

Viral Gastroenteritis

National Digestive Diseases Information Clearinghouse



National
Institute of
Diabetes and
Digestive
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Diseases

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Viral gastroenteritis is an intestinal infection caused by several different viruses. Highly contagious, viral gastroenteritis is the second most common illness in the United States. It causes millions of cases of diarrhea each year.

Anyone can get viral gastroenteritis and most people recover without any complications. However, viral gastroenteritis can be serious when people cannot drink enough fluids to replace what is lost through vomiting and diarrhea—especially infants, young children, the elderly, and people with weak immune systems.

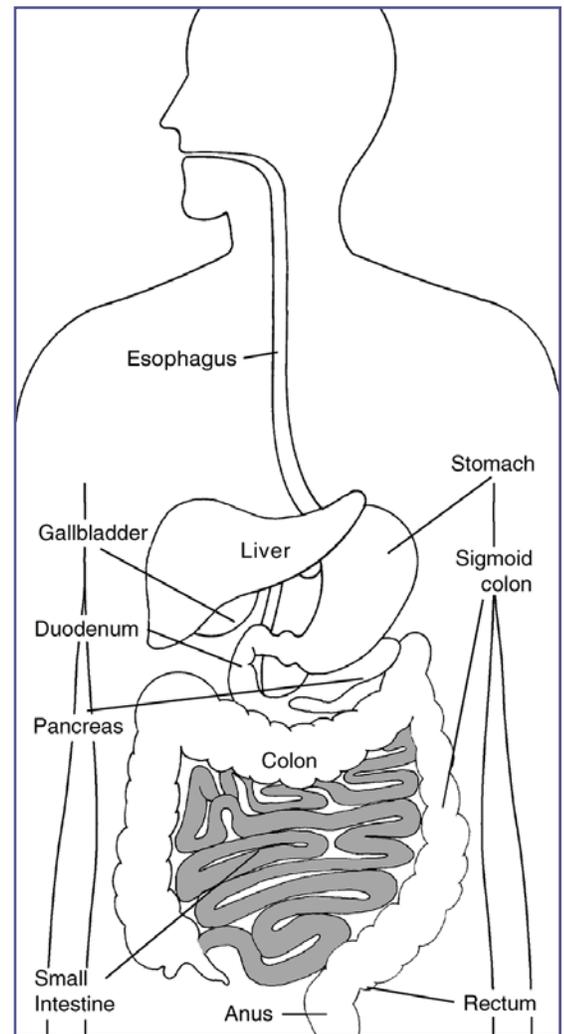
Symptoms

The main symptoms of viral gastroenteritis are watery diarrhea and vomiting. Other symptoms are headache, fever, chills, and abdominal pain. Symptoms usually appear within 4 to 48 hours after exposure to the virus and last for 1 to 2 days, though symptoms can last as long as 10 days.

Causes

The viruses that cause viral gastroenteritis damage the cells in the lining of the small intestine. As a result, fluids leak from the cells into the intestine and produce watery diarrhea. Four types of viruses cause most viral gastroenteritis.

- **Rotavirus** is the leading cause among children 3 to 15 months old and the most common cause of diarrhea in children under the age of 5 years. Symptoms of rotavirus infection appear 1 to 2 days after exposure. Rotavirus typically causes vomiting and watery diarrhea for 3 to 8 days,



The digestive system.

along with fever and abdominal pain. Rotavirus can also infect adults who are in close contact with infected children, but the symptoms in adults are milder. In the United States, rotavirus infections are most common from November to April.



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- **Adenovirus** occurs mainly in children under the age of 2 years. Of the 49 types of adenoviruses, one strain affects the gastrointestinal tract causing vomiting and diarrhea. Symptoms typically appear 1 week after exposure. Adenovirus infections occur year round.
- **Caliciviruses** cause infection in people of all ages. This family of viruses is divided into 4 types, the noroviruses being the most common and most responsible for infecting people. The noroviruses are usually responsible for epidemics of viral gastroenteritis and occur more frequently from October to April. Infected people experience vomiting and diarrhea, fatigue, headache, and sometimes muscle aches. The symptoms appear within 1 to 3 days of exposure.
- **Astrovirus** also infects primarily infants, young children, and the elderly. This virus is most active during the winter months. Vomiting and diarrhea appear within 1 to 3 days of exposure.

Transmission

Viral gastroenteritis is highly contagious. The viruses are commonly transmitted by people with unwashed hands. People can get the viruses through close contact with infected individuals by sharing their food, drink, or eating utensils, or by eating food or drinking beverages that are

Viral gastroenteritis is often mistakenly called “stomach flu,” but it is not caused by the influenza virus and it does not infect the stomach. Also, viral gastroenteritis is not caused by bacteria or parasites. For information about bacterial infections, please see the *Bacteria and Foodborne Illness* fact sheet from the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK).

contaminated with the virus. Noroviruses in particular, are typically spread to other people by contact with stool or vomit of infected people and through contaminated water or food—especially oysters from contaminated waters.

