaths to make oxygen-rich blood circulate through the brain and other vital organs until emergency medical personnel arrive. Keeping oxygenated blood circulating helps prevent brain damage – which can occur within a few minutes – and death.

CPR isn't hard to do. Follow these steps:

Step 1: Check the baby's condition.

Is the baby conscious? Flick her foot or gently tap on her shoulder and call out. If she doesn't respond, have someone call 911 or the local emergency number. (If you're alone with the baby, give two minutes of care as described below, then call 911 yourself.)

Swiftly but gently place the baby on her back on a firm, flat surface.

Make sure she isn't bleeding severely. If she is, take measures to stop the bleeding by applying pressure to the area. Don't administer CPR until the bleeding is under control.

Step 2: Open the baby's airway.

Tilt the baby's head back with one hand and lift his chin slightly with the other. (You don't have to tilt a baby's head back very far to open the airway.)

Check for signs of breathing for no more than ten seconds.

To check for breathing in a baby, put your head down next to his mouth, looking toward his feet. Look to see whether his chest is rising, and listen for breathing sounds. If he's breathing, you should be able to feel his breath on your cheek.

Step 3: Give two gentle "rescue" breaths.

If the baby isn't breathing, give her two little breaths, each lasting just one second. Cover the baby's nose and mouth with your mouth and gently exhale into her lungs only until you see her chest rise, pausing between rescue breaths to let the air flow back out.

Remember that a baby's lungs are much smaller than yours, so it takes much less than a full breath to fill them. Breathing too hard or too fast can force air into the baby's stomach.

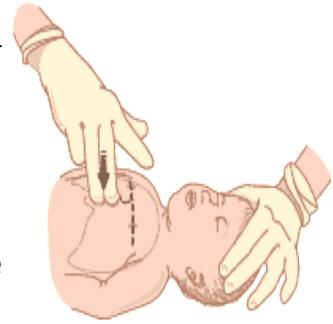
If her chest doesn't rise, her airway is blocked. Give her first aid for choking, described above.

Step 4: Do 30 chest compressions.

With the baby still lying on his back, place the pads of two or three fingers in the center of his chest, just below an imaginary line running between his nipples.

With the pads of your fingers on that spot, compress the chest about 1 1/2 inches. Push straight down. Compressions should be smooth, not jerky.

Do 30 chest compressions at the rate of 100 per minute. Count out loud: "One and two and three and...", pushing down as you say the number and coming up as you say "and." (The song *Staying Alive* is the right rate!)



When you complete 30 compressions, give two rescue breaths (step 3, above). (Each cycle of chest compressions and rescue breaths should take about 24 seconds.)

Step 5: Repeat compressions and breaths.

Repeat the sequence of 30 compressions and two breaths. If you're alone with the baby, call 911 or the local emergency number after two minutes of care.

Continue the sequence of compressions and breaths until help arrives, you find an obvious sign of life, an AED (automated external defibrillator) is ready to use, the scene becomes unsafe, or you are too exhausted to continue.



Even if the baby seems fine by the time help arrives, a doctor will need to check her to make sure that her airway is completely clear and she hasn't sustained any internal injuries.

Q. How can parents sort out conflicting information about vaccines?

A. Decisions about vaccine safety must be based on well-controlled scientific studies.

Parents are often confronted with “scientific” information found on television, on the Internet, in magazines and in books that conflicts with information provided by healthcare professionals. But few parents have the background in microbiology, immunology, epidemiology and statistics to separate good scientific studies from poor studies. Parents and physicians benefit from the expert guidance of specialists with experience and training in these disciplines.

Committees of these experts are composed of scientists, clinicians and other caregivers who are as passionately devoted to our children's health as they are to their own children's health. They serve the Centers for Disease Control and Prevention (www.cdc.gov/vaccines), the American Academy of Pediatrics (www.aap.org) and the Infectious Diseases Society of America (www.nni.org), among other groups. These organizations provide excellent information to parents and healthcare professionals through their websites. Their task is to determine whether scientific studies are carefully performed, published in reputable journals and, most importantly, reproducible. Information that fails to meet these standards is viewed as unreliable.

When it comes to issues of vaccine safety, these groups have served us well. They were the first to figure out that intestinal blockage was a rare consequence of the first rotavirus vaccine, and the vaccine was quickly discontinued. And they recommended a change from the oral polio vaccine, which was a rare cause of paralysis, to the polio shot when it was clear that the risks of the oral polio vaccine outweighed its benefits.

These groups have also investigated possible relationships between vaccines and asthma, diabetes, multiple sclerosis, AIDS and autism. No studies have reliably established a causal link between vaccines and these diseases — if they did, the questioned vaccines would be withdrawn from use.

Q. Are vaccines still necessary?

A. Although several of the diseases that vaccines prevent have been dramatically reduced or eliminated, vaccines are still necessary:

- to prevent common infections

Some diseases are so common in this country that a choice not to get a vaccine is a choice to get infected. For example, choosing not to get the pertussis (whooping cough) vaccine is a choice to risk a serious and occasionally fatal infection.

- to prevent infections that could easily re-emerge

Some diseases in this country continue to occur at very low levels (for example, measles, mumps and *Haemophilus influenzae* type b, or Hib). If immunization rates in our schools or communities are low, outbreaks of these diseases are likely to occur. This is exactly what happened in the late 1980s and early 1990s when thousands of children were hospitalized with measles and more than 120 died. Children were much more likely to catch measles if they weren't vaccinated. Recent measles and mumps outbreaks in the United States also provide evidence of how quickly a disease can re-emerge.

