

Gastroenteritis

Vomiting

What is vomiting?

Vomiting is the forceful emptying (“throwing up”) of a large portion of the stomach’s contents through the mouth. Strong stomach contractions against a closed stomach outlet result in vomiting. In contrast, regurgitation is the effortless spitting up of one or two mouthfuls of stomach contents (which you may often see babies less than 1 year old do).

What causes vomiting?

Most vomiting is caused by a viral infection of the lining of the stomach or by eating something that disagrees with your child. Often, a child whose vomiting is caused by a virus also has diarrhea.

How long will the vomiting last?

The vomiting usually stops in 6 to 24 hours. Changes in the diet usually speed recovery. If your child has diarrhea, it will usually continue for several days.

Treatment

1. Offer small amounts of clear fluids for 8 hours (no solid food)

Offer clear fluids (not milk) in small amounts until 8 hours have passed without vomiting. For infants, you can also use an oral electrolyte solution (such as Pedialyte or Infalyte). For vomiting without any diarrhea, the best clear fluid for a child over 1 year of age is water or ice chips because water can be directly absorbed across the stomach wall. If your child is 2 years old or older water is best, but half-strength lemon-lime soda or Popsicles are also acceptable. Stir the soda until no fizz remains (the bubbles inflate the stomach and increase the chances of continued vomiting).

Start with 1 teaspoon to 1 tablespoon of the clear fluid, depending on your child’s age, every 5 minutes. After 4 hours without vomiting, double the amount each hour. If your child vomits using this treatment, rest the stomach completely for 1 hour and then start over but with smaller amounts. This one-swallow-at-a-time approach rarely fails.

2. Offer bland foods after 8 hours without vomiting

After 8 hours without vomiting, your child can gradually return to a normal diet. Older children can start with such foods as saltine crackers, white bread, bland soups like “chicken with stars,” rice, and mashed potatoes. Infants can start with such foods as cereals and strained bananas. If your baby only takes formula, give 1 or 2 ounces less per feeding than usual. Usually your child can be back on a normal diet within 24 hours after recovery from vomiting.

3. Diet for breast-fed babies

The key to treatment is providing breast milk in smaller amounts than usual. If your baby vomits once, make no changes. If your baby vomits twice, continue breast-feeding but nurse on only one side for 10 minutes every 1 to 2 hours.

If your baby vomits three or more times, nurse for 4 to 5 minutes every 30 to 60 minutes. As soon as 8 hours have passed without vomiting, return to normal nursing on both sides. Pedialyte and Infalyte are rarely needed for breast-fed babies. If your baby is urinating less frequently than normal, you can offer the baby an electrolyte solution between breast-feedings for a short time (6 to 24 hours).

4. Medicines

Do not give your child any medicines by mouth for 8 hours. Oral medicines can irritate the stomach and make vomiting worse. If your child has a fever over 102⁰F (39⁰C), use acetaminophen suppositories. Call your physician if your child needs to continue taking a prescription medicine.

5. Common mistakes in the treatment of vomiting

A common error is to give as much clear fluid as your child wants rather than gradually increasing the amount. This almost always leads to continued vomiting.

Diarrhea

What is diarrhea?

Diarrhea is the sudden increase in the frequency and looseness of bowel movements (BMs). Mild diarrhea is the passage of a few loose or mushy BMs. Severe diarrhea is the passage of many watery BMs. The best indicator of the severity of the diarrhea is its frequency. Green bowel movements are also a sign of severe diarrhea.

The main complication of diarrhea is dehydration from the loss of too much body fluid. Symptoms of dehydration are a dry mouth, the absence of tears, infrequent urination (for example, none in 8 hours), and a darker, concentrated urine. The main goal of diarrhea treatment is to prevent dehydration.

What causes diarrhea?

Diarrhea is usually caused by a viral infection of the lining of the intestines (gastroenteritis). Sometimes it is caused by bacteria or parasites. Occasionally a food allergy or drinking too much fruit juice may cause diarrhea. If your child has just one or two loose bowel movements, the cause is probably something unusual your child ate. One loose bowel movement can mean nothing. Don't start dietary changes until your child has had several loose bowel movements. A diet of nothing but clear fluids for more than 2 days may cause green, watery bowel movements (called "starvation stools").

A child with viral diarrhea has a fever and often starts the illness with some vomiting. Shortly after these symptoms appear, the child develops diarrhea. Often children with viral diarrhea feel bad," but do not act ill.

You should call your doctor if your child is less than 6 months of age or has any of the following:

- blood in stool
- frequent vomiting
- abdominal pain
- urinates less frequently (wets fewer than 6 diapers per day)
- no tears when crying
- loss of appetite for liquids
- high fever
- frequent diarrhea
- dry, sticky mouth
- weight loss
- extreme thirst

It is not necessary to call your doctor if your child *continues* to look *well* even though there may be:

- frequent or large stools
- lots of intestinal gas
- green or yellow stools

How long will the diarrhea last?

