

Partners in Pediatrics, PC
7110 Forest Ave
Suite 105
Richmond, VA 23226
804-377-7100

Diarrhea

Most kids battle diarrhea from time to time, but the good news is that it's often caused by infections that don't last long and usually are more disruptive than dangerous. Still, it's important to know what to do to relieve and even prevent diarrhea.

Causes of Diarrhea

Diarrhea — frequent runny or watery bowel movements (poop) — is usually brought on by gastrointestinal (GI) infections caused by viruses, bacteria, or parasites.

The specific germs that cause diarrhea can vary among geographic regions depending on their level of sanitation, economic development, and hygiene. For example, developing countries with poor sanitation or where human waste is used as fertilizer often have outbreaks of diarrhea when intestinal bacteria or parasites contaminate crops or drinking water.

In developed countries, including the United States, diarrhea outbreaks are more often linked to contaminated water supplies, person-to-person contact in places such as child-care centers, or "food poisoning" (when people get sick from improperly processed or preserved foods contaminated with bacteria).

In general, infections that cause diarrhea are highly contagious. Most cases can be spread to others for as long as someone has diarrhea, and some infections can be contagious even longer.

Diarrheal infections can be spread through:

- dirty hands
- contaminated food or water
- some pets
- direct contact with fecal matter (i.e., from dirty diapers or the toilet)

Anything that the infectious germs come in contact with can become contaminated. This includes toys, changing tables, surfaces in restrooms, even the hands of someone preparing food. Kids can become infected by touching a contaminated surface, such as a toilet or toy, and then putting their fingers in their mouths.

Viruses

A common cause of diarrhea is **viral gastroenteritis** (often called the "stomach flu," it also can cause nausea and vomiting). Many different viruses can cause viral gastroenteritis, which can pass through a household, school, or day-care center quickly because it's highly infectious. Although the symptoms usually last just a few days, affected kids (especially infants) who are unable to get adequate fluid intake can become dehydrated.

Rotavirus infection is a frequent cause of viral gastroenteritis in kids. Rotavirus usually causes explosive, watery diarrhea, although not all will show symptoms. Rotavirus has commonly caused outbreaks of diarrhea during the winter and early spring months, especially in child-care centers and children's hospitals, however, a vaccine now recommended for infants has been found to prevent approximately 75% of cases of rotavirus infection and 98% of the severe cases that require hospitalization.

Another group of viruses that can cause diarrhea in children, especially during the summer months, are enteroviruses, particularly coxsackievirus.

Bacteria and Parasites

Many different types of bacteria and parasites can cause GI and diarrhea. Here are a few that you may have heard about:

- ***E. coli* bacteria:** Most *E. coli* infections are spread through contaminated food or water, such as undercooked hamburgers or unwashed fruit that came into contact with animal manure. *E. coli* infections, which usually affect kids during their first few years of life, also can be spread via contaminated swimming water and petting zoos.
- ***Salmonella enteritidis* bacteria:** In the United States, these bacteria (found in contaminated raw or undercooked chicken and eggs) are a major cause of food poisoning, especially during summer.
- ***Campylobacter* bacteria:** Infants and young adults are most commonly affected by these infections, especially during the summer. The bacteria are often found in raw and undercooked chicken.
- ***Shigella* bacteria:** *Shigella* infection (called shigellosis) spreads easily in families, hospitals, and child-care centers. Kids 2 to 4 years old are the most likely to be infected.
- ***Giardia* parasite:** Infection with *Giardia* (called giardiasis) is easily spread through child-care settings and contaminated water supplies, especially water parks and pools (the bacteria are resistant to chlorine treatment), children's "touch tanks" in aquariums and museums, and contaminated streams or lakes.
- ***Cryptosporidium* parasite:** Found especially in drinking and recreational water, this parasite often is the culprit behind diarrhea epidemics in child-care centers and other public places. Cryptosporidiosis often causes watery diarrhea that can last for 2 weeks or more.

Diarrheal infections are a normal part of childhood for many kids, but diarrhea can be a symptom of a number of non-infectious diseases and conditions, especially when it lasts several weeks or longer. It can indicate food allergies, lactose intolerance, or diseases of the gastrointestinal tract, such as celiac disease and inflammatory bowel disease.

Signs and Symptoms

Symptoms typically start with crampy abdominal pain followed by diarrhea that usually lasts no more than a few days. Infections with many of the viruses, bacteria, and parasites that cause diarrhea also can bring on other symptoms, such as:

- fever
- loss of appetite
- nausea
- vomiting
- weight loss
- dehydration

In cases of viral gastroenteritis, kids often develop fever and vomiting first, followed by diarrhea.