- to prevent infections that are common in other parts of the world

Although some diseases have been completely eliminated (polio) or virtually eliminated (diphtheria) from this country, they still occur commonly in other parts of the world. Children are paralyzed by polio in Pakistan, Afghanistan and Nigeria and sickened by diphtheria in India and other countries in the southeastern region of Asia. Because there is a high rate of international travel, outbreaks of these diseases are only a plane ride away.

Centers for Disease Control and Prevention. *Epidemiology and Prevention of Vaccine-Preventable Diseases*. 12th Edition. Atkinson W, Wolfe S, Hamborsky J, eds. Washington, DC: Public Health Foundation; 2011.

Q. Do vaccines contain additives?

A. Many vaccines contain trace quantities of antibiotics or stabilizers.

Antibiotics are used during the manufacture of vaccines to prevent inadvertent contamination with bacteria or fungi. Trace quantities of antibiotics are present in some vaccines. However, the antibiotics contained in vaccines (neomycin, streptomycin or polymyxin B) are not those commonly given to children. Therefore, children with allergies to antibiotics such as penicillin, amoxicillin, sulfa or cephalosporins can still get vaccines.

Gelatin is used to stabilize live viral vaccines and is also contained in many food products. People with known allergies to gelatin contained in foods may have severe allergic reactions to the gelatin contained in vaccines. However, this reaction is extremely rare.

Offit PA, Jew RK. Addressing parents' concerns: Do vaccines contain harmful preservatives, adjuvants, additives, or residuals? *Pediatrics* 2003;112:1394-1401.

American Academy of Pediatrics. In Pickering LK, ed. *Red Book: 2012 Report of the Committee on Infectious Diseases*. 29th Edition. Elk Grove Village, IL.

Q. Are vaccines safe?

A. Because vaccines are given to people who are not sick, they are held to the highest standards of safety. As a result, they are among the safest things we put into our bodies.

How does one define the word safe? If safe is defined as “free from any negative effects,” then vaccines aren't 100 percent safe. All vaccines have possible side effects. Most side effects are mild, such as fever, or tenderness and swelling where the shot is given. But some side effects from vaccines can be severe. For example, the pertussis vaccine is a very rare cause of persistent inconsolable crying, high fever or seizures with fever. Although these reactions do not cause permanent harm to the child, they can be quite frightening.

If vaccines cause side effects, wouldn't it be “safer” to just avoid them? Unfortunately, choosing to avoid vaccines is not a risk-free choice — it is a choice to take a different and much more serious risk. Discontinuing the pertussis vaccine in countries like Japan and England led to a tenfold increase in hospitalizations and deaths from pertussis. Recently, a decline in the number of children receiving measles vaccine in the United Kingdom and the United States led to an increase in cases of measles.

When you consider the risk of vaccines and the risk of diseases, vaccines are the safer choice.

Plotkin S, et al. *Vaccines*. 6th Edition. Philadelphia, PA: W.B. Saunders and Co., 2012.

Q. Do children get too many shots?

A. Newborns commonly manage many challenges to their immune systems at the same time.

Because some children could receive as many as 25 shots by the time they are 2 years old and as many as five shots in a single visit to the doctor, many parents wonder whether it is safe to give children so many vaccines.

Although the mother's womb is free from bacteria and viruses, newborns immediately face a host of different challenges to their immune systems. From the moment of birth, thousands of different bacteria start to live on the surface of the skin and intestines. By quickly making immune responses to these bacteria, babies keep them from invading the bloodstream and causing serious diseases.

In fact, babies are capable of responding to millions of different viruses and bacteria because they have billions of immunologic cells circulating in the bodies. Therefore, vaccines given in the first two years of life are a raindrop in the ocean of what an infant's immune system successfully encounters and manages every day.

Offit PA, et al. Addressing parents' concerns: Do vaccines weaken or overwhelm the infant's immune system? *Pediatrics*. 2002;109:124-129.

Q. Is the amount of aluminum in vaccines safe?

A. Yes. All of us have aluminum in our bodies and most of us are able to process it effectively. The two main groups of people who cannot process aluminum effectively are severely premature infants who receive large quantities of aluminum in intravenous fluids and people who have long-term kidney failure and receive large quantities of aluminum, primarily in antacids. In both cases, the kidneys are not working properly or at all and the people are exposed to large quantities of aluminum over a long period of time.

The amount of aluminum in vaccines given during the first six months of life is about 4 milligrams, or four-thousandths of a gram. A gram is about one-fifth of a teaspoon of water. In comparison, breast milk ingested during this period will contain about 10 milligrams of aluminum and infant formulas will contain about 40 milligrams. Soy-based formulas contain about 120 milligrams of aluminum.

When studies were performed to look at the amount of aluminum injected in vaccines, the levels of aluminum in blood did not detectably change. This indicates that the quantity of aluminum in vaccines is minimal as compared with the quantities already found in the blood.

Baylor NW, Egan W, Richman P. Aluminum salts in vaccines – U.S. perspective. *Vaccine*. 2002;20:S18-S23.

Bishop NJ, Morley R, Day JP, Lucas A. Aluminum neurotoxicity in preterm infants receiving intravenous-feeding solutions. *New Engl J Med*. 1997;336:1557-1561.

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Keith LS, Jones DE, Chou C. Aluminum toxicokinetics regarding infant diet and vaccinations. *Vaccine*. 2002;20:S13-S17.

Pennington JA. Aluminum content of food and diets. *Food Additives and Contam*. 1987;5:164-232.

Simmer K, Fudge A, Teubner J, James SL. Aluminum concentrations in infant formula. *J Peds and Child Health*. 1990;26:9-11.

