



pennsylvania
DEPARTMENT OF HEALTH

Norovirus Fact Sheet

1. What are noroviruses? - Noroviruses are a group of viruses that cause gastroenteritis, sometimes called the “stomach flu,” in people. Like all viral infections, noroviruses are not affected by treatment with antibiotics, and cannot grow outside of a person’s body. The term norovirus was recently approved as the official name for this group of viruses. Several other names have been used for noroviruses, including:

- a. Norwalk-like viruses (NLVs)
- b. Caliciviruses (because they belong to the virus Family Caliciviridae)
- c. Small round structured viruses.

2. What are the symptoms of illness caused by noroviruses? - The symptoms of norovirus illness usually include nausea, vomiting, diarrhea, and some stomach cramping. Sometimes people also have a low-grade fever, chills, headache, muscle aches, and a general sense of tiredness. The illness often begins suddenly, and the infected person may feel very sick. In most people the illness is self-limiting with symptoms lasting for about 1 or 2 days. Most people with norovirus illness have both vomiting and diarrhea.

3. What is the name of the illness caused by noroviruses? - Illness caused by norovirus infection has several names, including:

- a. Stomach flu – this “stomach flu” is not related to the flu (or influenza), which is a respiratory illness caused by influenza virus.
- b. Viral gastroenteritis – the most common name for illness caused by norovirus. Gastroenteritis refers to an inflammation of the stomach and intestines.
- c. Acute gastroenteritis.
- d. Non-bacterial gastroenteritis.
- e. Food poisoning (although there are other causes of food poisoning and many norovirus infections are not foodborne).
- f. Calicivirus infection.

4. How serious is norovirus disease? - People may feel very sick and vomit many times a day, but most people get better within 1 or 2 days, and they have no long-term health effects related to their illness. However, sometimes people are unable to drink enough liquids to replace the liquids they lose due to vomiting and diarrhea. These persons can become dehydrated and may need special medical attention. Dehydration is usually only seen among the very young, the elderly, and persons with underlying conditions.

5. How do people become infected with noroviruses? - Noroviruses are found in the stool or vomit of infected people. Persons working in child care centers or nursing homes should pay special attention to children or residents who have norovirus illness. This virus is very contagious and can spread rapidly throughout such environments. People can become infected with the virus in several ways, including:

- a. Eating food or drinking liquids that are contaminated with norovirus.
- b. Touching surfaces or objects contaminated with norovirus, and then placing their hand in their mouth.
- c. Having direct contact with another person who is infected and showing symptoms (for example, when caring for someone with illness, or sharing foods or eating utensils with someone who is ill).

6. When do symptoms appear? - Symptoms of norovirus illness usually begin about 24 to 48 hours after ingestion of the virus, but they can appear as early as 12 hours after exposure.

7. Are noroviruses contagious? - Noroviruses are very contagious and can spread easily from person to person. Both stool and vomit are infectious. Particular care should be taken with young children in diapers who have diarrhea.

8. How long are people contagious? - People infected with norovirus are contagious from the moment they begin feeling ill until at least 3 days after recovery. Some people may be contagious for as long as 2 weeks after recovery. Therefore, it is particularly important for people to use good hand washing and other hygienic practices even after recovering from norovirus illness.

9. Who gets norovirus infection? - Anyone can become infected with these viruses. There are many different strains of norovirus, which makes it difficult for a person's body to develop long-lasting immunity. Therefore, norovirus illness can recur throughout a person's lifetime. In addition, because of differences in genetic factors, some people are more likely to become infected and develop more severe illness than others. Because norovirus is highly contagious, it is a common cause of outbreaks in schools, child care settings, cruise ships, and institutional settings.

10. How is norovirus diagnosed? - Norovirus is usually diagnosed clinically. Laboratory diagnosis requires examination of stool or vomitus from ill individuals by a specialized laboratory.

11. What treatment is available for people with norovirus infection? - Currently, there is no antiviral medication that works against norovirus and there is no vaccine to prevent infection. Norovirus infection cannot be treated with antibiotics. This is because antibiotics work to fight bacteria and not viruses. Norovirus illness is usually brief in healthy individuals. When people are ill with vomiting and diarrhea, they should drink plenty of fluids to prevent dehydration. Dehydration among young children, the elderly, and those with underlying conditions can be common, and it is the most serious health effect that can result from norovirus infection. By drinking juice, water, or oral rehydration fluids (ORF) people can

reduce their chance of becoming dehydrated. Sports drinks do not replace the nutrients and minerals lost during this illness.