Most of the time mild diarrhea lasts from 3 to 6 days. Occasionally a child will have loose stools for several days longer. As long as the child acts well and is taking adequate fluids and food, loose stools are not a great concern.

Treatment

Mild illness and diet

Most children should continue to eat a normal diet including formula or milk while they have mild diarrhea. However they should eat more foods containing starch. Starchy foods are easily digested during diarrhea. Examples are cereal, breads, crackers, rice, mashed potatoes, and noodles. Avoid beans or any other foods that cause loose bowel movements. Breastfeeding should continue. If your baby seems bloated or gassy after drinking cow's milk or formula, call your doctor to discuss a temporary change in diet. Special fluids are not usually necessary for children with mild illness.

Moderate illness

Children with moderate diarrhea can be cared for easily at home with close supervision, special fluids, and your doctor's advice. Your doctor will recommend the amount and length of time that special fluids should be used. Later, a normal diet can be resumed. Some children are not able to tolerate cow's milk when they have diarrhea and it may be temporarily removed from the diet by your doctor. Breastfeeding should continue.

Continue a regular diet with a few simple changes. Give full-strength formula--as much as your baby wants. If your baby eats solid foods, offer more rice cereal, mashed potatoes, applesauce, strained bananas, and strained carrots. Avoid all fruit juices because they make diarrhea worse.

Special fluids for moderate illness

Special fluids have been designed to replace water and salts lost during diarrhea. These are extremely helpful for the home management of mild to moderately severe illness. Do not try to prepare these special fluids yourself. It is too easy to get confused by some of these complex recipes. You could accidentally make a bad fluid for your baby. Use a fluid that is made by one of the reputable manufacturers. The two most widely available products that you will find in nearly every pharmacy are:

- Pedialyte (Ross Laboratories)
- Infalyte (Mead Johnson Nutritionals)
- Other brands of special fluids are available and equally effective.
- Many drug stores have their own generic brands of special fluids. Ask the pharmacist for assistance.

If a child is not vomiting, these fluids can be used in very generous amounts until the child starts making normal amounts of urine again.

Severe illness

If your child develops severe illness he or she may require IV fluids in the emergency department for several hours to correct dehydration. Usually hospitalization is not necessary. Immediately seek your doctor's advice for the appropriate care if symptoms of severe illness occur.

Home Care: Diet

Increased fluids and dietary changes are the main treatment for diarrhea. Several diets are described below. The right diet for your child depends on the severity of the diarrhea and your child's age. Go directly to the section that pertains to your child. (If you are breast-feeding your child, please refer to the section for breast-feeding babies.)

1. FORMULA-FED INFANTS (less than 1 year old) with frequent, watery diarrhea

- Oral glucose-electrolyte solutions for 4 to 6 hours

If your child has severe diarrhea and dark urine or not much urine, buy Infalyte or Pedialyte at your pharmacy or supermarket. (These special solutions are not needed for diarrhea that is not severe.) If your child doesn't like the flavor, add a bit of Crystal Light powder or 2 drops of Nutrasweet (don't add sugar). Give as much of the special liquid as your baby wants (at least 10 ml for every pound your child weighs each hour). Diarrhea makes children thirsty, and your job is to satisfy that thirst and prevent dehydration. Never restrict fluids when your child has diarrhea.

Until you get one of these special solutions, continue giving your baby full-strength formula in unlimited amounts. Avoid giving your baby Jell-O water mixtures or sports drinks (they do not contain enough sodium). Fruit juice will make the diarrhea worse.

- Returning to formula

After being given clear fluids for 4 to 6 hours, your baby will be hungry, so begin her full-strength formula. Offer it more frequently than you normally do. If the diarrhea continues to be severe, begin with a soy formula. If you give cow's milk formula and the diarrhea doesn't improve after 3 days, change to a lactose-free formula (a soy formula or milk-based Lactofree). Often there is less diarrhea with soy formulas than with cow's milk formulas because the soy formulas don't contain milk sugar (lactose). If you start giving soy formula, plan to keep your baby on the soy formula until the diarrhea is gone for 3 days.

- Adding solids

Foods that contain a lot of starch are more easily digested than other foods during diarrhea. If your baby is over 4 months old and has had diarrhea for over 24 hours, give her the following starchy foods until the diarrhea is gone: any cereal, applesauce, strained bananas, strained carrots, mashed potatoes, and other high-fiber foods.

2. OLDER CHILDREN (over 1 year old) with frequent, watery diarrhea

- Fluids

A child who is taking table foods doesn't need to get calories from formula or milk. Give your child Pedialyte for the first 24 hours of watery diarrhea. On day 2, offer some milk as well as Pedialyte. Avoid fruit juices, because they all make diarrhea worse.

Caution: If your child refuses solids, give your child milk or formula rather than water.