Q. Do vaccines cause autism?

A. Carefully performed studies clearly disprove the notion that vaccines cause autism.

Because the signs of autism may appear in the second year of life, at around the same time children receive certain vaccines, and because the cause of autism is unknown, some parents wondered whether vaccines might be at fault. These concerns focused on three hypotheses — autism was caused by the measles-mumps-rubella (MMR) vaccine, thimerosal, an ethylmercury-containing preservative used in vaccines, or receipt of too many vaccines too soon.

A large body of medical and scientific evidence now strongly refutes these notions. Multiple studies have found that vaccines do not cause autism. These studies included hundreds of thousands of children, occurred in multiple countries, were conducted by multiple investigators and were well controlled.

Andrews N, et al. Thimerosal exposure in infants and developmental disorders: a retrospective cohort study in the United Kingdom does not show a casual association. *Pediatrics*. 2004;114:584-591.

Dales L, et al. Time trends in autism and in MMR immunization coverage in California. *JAMA*. 2001;285:1183-1185.

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This information is provided by the Vaccine Education Center at The Children's Hospital of Philadelphia. The Center is an educational resource for parents and healthcare professionals and is composed of scientists, physicians, mothers and fathers who are devoted to the study and prevention of infectious diseases. The Vaccine Education Center is funded by endowed chairs from The Children's Hospital of Philadelphia. The Center does not receive support from pharmaceutical companies.

Q. Does my child need to still get vaccines if I am breastfeeding?

A. Yes. The types of immunity conferred by breastfeeding and immunization are different. Specifically, the antibodies that develop after immunization are made by the baby's own immune system and, therefore, will remain in the form of immunologic memory; this is known as active immunity. In contrast, antibodies in breast milk were made by the maternal immune system, so they will provide short-term protection, but will not last more than a few weeks. These antibodies are usually not as diverse either, so the baby may be protected against some infections but remain susceptible to others. Immunity generated from breast milk is called passive immunity. Passive immunity was practiced historically when patients exposed to diphtheria were given antitoxin produced in horses; antitoxins to snake venoms are also an example of passive immunity.

Q. How can a "one-size-fits-all" approach to vaccines be OK for all children?

A. The recommended immunization schedule is not the same for all children.

In fact, recommendations for individual vaccines often vary based upon individual differences in current and long-term health status, allergies and age. Each vaccine recommendation, often characterized by a single line on the immunization schedule, is supported by about 25 to 40 additional pages of specific instructions for healthcare providers who administer vaccines. In addition, an approximately 60-page document titled "General Recommendations on Immunization" serves as the basis for all vaccine administration. The recommendations are updated as needed by the CDC and a comprehensive update is published every few years.

Q. What is the harm of separating, spacing out or withholding some vaccines?

A. Although the vaccine schedule can look intimidating, it is based upon the best scientific information available and is better tested for safety than any alternative schedules.

Experts review studies designed to determine whether the changes are safe in the context of the existing schedule. These are called concomitant-use studies.

Separating, spacing out or withholding vaccines causes concern because infants will be susceptible to diseases for longer periods of time. When a child should receive a vaccine is determined by balancing when the recipient is at highest risk of contracting the disease and when the vaccine will generate the best immune response.

Finally, changing the vaccine schedule requires additional doctor's visits. Research measuring cortisol, a hormone associated with stress, has determined that children do not experience more stress when receiving two shots as compared with one shot. Therefore, an increased number of visits for individual shots will mean an increase in the number of stressful situations for the child without benefit. In addition, there is an increased potential for administration errors, more time and travel needed for appointments, potentially increased costs and the possibility that the child will never get some vaccines

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Vaccine-Preventable Diseases and the Vaccines that Prevent Them

Disease	Vaccine	Disease spread by	Disease symptoms	Disease complications
Chickenpox	Varicella vaccine protects against chickenpox.	Air, direct contact	Rash, tiredness, headache, fever	Infected blisters, bleeding disorders, encephalitis (brain swelling), pneumonia (infection in the lungs)
Diphtheria	DTaP* vaccine protects against diphtheria.	Air, direct contact	Sore throat, mild fever, weakness, swollen glands in neck	Swelling of the heart muscle, heart failure, coma, paralysis, death
Hib	Hib vaccine protects against <i>Haemophilus influenzae</i> type b.	Air, direct contact	May be no symptoms unless bacteria enter the blood	Meningitis (infection of the covering around the brain and spinal cord), intellectual disability, epiglottitis (life-threatening infection that can block the windpipe and lead to serious breathing problems), pneumonia (infection in the lungs), death
Hepatitis A	HepA vaccine protects against hepatitis A.	Direct contact, contaminated food or water	May be no symptoms, fever, stomach pain, loss of appetite, fatigue, vomiting, jaundice (yellowing of skin and eyes), dark urine	Liver failure, arthralgia (joint pain), kidney, pancreatic, and blood disorders
Hepatitis B	HepB vaccine protects against hepatitis B.	Contact with blood or body fluids	May be no symptoms, fever, headache, weakness, vomiting, jaundice (yellowing of skin and eyes), joint pain	Chronic liver infection, liver failure, liver cancer
Influenza (Flu)	Flu vaccine protects against influenza.	Air, direct contact	Fever, muscle pain, sore throat, cough, extreme fatigue	Pneumonia (infection in the lungs)
Measles	MMR** vaccine protects against measles.	Air, direct contact	Rash, fever, cough, runny nose, pinkeye	Encephalitis (brain swelling), pneumonia (infection in the lungs), death
Mumps	MMR** vaccine protects against mumps.	Air, direct contact	Swollen salivary glands (under the jaw), fever, headache, tiredness, muscle pain	Meningitis (infection of the covering around the brain and spinal cord), encephalitis (brain swelling), inflammation of testicles or ovaries, deafness
Pertussis	DTaP* vaccine protects against pertussis (whooping cough).	Air, direct contact	Severe cough, runny nose, apnea (a pause in breathing in infants)	Pneumonia (infection in the lungs), death
Polio	IPV vaccine protects against polio.	Air, direct contact, through the mouth	May be no symptoms, sore throat, fever, nausea, headache	Paralysis, death
Pneumococcal	PCV vaccine protects against pneumococcus.	Air, direct contact	May be no symptoms, pneumonia (infection in the lungs)	Bacteremia (blood infection), meningitis (infection of the covering around the brain and spinal cord), death
Rotavirus	RV vaccine protects against rotavirus.	Through the mouth	Diarrhea, fever, vomiting	Severe diarrhea, dehydration
Rubella	MMR** vaccine protects against rubella.	Air, direct contact	Children infected with rubella virus sometimes have a rash, fever, swollen lymph nodes	Very serious in pregnant women—can lead to miscarriage, stillbirth, premature delivery, birth defects
Tetanus	DTaP* vaccine protects against tetanus.	Exposure through cuts in skin	Stiffness in neck and abdominal muscles, difficulty swallowing, muscle spasms, fever	Broken bones, breathing difficulty, death

