

Viral Gastroenteritis

National Digestive Diseases Information Clearinghouse



U.S. Department
of Health and
Human Services

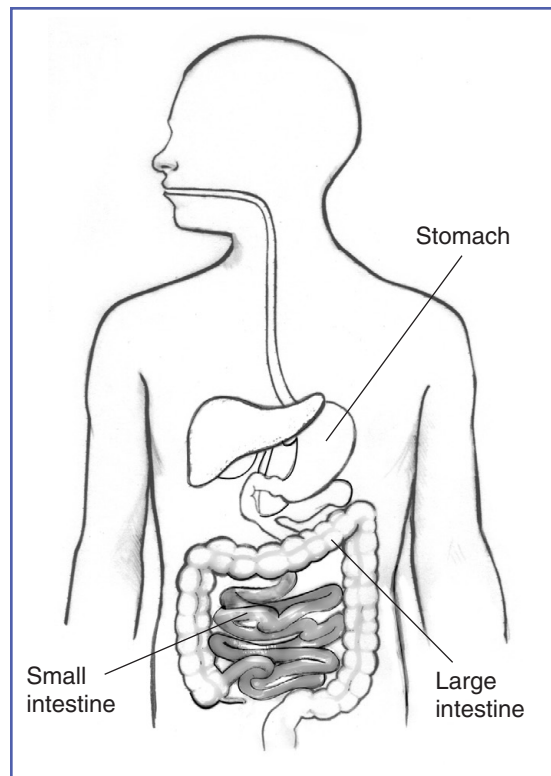
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What is viral gastroenteritis?

Viral gastroenteritis is inflammation of the lining of the stomach, small intestine, and large intestine. Several different viruses can cause viral gastroenteritis, which is highly contagious and extremely common. Viral gastroenteritis causes millions of cases of diarrhea each year.

Anyone can get viral gastroenteritis and most people recover without any complications, unless they become dehydrated.



Viral gastroenteritis is inflammation of the lining of the stomach, small intestine, and large intestine.

What are the symptoms of viral gastroenteritis?

The main symptoms of viral gastroenteritis are

- watery diarrhea
- vomiting

Other symptoms include

- headache
- fever
- chills
- abdominal pain

Symptoms usually appear within 12 to 48 hours after exposure to a gastroenteritis-causing virus and last for 1 to 3 days. Some viruses cause symptoms that last longer.

What are the complications of viral gastroenteritis?

Dehydration is the most common complication of viral gastroenteritis. When someone does not drink enough fluids to replace those that are lost through vomiting and diarrhea, dehydration can result. When dehydrated, the body does not have enough fluids to keep the proper balance of important salts or minerals, known as electrolytes. Infants, young children, older adults, and people with weak immune systems have the greatest risk of becoming dehydrated.

The signs of dehydration in adults are

- excessive thirst
- infrequent urination
- dark-colored urine
- dry skin
- lethargy, dizziness, or faintness

Signs of dehydration in babies and young children are

- dry mouth and tongue
- lack of tears when crying
- no wet diapers for 3 hours or more
- high fever
- unusually cranky or drowsy behavior
- sunken eyes, cheeks, or soft spot in the skull

Also, when people are dehydrated, their skin does not flatten back to normal right away after being gently pinched and released.

People should talk with a health care provider if they have

- blood in their stool, which may indicate a bacterial infection
- symptoms that are severe or last more than a few days
- symptoms of dehydration

Severe dehydration may require intravenous fluids and hospitalization. Untreated severe dehydration can cause serious health problems such as organ damage, shock, or coma—a sleeplike state in which a person is not conscious.

What causes viral gastroenteritis?

Four types of viruses cause most cases of viral gastroenteritis.

Rotavirus

Rotavirus is the leading cause of gastroenteritis among infants and young children. Rotavirus infections are most common in infants 3 to 15 months old. Symptoms usually appear 1 to 3 days after exposure. Rotavirus typically causes vomiting and watery diarrhea for 3 to 7 days, 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.

Caliciviruses

Caliciviruses cause infection in people of all ages. Norovirus is the most common calicivirus and the most common cause of viral gastroenteritis in adults. Norovirus is usually responsible for epidemics of viral gastroenteritis. Norovirus outbreaks occur all year but are more frequent from October to April. People infected with norovirus typically experience nausea, vomiting, diarrhea, abdominal cramps, fatigue, headache, and muscle aches. The symptoms usually appear 1 to 2 days after exposure to the virus and last for 1 to 3 days.

Adenovirus

Adenovirus mainly infects children younger than 2 years old. Of the 49 types of adenoviruses, one strain affects the gastrointestinal tract, causing vomiting and diarrhea. Symptoms typically appear 8 to 10 days after exposure and last 5 to 12 days. Adenovirus infections occur year-round.

Astrovirus

Astrovirus primarily infects infants and young children, but adults may also be infected. This virus causes vomiting and watery diarrhea. Symptoms usually appear 3 to 4 days after exposure and last 2 to 7 days. The symptoms are milder than the symptoms of norovirus or rotavirus infections. Infections occur year-round, but the virus is most active during the winter months.

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

How is viral gastroenteritis transmitted?

Viral gastroenteritis is transmitted from person to person. Viruses are present in the stool and vomit of people who are infected. Infected people may contaminate surfaces, objects, food, and drinks with viruses, especially if they do not wash their hands thoroughly after using the bathroom. When an infected person with unwashed hands shakes hands with or touches another person, the virus can spread. When an infected person vomits, the virus can become airborne.

People may be infected with viruses by

- touching contaminated surfaces or objects and then touching their mouths
- sharing food, drink, or eating utensils with infected people
- eating foods that are contaminated with the virus, such as oysters from contaminated waters
- swallowing airborne particles that contain viruses

Norovirus is especially contagious. Norovirus can survive for months on surfaces that are not thoroughly disinfected with a bleach solution. Hard surfaces should be cleaned with a mixture of 2 cups of bleach and 1 gallon of water.