Prevention

Although it's almost impossible to prevent kids from ever getting infections that cause diarrhea, here are some things to help lessen the likelihood:

- Make sure kids wash their hands well and often, especially after using the toilet and before eating. Hand washing is the most effective way to prevent diarrheal infections that are passed from person to person. Dirty hands carry infectious germs into the body when kids bite their nails, suck their thumbs, eat with their fingers, or put any part of their hands into their mouths.
- Keep bathroom surfaces clean to help prevent the spread of infectious germs.
- Wash fruits and vegetables thoroughly before eating, since food and water also can carry infectious germs.
- Wash kitchen counters and cooking utensils thoroughly after they've been in contact with raw meat, especially poultry.
- Refrigerate meats as soon as possible after bringing them home from the supermarket, and cook them until they're no longer pink. After meals, refrigerate all leftovers as soon as possible.
- Never drink from streams, springs, or lakes unless local health authorities have certified that the water is safe for drinking. In some developing countries, it may be safer to drink only bottled water and other drinks rather than water from a tap. Also, exercise caution when buying prepared foods from street vendors, especially if no local health agency oversees their operations.
- Don't wash pet cages or bowls in the same sink that you use to prepare family meals.
- Keep pets' feeding areas (especially those of reptiles) separate from family eating areas.

When to Call the Doctor

Call your doctor if your child has diarrhea and is younger than 6 months old or has:

- a severe or prolonged episode of diarrhea
- fever of 102°F or higher
- repeated vomiting, or refusal to drink fluids
- severe abdominal pain
- diarrhea that contains blood or mucus

Call the doctor immediately if your child seems to be dehydrated. Signs of dehydration include:

- dry or sticky mouth
- few or no tears when crying
- eyes that look sunken into the head
- soft spot (fontanelle) on top of the head that looks sunken
- lack of urine or wet diapers for 6 to 8 hours in an infant (or only a very small amount of dark yellow urine)
- lack of urine for 12 hours in an older child (or only a very small amount of dark yellow urine)
- dry, cool skin
- lethargy or irritability
- fatigue or dizziness in an older child

Caring for Your Child

Mild diarrhea is usually no cause for concern as long as your child is acting normally and drinking and eating enough. Mild diarrhea usually passes within a few days and kids recover completely with care at home, rest, and plenty of fluids.

A child with mild diarrhea who isn't dehydrated or vomiting can continue eating and drinking the usual foods and fluids, including breast milk or formula for infants and milk for kids over 1 year old. In fact, continuing a regular diet may even reduce the duration of the diarrhea episode, while also offering proper nutrition. Of course, you may want to give a child smaller portions of food until the diarrhea ends.

Antibiotics or antiviral medications are not prescribed for cases of diarrhea caused by bacteria and viruses because most kids recover on their own. But antibiotics are sometimes given to very young children or those with weak immune systems to prevent a bacterial infection (such as salmonellosis) from spreading through the body.

If the illness is caused by a parasite, it can be treated with antiparasitic medicines to cure or shorten the course of the illness. The doctor may order a stool test, in which a stool sample will be examined in the laboratory to see which specific germ is causing the diarrhea (bacteria, virus, or parasite).

Although you may be tempted to give your child an over-the-counter anti-diarrhea medication, don't do so unless your doctor gives the OK.

The primary concern when treating a diarrhea is the replacement of fluids and electrolytes (salts and minerals) lost from the body from diarrhea, vomiting, and fever. Depending on the amount of fluid loss and the severity of vomiting and diarrhea, your doctor will probably instruct you to:

- Continue your child's regular diet and give more liquids to replace those lost while the diarrhea continues if there are no signs of dehydration.
- Offer additional breastmilk or formula to infants.
- Use an oral rehydration solution (ORS) to replace lost fluids in non-dehydrated children.

Many of the "clear liquids" used by parents or recommended by doctors in the past are no longer considered appropriate for kids with diarrhea. Don't offer: plain water, soda, ginger ale, tea, fruit juice, gelatin desserts, chicken broth, or sports drinks. These don't have the right mix of sugar and salts and can even make diarrhea worse. Infants and small children should **never** be rehydrated with water alone because it doesn't contain adequate amounts of sodium, potassium, and other important minerals and nutrients.

Doctors often recommend that kids who show signs of mild dehydration be given oral rehydration solutions to replace body fluids quickly. These are available in most grocery stores and pharmacies without a prescription. Brand-name solutions often end in "lyte." Your doctor will tell you what kind to give, how much, and for how long. Never try to make your own ORS at home unless your doctor says it's OK and gives you a precise recipe.

In some cases, kids with severe diarrhea may need to receive IV fluids at the hospital for a few hours to help combat dehydration.

The best way to manage your child's diarrhea depends on how severe it is, what germ caused it, and your child's age, weight, and symptoms. So be sure to ask your doctor for recommendations about treatment.

Reviewed by: Elana Pearl Ben-Joseph, MD
Date reviewed: May 2013



© 1995-2013 The Nemours Foundation/KidsHealth. All rights reserved.

Note: All information is for educational purposes only. For specific medical advice, diagnoses, and treatment, consult your doctor.