* DTaP combines protection against diphtheria, tetanus, and pertussis.

** MMR combines protection against measles, mumps, and rubella.

If You Choose Not to Vaccinate Your Child, Understand the Risks and Responsibilities.

Reviewed March 2012

If you choose to delay some vaccines or reject some vaccines entirely, there can be risks. Please follow these steps to protect your child, your family, and others.

With the decision to delay or reject vaccines comes an important responsibility that could save your child's life, or the life of someone else.

Any time that your child is ill and you:

- call 911;
- ride in an ambulance;
- visit a hospital emergency room; or
- visit your child's doctor or any clinic

you must tell the medical staff that your child has not received all the vaccines recommended for his or her age.

Keep a vaccination record easily accessible so that you can report exactly which vaccines your child has received, even when you are under stress.

Telling health care professionals your child's vaccination status is essential for two reasons:

- When your child is being evaluated, the doctor will need to consider the possibility that your child has a vaccine-preventable disease. Many of these diseases are now uncommon, but they still occur.
- The people who help your child can take precautions, such as isolating your child, so that the disease does not spread to others. One group at high risk for contracting disease is infants who are too young to be fully vaccinated. For example, the measles vaccine is not usually recommended for babies younger than 12 months. Very young babies who get measles are likely to be seriously ill, often requiring hospitalization. Other people at high risk for contracting disease are those with weaker immune systems, such as some people with cancer and transplant recipients.

Before an outbreak of a vaccine-preventable disease occurs in your community:

- Talk to your child's doctor or nurse to be sure your child's medical record is up to date regarding vaccination status. Ask for a copy of the updated record.
- Inform your child's school, childcare facility, and other caregivers about your child's vaccination status. -
- Be aware that your child can catch diseases from people who don't have any symptoms. For example, Hib meningitis can be spread from people who have the bacteria in their body but are not ill. You can't tell who is contagious.



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When there is vaccine-preventable disease in your community:

- It may not be too late to get protection by getting vaccinated. Ask your child's doctor.
- If there are cases (or, in some circumstances, a single case) of a vaccine-preventable disease in your community, you may be asked to take your child out of school, childcare, or organized activities (for example, playgroups or sports).
- Your school, childcare facility, or other institution will tell you when it is safe for an unvaccinated child to return. Be prepared to keep your child home for several days up to several weeks.
- Learn about the disease and how it is spread. It may not be possible to avoid exposure. For example, measles is so contagious that hours after an infected person has left the room, an unvaccinated person can get measles just by entering that room. -
- Each disease is different, and the time between when your child might have been exposed to a disease and when he or she may get sick will vary. Talk with your child's doctor or the health department to get their guidelines for determining when your child is no longer at risk of coming down with the disease.

Be aware.

- 👉 Any vaccine-preventable disease can strike at any time in the U.S. because all of these diseases still circulate either in the U.S. or elsewhere in the world.
- 👉 Sometimes vaccine-preventable diseases cause outbreaks, that is, clusters of cases in a given area.
- 👉 Some of the vaccine-preventable diseases that still circulate in the U.S. include whooping cough, chickenpox, Hib (a cause of meningitis), and influenza. These diseases, as well as the other vaccine-preventable diseases, can range from mild to severe and life-threatening. In most cases, there is no way to know beforehand if a child will get a mild or serious case.
- 👉 For some diseases, one case is enough to cause concern in a community. An example is measles, which is one of the most contagious diseases known. This disease spreads quickly among people who are not immune.

If you know your child is exposed to a vaccine-preventable disease for which he or she has not been vaccinated:

- Learn the early signs and symptoms of the disease.
- Seek immediate medical help if your child or any family members develop early signs or symptoms of the disease. -

IMPORTANT: Notify the doctor's office, urgent care facility, ambulance personnel, or emergency room staff that your child has not been fully vaccinated before medical staff have contact with your child or your family members. They need to know that your child may have a vaccine-preventable disease so that they can treat your child correctly as quickly as possible. Medical staff also can take simple precautions to prevent diseases from spreading to others if they know ahead of time that their patient may have a contagious disease.