- Table foods

Keep giving your child table foods while he has diarrhea. The choice of food is important. Starchy foods are digested best. Examples of such foods are cereal (especially rice cereal), grains, bread, crackers, rice, noodles, mashed potatoes, carrots, applesauce and bananas. Pretzels or salty crackers can help meet your child's need for sodium. On the second day of the diarrhea, if your child wants some protein, eggs are usually easily digested.

3. BREAST-FED INFANTS with frequent, watery diarrhea

- Definition/special considerations

No matter how they look, the bowel movements of a breast-fed infant must be considered normal unless they contain mucus or blood or develop a bad odor. In fact, breast-fed babies may normally pass some green BMs or BMs with a water ring.

The frequency of bowel movements is also not much help in deciding whether your breast-fed baby has diarrhea. During the first 2 or 3 months of life, the breast-fed baby may normally have one BM after each feeding. However, if your baby's BMs abruptly increase in number, your baby probably has diarrhea. Other clues are poor eating, acting sick, and a fever.

Remember that something in the mother's diet may cause a breast-fed baby to have more frequent or looser bowel movements--for example, coffee, cola, or herbal teas.

- Diet

If your breast-fed baby has diarrhea, treatment is straightforward. Continue breast-feeding but at more frequent intervals. Add solids as described above for formula-fed infants. Don't stop breast-feeding your baby because your baby has diarrhea. For severe (watery and frequent) diarrhea, offer Infalyte or Pedialyte between breast-feedings for 6 to 24 hours only if your baby is urinating less frequently than normal.

You may have to stop breast-feeding temporarily if your baby is too exhausted to nurse and needs intravenous (IV) fluids for severe diarrhea and dehydration. Pump your breasts to maintain milk flow until you can breast-feed again (usually within 12 hours).

Home Care: Other Aspects

1. Common mistakes

Using boiled skim milk or any concentrated solution can cause serious complications for babies with diarrhea because it contains too much salt. KOOL-Aid, soda pop, or water should not be used as the only food because they contain little or no salt. Use only the fluids suggested here.

Clear fluids alone should be used for only 4 to 6 hours because the body needs more calories than clear fluids can provide. Likewise, a diluted formula is not needed because regular formula contains enough water.

The most dangerous myth is that the intestine should be "put to rest." Restricting fluids can cause dehydration.

There is no effective, safe drug for diarrhea. These medicines are not useful in most cases of diarrhea and can sometimes be harmful. Extra fluids and diet therapy work best.

2. Prevention

Diarrhea is very contagious. Always wash your hands after changing diapers or using the toilet. This is crucial for keeping everyone in the family from getting diarrhea.

3. Diaper rash from diarrhea

The skin near your baby's anus can become irritated by the diarrhea. Wash the area near the anus after each bowel movement and then protect it with a thick layer of petroleum jelly or other ointment. This protection is especially needed during the night and during naps. Changing the diaper quickly after bowel movements also helps.

4. Overflow diarrhea in a child not toilet-trained

For children in diapers, diarrhea can be a mess. Place a cotton washcloth inside the diaper to trap some of the more watery BM. Use disposable superabsorbent diapers to cut down on cleanup time. Use the diapers with snug leg bands or cover the diapers with a pair of plastic pants. Wash your child under running water in the bathtub.

Dehydration

What is dehydration?

Dehydration is a condition in which the body doesn't have enough water to function properly. If water is not adequately replaced in the body, complications can include decreased activity, weakness, electrolyte imbalances, and, in cases of extreme dehydration, death.

With mild dehydration, children may:

- have sticky or dry mouths
- urinate less
- be thirstier than usual.

With more severe dehydration, children often:

- have decreased alertness
- have sunken eyes
- urinate much less, if at all
- lose weight.

When should I call the doctor?

Call Your Physician Immediately If:

- There are signs of dehydration, which occur when a child loses too much fluid and becomes dried out. Symptoms of dehydration include a decrease in urination (no urine in more than 8 hours), no tears when baby cries, high fever, dry mouth, weight loss, extreme thirst, listlessness, and sunken eyes.
- Any blood appears in the diarrhea.
- Your child's vomiting is worsening or lasting longer than 24 hours.
- Your child is dizzy or unsteady while standing or walking.
- Your child appears less alert than usual.
- Your child refuses to drink fluids despite your encouragement.
- Your child vomits up blood.
- The diarrhea is severe (more than 8 BMs in the last 8 hours).
- The diarrhea is watery AND your child also vomits the clear fluids three or more times.
- Your child develops a high fever (more than 102⁰F or 39⁰C).
- Your child's activity level is greatly decreased.
- Your child is difficult to arouse.
- Your child appears limp and weak.
- Your child doesn't seem to recognize you.

Call Your Physician During Office Hours If:

- Mucus or pus appears in the BMs.
- A fever (over 100⁰F, or 37.8⁰C) lasts more than 3 days.
- The vomiting continues for more than 24 hours if your child is under age 2 years or 48 hours if over age 2.
- Mild diarrhea lasts more than 2 weeks.
- You have other concerns or questions.