People who no longer have symptoms may still be contagious, since the virus can be found in their stool for up to 2 weeks after they recover from their illness. Also, people can become infected without having symptoms and they can still spread the infection.

Outbreaks of viral gastroenteritis can occur in households, child care settings, schools, nursing homes, cruise ships, camps, dormitories, restaurants, and other places where people gather in groups. If you suspect that you were exposed to a virus in one of these settings or by foods prepared on the premise of places such as a restaurant, deli, or bakery, you may want to contact your local health department, which tracks outbreaks.

Diagnosis

If you think you have viral gastroenteritis, you may want to see your doctor. Doctors generally diagnose viral gastroenteritis based on the symptoms and a physical examination. Your doctor may ask for a stool sample to test for rotavirus or to rule out bacteria or parasites as the cause of your symptoms. No routine tests are currently available for the other types of viruses.

Treatment

Most cases of viral gastroenteritis resolve over time without specific treatment. Antibiotics are not effective against viral infections. The primary goal of treatment is to reduce the symptoms, and prompt treatment may be needed to prevent dehydration.

Your body needs fluids to function. Dehydration is the loss of fluids from the body. Important salts or minerals, known as electrolytes, can also be lost with the fluids.

Dehydration can be caused by diarrhea, vomiting, excessive urination, excessive sweating, or by not drinking enough fluids because of nausea, difficulty swallowing, or loss of appetite.

In viral gastroenteritis, the combination of diarrhea and vomiting can cause dehydration. The symptoms of dehydration are

- excessive thirst
- dry mouth
- little or no urine or dark yellow urine
- decreased tears
- severe weakness or lethargy
- dizziness or lightheadedness

If you notice any of these symptoms, you should talk to your doctor. Mild dehydration can be treated by drinking liquids. Severe dehydration may require intravenous fluids and hospitalization. Untreated severe dehydration can be life threatening.

Children present special concerns. Because of their smaller body size, infants and children are at greater risk of dehydration from diarrhea and vomiting. Oral rehydration solutions such as Pedialyte can replace lost fluids, minerals, and salts.

The following steps may help relieve the symptoms of viral gastroenteritis.

- Allow your gastrointestinal tract to settle by not eating for a few hours.
- Sip small amounts of clear liquids or suck on ice chips if vomiting is still a problem.
- Give infants and children oral rehydration solutions to replace fluids and lost electrolytes.
- Gradually reintroduce food, starting with bland, easy-to-digest food, like toast, broth, apples, bananas, and rice.
- Avoid dairy products, caffeine, and alcohol until recovery is complete.
- Get plenty of rest.

Points to Remember

- Viral gastroenteritis is a highly contagious infection of the intestines caused by one of several viruses.
- Although sometimes called “stomach flu,” viral gastroenteritis is not caused by the influenza virus and does not affect the stomach.
- The main symptoms are watery diarrhea and vomiting.
- Anyone can get viral gastroenteritis through unwashed hands, close contact with an infected person, or food and beverages that contain the virus.
- Diagnosis is based on the symptoms and a physical examination. Currently only rotavirus can be rapidly detected in a stool test.
- Viral gastroenteritis has no specific treatment; antibiotics are not effective against viruses. Treatment focuses on reducing the symptoms and preventing dehydration.
- The symptoms of dehydration are excessive thirst, dry mouth, dark yellow urine or little or no urine, decreased tears, severe weakness or lethargy, and dizziness or lightheadedness.
- Infants, young children, the elderly, and people with weak immune systems have a higher risk of developing dehydration due to vomiting and diarrhea.
- People with viral gastroenteritis should rest, drink clear liquids, and eat easy-to-digest foods.
- For infants and young children, oral rehydration solutions can replace lost fluids, minerals, and salts.
- Avoid viral gastroenteritis by washing hands thoroughly after using the bathroom or changing diapers, disinfecting contaminated surfaces, and avoiding foods or liquids that might be contaminated.

Prevention

Prevention is the only way to avoid viral gastroenteritis. No vaccine is available.

You can avoid infection by

- washing your hands thoroughly for 20 seconds after using the bathroom or changing diapers
- washing your hands thoroughly for 20 seconds before eating
- disinfecting contaminated surfaces such as counters and baby changing stations
- not eating or drinking foods or liquids that might be contaminated

Hope Through Research

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), through its Division of Digestive Diseases, supports basic and clinical research into gastrointestinal diseases, including epithelial cell injury in the gastrointestinal tract. New vaccines under development may decrease the risk of infection, especially among infants and young children.

For More Information

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Publications produced by the Clearinghouse are carefully reviewed by both NIDDK scientists and outside experts. This fact sheet was reviewed by Mary K. Estes, Ph.D., and Robert Atmar, M.D., Baylor College of Medicine.

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U.S. DEPARTMENT OF HEALTH
AND HUMAN SERVICES
National Institutes of Health

NIH Publication No. 06-5103
December 2005