Infected people who do not have symptoms can still transmit viruses. Viruses may be present in the stool up to 2 weeks after a person recovers from gastroenteritis.

Outbreaks of viral gastroenteritis can occur in households, childcare settings, schools, nursing homes, cruise ships, camps, dormitories, restaurants, and other places where people gather in groups. People who suspect they were exposed to a virus in one of these settings may want to contact a local health department that tracks viral gastroenteritis outbreaks.

How is viral gastroenteritis diagnosed?

Viral gastroenteritis is usually diagnosed based on symptoms alone. People who have symptoms that are severe or last for more than a few days may want to see a health care provider for additional tests. A health care provider may ask for a stool sample to test for rotavirus or norovirus or to rule out bacteria or parasites as the cause of the gastroenteritis.

During an epidemic of viral gastroenteritis, health care providers or public health officials may test stool samples to find out which virus is responsible for the outbreak.

How is viral gastroenteritis treated?

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 symptoms and prevent complications.

Over-the-counter medicines such as loperamide (Imodium) and bismuth subsalicylate (Pepto-Bismol) can help relieve symptoms in adults. These medicines are not recommended for children.

Eating, Diet, and Nutrition

The following steps may help relieve the symptoms of viral gastroenteritis in adults:

- drinking plenty of liquids such as fruit juices, sports drinks, caffeine-free soft drinks, and broths to replace fluids and electrolytes
- sipping small amounts of clear liquids or sucking on ice chips if vomiting is still a problem
- gradually reintroducing food, starting with bland, easy-to-digest foods such as rice, potatoes, toast or bread, cereal, lean meat, applesauce, and bananas
- avoiding fatty foods, sugary foods, dairy products, caffeine, and alcohol until recovery is complete
- getting plenty of rest

Children present special concerns. Because of their smaller body size, infants and children are likely to become dehydrated more quickly from diarrhea and vomiting. The following steps may help relieve symptoms of viral gastroenteritis and prevent dehydration in children:

- giving oral rehydration solutions such as Pedialyte, Naturalyte, Infalyte, and CeraLyte
- giving food as soon as the child is hungry
- giving infants breast milk or full strength formula, as usual, along with oral rehydration solutions

Older adults and adults with weak immune systems should also drink oral rehydration solutions to prevent dehydration.

How can viral gastroenteritis be prevented?

People can reduce their chances of getting or spreading viral gastroenteritis if they

- wash their hands thoroughly with soap and warm water for 20 seconds after using the bathroom or changing diapers and before eating or handling food
- disinfect contaminated surfaces such as countertops and baby changing tables with a mixture of 2 cups of household bleach and 1 gallon of water
- avoid foods and drinks that might be contaminated

The U.S. Food and Drug Administration has approved two vaccines to protect children from rotavirus infections: rotavirus vaccine, live, oral, pentavalent (RotaTeq); and rotavirus vaccine, live, oral (Rotarix). RotaTeq is given to infants in three doses at 2, 4, and 6 months of age. Rotarix is given in two doses. The first dose is given when the infant is 6 weeks old, and the second is given at least 4 weeks later but before the infant is 24 weeks old.

Parents of infants should discuss rotavirus vaccination with a health care provider. For more information, parents can visit the Centers for Disease Control and Prevention rotavirus vaccination webpage at www.cdc.gov/vaccines/vpd-vac/rotavirus.

In the past, rotavirus infections were most common from November to April in the United States. However, recently widespread vaccination slowed the transmission of the virus, delaying rotavirus activity until late February. Overall rates of infection have also been lower than in previous years.

Points to Remember

- Viral gastroenteritis is inflammation of the lining of the stomach, small intestine, and large intestine. Several different viruses can cause viral gastroenteritis, which is highly contagious and extremely common.
- The main symptoms of viral gastroenteritis are watery diarrhea and vomiting.
- Dehydration is the most common complication of viral gastroenteritis.
- When someone does not drink enough fluids to replace those that are lost through vomiting and diarrhea, dehydration can result. Signs of dehydration in adults are excessive thirst, infrequent urination, dark-colored urine, dry skin, and lethargy, dizziness, or faintness.
- Infants, young children, older adults, and people with weak immune systems have the greatest risk of becoming dehydrated.
- Viral gastroenteritis is transmitted from person to person.
- Diagnosis of viral gastroenteritis is usually based on symptoms alone.
- 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 symptoms.
- Adults with viral gastroenteritis should drink plenty of liquids such as fruit juices, sports drinks, caffeine-free soft drinks, and broths to replace fluids and electrolytes.

- Children with viral gastroenteritis should be given oral rehydration solutions to prevent dehydration.
- People can reduce their chances of getting or spreading viral gastroenteritis if they wash their hands thoroughly with soap and warm water for 20 seconds after using the bathroom or changing diapers and before eating or handling food, disinfect contaminated surfaces, and avoid foods or liquids that might be contaminated.

Hope through Research

The NIDDK's Division of Digestive Diseases and Nutrition supports basic and clinical research into gastrointestinal diseases, including viral gastroenteritis.

Researchers are investigating

- diagnostic tests for virus strains
- new vaccines for rotavirus and norovirus
- the use of probiotics to treat gastroenteritis

Participants in clinical trials can play a more active role in their own health care, gain access to new research treatments before they are widely available, and help others by contributing to medical research. For information about current studies, visit www.ClinicalTrials.gov.

For More Information

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Acknowledgments

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

You may also find additional information about this topic by visiting MedlinePlus at www.medlineplus.gov.

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

NIH Publication No. 11-5103
April 2011



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