- Follow recommendations to isolate your child from others, including family members, and especially infants and people with weakened immune systems. Most vaccine-preventable diseases can be very dangerous to infants who are too young to be fully vaccinated, or children who are not vaccinated due to certain medical conditions.
- Be aware that for some vaccine-preventable diseases, there are medicines to treat infected people and medicines to keep people they come in contact with from getting the disease.
- Ask your health care professional about other ways to protect your family members and anyone else who may come into contact with your child.
- Your family may be contacted by the state or local health department who track infectious disease outbreaks in the community. -

If you travel with your child:

- Review the CDC travelers' information website (<http://www.cdc.gov/travel>) before traveling to learn about possible disease risks and vaccines that will protect your family. Diseases that vaccines prevent remain common throughout the world, including Europe. -
- Don't spread disease to others. If an unimmunized person develops a vaccine-preventable disease while traveling, to prevent transmission to others, he or she should not travel by a plane, train, or bus until a doctor determines the person is no longer contagious.

What If You Don't Vaccinate Your Child?

Your child is at risk for developing a vaccine-preventable disease

Vaccines were developed to protect people from dangerous and often fatal diseases. These diseases remain a threat. Vaccines are safe and effective protection.

Influenza or "flu" is a serious respiratory disease that can be deadly. Healthy babies and toddlers are especially vulnerable to complications from influenza. Every year children in the United States die from influenza.

Pertussis or "whooping cough" is an extremely dangerous disease for babies. It is not easily treated and can result in permanent brain damage or death. Whooping cough is most dangerous in children younger than one year. Many infants with whooping cough have to be hospitalized and each year some babies die. In 2019, over 15,000 cases of whooping cough were reported to public health officials in the United States. It is hard to protect unvaccinated babies from whooping cough because it is very contagious and often not recognized in adults and older children who may only have a mild cough with no fever.

Measles is a highly contagious disease that can lead to serious complications, including death. It remains common in many countries and has been brought into the United States by returning vacationers and foreign visitors. Vaccination caused measles to decline rapidly during the 1990s. Recently, vaccine hesitancy among parents in the United States and abroad has led to a growing number of children and teens who are not vaccinated and are unprotected from measles. This has led to outbreaks of measles in the United States, Canada, and other countries.

Chickenpox is very contagious. Before the development of a vaccine, chickenpox killed approximately 100 people every year in the United States. Most were previously healthy. Children infected with chickenpox must be kept out of day care or school for a week or more so they don't spread the disease to others.

Your child can infect others in the community

Children who are not vaccinated can transmit vaccine-preventable diseases at schools and in the community.

- Unvaccinated children can infect babies who are too young to be fully immunized.
- Unvaccinated children can infect people of any age who can't be immunized for medical reasons. This includes children and adults with leukemia and other cancers, immune system problems, and people of all ages receiving treatments or medications that weaken their immune systems.

Your child may have to be excluded from school or child care

During disease outbreaks, unvaccinated children may be excluded from school or child care to protect them and others. This can cause hardship for the child and parent.

Next steps...

We strongly encourage you to vaccinate your child. Please discuss any concerns you have with a trusted healthcare provider or call the immunization coordinator at your local or state health department. Your vaccination decision affects not only the health of your child, but also your family, your child's friends, their families, and your community.

► For more information about vaccines, visit these websites:

American Academy of Pediatrics

<https://www.healthychildren.org/english/safety-prevention/immunizations/pages/default.aspx>

Centers for Disease Control and Prevention

www.cdc.gov/vaccines/parents

Vaccinate Your Family

www.vaccinateyourfamily.org

Immunize.org

www.immunize.org

Vaccine Education Center at the Children's Hospital of Philadelphia

www.chop.edu/centers-programs/vaccine-education-center



Evidence Shows Vaccines Unrelated to Autism

Claims that vaccines cause autism have led some parents to delay or refuse vaccines for their children. The most common claims are that autism is caused by measles-mumps-rubella (MMR) vaccine, vaccines that contain thimerosal, or too many vaccines. Many studies have been done to test these claims.

None has shown that vaccines cause autism. The real causes of autism are not fully known, but scientists – working with families – have made progress.

This sheet lays out the facts to help parents understand why experts do not think vaccines cause autism.

Medical and legal authorities agree that no evidence exists that vaccines cause autism.

The Institute of Medicine is an impartial group of the world's leading experts that advises Congress on science issues. After reviewing more than 200 studies in 2004 and more than 1,000 studies in 2011, the consensus report strongly stated that the evidence did not show a link between vaccines and autism.

In 2014, researchers from the RAND Corporation published an update to the 2011 Institute of Medicine's report. In a systematic review of the evidence published on vaccine safety to date, they found the evidence was strong that MMR vaccine is not associated with autism.

In 2009, the U.S. federal court reviewed 939 medical articles in their hearings. The court found the evidence was "overwhelmingly contrary" to the theory that autism is linked to MMR vaccine, thimerosal, or a combination of the two.

Based on the research, the World Health Organization, the European Medicines Agency, Health Canada, and other national and international health groups have concluded that no link can be found between vaccines and autism.

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The causes of autism are not fully understood, but the evidence does not point toward vaccines.

Parents often first notice the behaviors of autism when their child is 18–24 months old – the age by which most childhood vaccines have been given. Because of this, many parents incorrectly associate vaccination with the onset of autism. Developmental specialists, however, can identify early signs of autism in children when they are much younger, before their parents have noticed anything unusual. This research supports the scientific consensus that, in most cases, the precursors of autism are present before a child is born.

The influence of vaccines on a child cannot explain the measurable differences in brain structure and brain function that exist between autistic and non-autistic children. Starting in the first six months of life, many autistic children experience unusually rapid growth in areas of the brain that are responsible for the skills typically impaired

in autism. Researchers have used "functional" MRI scans to study the connections of nerve cells within the brains of autistic individuals. These scans show – in very young autistic infants and toddlers – abnormal connections in areas of the brain that control language, social, and emotional processes, suggesting that these abnormalities contribute to the development of autism. The results of these and other studies provide promising clues for future research on the causes of autism and emphasize that finding its causes will not be as simple as pointing to vaccines as the cause.