12. Can norovirus infections be prevented? - You can decrease your chance of coming in contact with noroviruses by following these preventive steps:

- a. Frequently wash your hands, especially after toilet visits and changing diapers and before eating or preparing food.
- b. Carefully wash fruits and vegetables, and steam oysters before eating them.
- c. Thoroughly clean and disinfect contaminated surfaces immediately after an episode of illness by using a bleach-based household cleaner.
- d. Immediately remove and wash clothing or linens that may be contaminated with virus after an episode of illness (use hot water and soap).
- e. Flush or discard any vomitus and/or stool in the toilet and make sure that the surrounding area is kept clean.
- f. Persons who are infected with norovirus should not prepare food while they have symptoms and for 3 days after they recover from their illness. Food that may have been contaminated by an ill person should be disposed of properly.

13. For more information about Noroviruses:

<http://www.cdc.gov/ncidod/dvrd/revb/gastro/norovirus-keyfacts.htm>

This fact sheet provides general information. Please contact your physician for specific clinical information.

Norovirus Information for Schools

This fact sheet provides suggestions to assist schools in preventing the spread of norovirus, which is a common cause of gastroenteritis among children and adults. Gastroenteritis is an inflammation of the stomach and intestines. Other commonly used terms related to norovirus are “winter vomiting disease,” “stomach flu,” “viral gastroenteritis,” and “Norwalk-like virus”. Norovirus can cause outbreaks that are disruptive to the educational process.

The illness is typically self-limiting and acute symptoms include: fever, nausea, vomiting, diarrhea and stomach cramps. The symptoms usually last one to two days and a person infected with norovirus sheds the virus in the stool and vomitus. Noroviruses are highly contagious. Person to person spread through the fecal-oral route, contaminated food and water, and aerosolized vomitus are known to transmit norovirus; contact with contaminated surfaces has also been implicated in transmission. Norovirus can survive on surfaces at room temperature, for example computer keyboards, and many common disinfectants will not kill this virus.

Here are some suggestions to help you deal with this highly contagious virus.

1. The most important means of preventing norovirus transmission and infection is exercising frequent and appropriate hand washing. Alcohol-based hand sanitizers ($\geq 62\%$ ethanol) may be helpful as an adjunct method of hand hygiene, but should not replace washing with soap and water. Restrooms need to have an ample supply of soap, water and disposable towels for student and staff use. Ideally, restrooms should be checked on a regular basis during the day to make sure that they are clean, there have been no “accidents” and that soap and towels are plentiful. Children and staff sick with vomiting or diarrhea should be excluded from school until well or determined by the school nurse or a physician to be non-communicable. Children who become ill during school hours should be picked-up by a parent or guardian. There is a high rate of household transmission, so it might be prudent to educate parents about ways to keep siblings from getting infected (see fact sheet listed below and or consult your local health department).
2. Have a plan to manage vomiting episodes swiftly and safely. Non-essential persons should be removed from the area immediately. Staff responding to the incident should consider use of personal protective equipment, disposable gloves and mask. All surfaces should be promptly cleaned and disinfected. Visible debris should be cleaned with a disposable absorbent material such as paper towels, double bag and discard. The entire area should then be carefully disinfected with a commercial product listed as capable of killing noroviruses, or with a bleach solution equal to or stronger than a 1:50 dilution of household bleach (1/2 cup bleach to 1 gallon water). All equipment used in the clean-up should be disinfected. Carpets may need to be steam-cleaned. Staff

completing the clean-up should wash hands with soap and water for at least 20 seconds followed by use of a hand sanitizer.

3. Food workers must not work when they have symptoms of gastroenteritis such as diarrhea or vomiting. School food functions must follow state regulations for food handling. These regulations are found at

www.pacode.com/secure/data/007/chapter46/chap46toc.html.

All food workers must wash hands on entry to the kitchen/cafeteria and at regular intervals afterwards. Except when washing fruits and vegetables, food employees may not contact exposed, ready-to-eat food with their bare hands, and instead must use suitable utensils such as deli tissue, spatulas, tongs, single-use gloves or dispensing equipment.

4. A general fact sheet on norovirus is available from the Pennsylvania Department of Health and Centers for Disease Control and Prevention at

www.health.pa.gov/My%20Health/Diseases%20and%20Conditions/Documents/Fact%20Sheets%202013/Norovirus%20Fact%20Sheet.pdf

www.cdc.gov/norovirus/hcp/index.html

CONSULTATION

Please call your local County/Municipal Health Department or State Health Center, or 1-877-PAHEALTH.