What is known with great certainty is that genetics play a major role in determining whether a child will be autistic. The study of twins bears this out. Identical twins have 100% of their genes in common; fraternal twins have 50% in common (like any other pair of siblings). In more than three out of four cases, when one identical twin has a form of autism, the other one does too. Among fraternal twins, though, this is true for one out of about seven pairs, at most. A child who has one or more older siblings with autism is between 20 and 50 times more likely to be diagnosed with a form of autism, compared with a child who has no autistic older siblings. In addition, in families affected by autism, many parents and non-autistic siblings display mild autistic-like traits. The inherited or spontaneous mutations that seem to be associated with autism are in genes that control the development of the brain – including how brain cells develop and make circuits that operate correctly. This finding agrees with the discovery of abnormalities in the way the brain operates even in very young infants and toddlers with autism.

Eric Courchesne and his colleagues at the University of California, San Diego, recently confirmed that the brains of children with autism have distinct patches of architectural disorganization in their prefrontal and temporal cortical tissue. Because the organization of the cortex begins in the second trimester of pregnancy, the researchers conclude that the events leading to the malformation of the cortex must begin around this time or earlier, certainly well before a child is born or ever receives a vaccine.

REFERENCES

- Autism Science Foundation. www.autismsciencefoundation.org
- Centers for Disease Control and Prevention (CDC), National Center for Birth Defects and Developmental Disabilities. Autism Spectrum Disorders. www.cdc.gov/ncbddd/autism/facts.html
- National Institutes of Health. National Institute of Child Health and Development: Autism Spectrum Disorder (ASD): NICHD Research Information. www.nichd.nih.gov/health/topics/autism/researchinfo/Pages/default.aspx

A baby's immune system can easily handle the vaccines recommended for infants and toddlers.

Some people worry that receiving too many vaccines early in life can overwhelm a baby's immune system and that this might somehow lead to autism. This doesn't fit with what we know about the remark-

CONTINUED ON THE NEXT PAGE ►

able capacity of the immune system. From the moment of a baby's birth, the immune system begins coping with microorganisms in the form of bacteria, viruses, and fungi. Like vaccines, these microorganisms contain foreign antigens – proteins that stimulate the immune system. When you realize that a single bacterium contains a larger variety and number of antigens than are found in all the recommended early childhood vaccines combined, you can see that a baby's immune system, which copes with exposure to countless bacteria each day, can easily withstand exposure to the antigens in vaccines.

REFERENCES

- Offit PA, Quarles J, Gerber MA, et al. Addressing parents' concerns: do multiple vaccines overwhelm or weaken the infant's immune system? *Pediatrics*. 2002;109(1):124–129. <http://pediatrics.aappublications.org/cgi/content/abstract/109/1/124>
- Vaccine Education Center, Children's Hospital of Philadelphia. Too Many Vaccines? What You Should Know. Available at www.chop.edu/export/download/pdfs/articles/vaccine-education-center/too-many-vaccines.pdf

No links exist between autism and thimerosal.

A mercury-containing compound, thimerosal has been used since the 1930s as a vaccine preservative in vials that contain several doses of vaccine (called multi-dose vials). Before giving a vaccine, a health-care professional inserts the needle of the syringe that will be used to administer the vaccine into the stopper of the multi-dose vial and draws out a single dose of vaccine. When the needle pierces the stopper, it is possible that contaminants from outside the vial might be introduced, even when sterile technique is used. Thimerosal keeps bacteria or other microorganisms that might have entered the vaccine vial from multiplying.

Studies to determine if a relationship exists between thimerosal-containing vaccines and autism have taken two different approaches: (1) some examined groups of children who had received childhood vaccines that contained varying amounts of thimerosal. Autism occurred at essentially the same rate no matter how much or little thimerosal the children had received. (2) Other studies took the opposite approach, comparing autistic and non-autistic children to see if the autistic children had received more thimerosal-containing vaccines. No significant differences were found in the number of thimerosal-containing vaccines the two groups had received.

REFERENCES

- American Academy of Pediatrics. Vaccine Safety: Examine the Evidence. www.aap.org/immunization/families/faq/VaccineStudies.pdf
- Pichichero ME, Gentile A, Giglio N, et al., Mercury levels in newborns and infants after receipt of thimerosal-containing vaccines. *Pediatrics*. 2008; 121(2): e208–214. <http://pediatrics.aappublications.org/cgi/content/full/121/2/e208>
- Nelson KB, Bauman ML. Thimerosal and autism? *Pediatrics*. 2003;111(3): 674–679. <http://pediatrics.aappublications.org/cgi/content/full/111/3/674>

Why was thimerosal in childhood vaccines?

The mercury compound in thimerosal – ethylmercury – is chemically different from methylmercury, which is widely recognized as an environmental pollutant. A key difference is that, unlike methylmercury, ethylmercury is excreted from the body quickly. The amount of ethylmercury in a thimerosal-preserved vaccine is minuscule compared with the amount of mercury that is required to cause symptoms of mercury poisoning. Also, the signs and symptoms of mercury poison-

ing are very different from the characteristics of autism. The chemical difference between ethylmercury and methylmercury is similar to the difference between ethyl alcohol, found in wine and beer, and methyl alcohol (wood alcohol), a poison found in antifreeze.

As a precaution, by 2001, all routinely recommended childhood vaccines were changed to single-dose packaging so they wouldn't require thimerosal. At the time, this was thought prudent, but all the evidence that has emerged since then shows that there was never a danger of children being harmed by thimerosal in vaccines. Some influenza vaccine formulations come in multi-dose vials that are preserved with thimerosal. Today, influenza vaccine is the only childhood vaccine licensed for use in the U.S. that contains more than a trace of thimerosal, and we know that it is safe for children.

REFERENCES

- CDC. Notice to Readers: Thimerosal in Vaccines: A joint statement of the American Academy of Pediatrics and the Public Health Service. *MMWR*. 1999; 48(26):563–565. www.cdc.gov/mmwr/preview/mmwrhtml/mm4826a3.htm
- U.S. Food and Drug Administration. www.fda.gov/BiologicsBloodVaccines/SafetyAvailability/VaccineSafety/UCM096228

Studies have found no link between autism and MMR vaccine.

Some studies of MMR vaccine compared groups of children who had received MMR vaccine against those who had not. These studies found that neither group was more likely to develop autism. Other studies looked at comparable groups of autistic and non-autistic children. These studies found that autistic children were no more likely to have received MMR vaccine.

Rumors about the safety of MMR vaccine first arose about a decade ago after a British physician (a gastroenterologist, not a person trained in either vaccinology or in neurological disorders) announced he had found virus from measles vaccines lingering in the intestines of 12 autistic children. He believed this accounted for their autism. Other researchers, however, were never able to replicate these results, which implied the gastroenterologist's conclusions were erroneous. Later, a press investigation revealed that the doctor had falsified patient data and relied on laboratory reports that he had been warned were incorrect. The journal that originally published his study took the unusual step of retracting it from the scientific literature on the grounds that it was the product of dishonest and irresponsible research, and British authorities revoked the doctor's license to practice medicine.

The fear that vaccines might cause autism is a dangerous myth. Much scientific research has been devoted to this topic. The result has been an ever-increasing and uniformly reassuring body of evidence that childhood vaccination is, in fact, entirely unrelated to the development of autism. The readings below may be of interest to parents who wish to learn more.

REFERENCES

- Immunization Action Coalition. MMR Vaccine Does Not Cause Autism. www.immunize.org/catg.d/p4026.pdf
- Offit PA. *Autism's False Prophets: Bad Science, Risky Medicine, and the Search for a Cure*. New York: Columbia University Press; 2008.

Safe Plants (as of April, 2005)

- African Violet
- Aluminum Plant
- Bamboo Palm
- Bachelors Buttons
- Begonia (Pellionia daveauana)
- Boston Fern
- Burro's Tail
- Candycorn Plant
- False Aralia
- Gloxinia
- Hawthorn
- Hen and Chickens
- Honeysuckle
- Fuchsia
- Jacob's Ladder
- Lipstick Plant
- Measles Plant/ Pink Polka-Dot Plant
- Parlor Palm
- Peacock Plant
- Peperomia (most)
- Piggyback Plant
- Pony Tail Plant
- Prayer Plant
- Prostrate Coleus
- Purple Baby Tears
- Silver Bell
- Snapdragon (common/ garden)
- Spider Plant
- Swedish Ivy
- Tahitian Bridalveil
- Venus Fly Trap
- Zebra Plant



Snapdragon



Call the
Northern New England
Poison Center

1-800-222-1222

Voice/TTY/ 

Interpretation Services Available
Relay Service: 7-1-1

Poison Emergencies
Prevention Questions
Medication Safety
24hrs • Free • Confidential
www.nnepc.org

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Poisonous Plants



Lily-of-the-Valley

Poisonous plants may affect the stomach, skin, heart or other organs of humans, cats or dogs.

**Northern New England
Poison Center**

Poisonous plants for humans, cats and/or dogs

Outdoor Plants

- Autumn Crocus
- Azalea
- Bittersweet
- Boxwood
- Buttercup
- Castor Bean/ Dog Tick Seeds
- Daffodil/ Narcissus
- Daphne
- Delphinium/ Larkspur
- Elderberry
- Foxglove
- Hyacinth
- Iris
- Lily-of-the-Valley
- Nightshade
- Poison Hemlock
- Rhododendron
- Rosary Pea
- Snakeberry
- Sweet Pea
- Tobacco
- Water Hemlock
- Wisteria
- Yew



Caladium

Poisonous plants for humans, cats and/or dogs

House Plants in New England

- Aloe
- Amaryllis
- Caladium/ Elephant's Ear
- Calla Lily
- Croton (*Codiaeum variegatum*)
- Cyclamen
- Dieffenbachia/ Dumbcane
- English Ivy
- Jerusalem Cherry
- Mistletoe
- Oleander
- Peace Lily
- Philodendron
- Pothos

Potentially toxic plants for cats and/or dogs

- Avocado
- Chocolate/ Cocoa
- Coffee
- Corn Plant/ Cornstalk Plant
- Easter Lily (and many other lilies)
- Garlic
- Grapes/ Raisins
- Macadamia nuts
- Onions
- Ribbon Plant

Prevention Tips

- Identify your plants. *Take a sample to a local greenhouse, garden center or agricultural extension office.*
- Remove poisonous plants or keep out of reach of children. *Consider delivered flowers also.*
- Teach children to ask before touching or tasting plants, berries or mushrooms.
- Never eat a mushroom you find outside. Remember. . .
- ***“There are old mushroom hunters, and bold mushroom hunters, but there are no old, bold hunters.”***
- Call the Northern New England Poison Center at 1-800-222-1222 for information about plants that are not listed in this brochure.
- Visit www.nnepc.org for more information.

First aid for poisonous plants

Swallowed:

- Carefully remove any pieces from the mouth.
- Call 1-800-222-1222.

Skin contact:

- Wash skin with soap and water.
- Call 1-800-222-1222.

Food Introduction

Age	New Food	How to Prepare
4-6 months	Single-grain cereals (Fortified cereals give your baby iron; babies are born with a natural reserve of iron that begins to deplete around 6 months.)	Mix cereals with baby formula or breast milk.
	Pureed or strained fruits (bananas, pears, apples, apricots, prunes)	Wash all fresh fruits, then bake, boil, or steam until soft. Puree in a blender or food processor, or use a small hand food mill; add a little breast milk, baby formula or water. Start with a watery consistency, then add less liquid as baby gets used to solid foods.
	Pureed or strained vegetables (avocados, carrots, peas, potatoes, squash)	Wash all fresh vegetables, then bake, boil, or steam until soft. Puree in a blender or food processor, or use a small hand food mill; add a little breast milk, baby formula or water. Add less water for a thicker puree as baby gets used to the new foods.
6-8 months	Protein: Blenderize cooked chicken, turkey or other meats, or boneless fish; beans such as lentils, black or red beans, pinto beans	Cook and blenderize meat and fish, cook and mash or cut up beans.
	Dairy: small amounts of yogurt, cottage cheese, any pasteurized cheese	Cut cheeses into small pieces.
	Eggs	Scramble or hard-boil and cut into small pieces.
8-10 months	Mashed fruits and vegetables	No need to puree; just cook foods such as carrots and sweet potatoes until soft, or mash soft foods like bananas and avocados.
	Protein: meat, fish and beans as advised above.	Can change from blenderized to cutting into small pieces.
	Finger foods: small O-shaped cereals, teething crackers, small pieces of cooked pasta	Cut up so the pieces are small enough for baby to swallow without choking.
10-12 months	Baby can try most of the foods you eat, if they are cut up or mashed properly so he can safely chew and swallow. Unless you have a strong family history of allergies, the American Academy of Pediatrics now says there is no need to avoid peanut products, eggs, wheat, or fish until after age 1. Avoid honey until at least 1 year; honey can cause a dangerous illness called infant botulism.	As baby gets more teeth and learns to chew more effectively, he will begin to be able to eat larger pieces of food. Continue to monitor his chewing carefully, and when in doubt, cut pieces smaller than you think necessary. Be especially careful with round, firm foods like grapes and hot dogs, which pose a particular choking hazard to babies. Chop these into very small pieces.

Please also reference www.wholesomebabyfood.com for more feeding tips/suggestions as well as recipes and information regarding food storage.

Some Good Toys & Activities for Young Children

<u>Approximate Age</u>	<u>What Children Are Like</u>	<u>Types of Good Toys and Worthwhile Activities</u>
	<p>Begin to smile at people, coo Follow moving person or object with eyes Prefer faces and bright colors Reach, discover hands, kick feet, lift head Suck with pleasure Cry, but often are soothed when held Turn head toward sounds</p>	<p>Rattle, large rings, squeeze or sucking toys Lullabies, nursery rhymes, poems Bright pictures of faces hung so baby can see them Bells firmly attached to baby's wrist, ankle, booties Cardboard or vinyl books with high-contrast illustrations to stand in baby's view Brightly patterned crib sheets Mobile with parts visible from baby's position</p>
	<p>Prefer parents and older siblings to other people Repeat actions that have interesting results Listen intently, respond when spoke to Laugh, gurgle, imitate sounds Explore hands and feet, put objects in mouth Sit when propped, roll over, scoot, bounce Grasp objects without using thumbs, bat at hanging objects</p>	<p>Soft doll, texture ball, socks with bright designs Toys that make noise when batted, squeezed, or mouthed Measuring spoons, teething toy Cloth, soft vinyl books with bright pictures to grasp, chew, & shake Pictures of faces covered in plastic, hung at child's level; unbreakable mirror Finger plays, simple songs, peek-a-boo</p>
	<p>Remember simple events, form simple concepts Identify themselves, body parts, voices of familiar people Understand own name, other common words Say first meaningful words Explore, bang, or shake objects with hands Find hidden objects, puts objects in and out of containers Sit alone Creep, pull themselves up to stand, walk May seem shy or become upset with strangers</p>	<p>All of the above <i>plus</i> Rag and baby dolls, stuffed animals, puppets Container for large beads, blocks, balls Nesting toy or plastic containers Board books to read, old magazines to tear Recordings of voices, animal sounds, music Wooden blocks, large soft blocks Water toys that float Rubber or large plastic balls Soft plastic or wood vehicle with wheels Games like peek-a-boo</p>

<p>1 to 1 ½ years</p> 	<p>Imitate adult actions Speak and understand more words and ideas Enjoy stories Experiment with objects Walk steadily, climb stairs Assert independence, but strongly prefer familiar people Recognize ownership of objects Develop friendships, but also play alone Are beginning to understand what adults want them to do, but do not yet have the ability to control themselves</p>	<p>All of the above <i>plus</i> Surprise or music box Puzzles, 2 to 6 large pieces with knobs Books/recordings with songs, rhymes, simple stories & pictures Wide watercolor markers, nontoxic fat crayons, large blank paper Geometric, unit, or cardboard blocks People and animals, vehicles: wood or rubber Pounding bench Sand & water play: plastic measuring cups, boats, containers, washable doll Large cardboard box to crawl in Toys that jingle or move when used Kitchen cupboard, of <u>safe</u> pots, pans, lids, and utensils</p>
<p>1 ½ to 2 years</p> 	<p>Solve problems Speak and understand even more Show pride in accomplishments, like to help with tasks Exhibit more body control, run Play more with others Begin pretend play</p>	<p>Self-help toys: sorting box, holes with pegs Large spools or beads to string Books with large colorful illustrations, short stories Soft dough clay, bells, drum Small broom, sponge, camera, pots & pans Shopping cart, wagon, steerable riding toy: toy telephone, washable doll</p>

