Norovirus
A Different Type of Foodborne Illness

Introduction
A common statement often heard when unwelcome diarrhea occurs is, “It must be something I ate.” Often it can be traced to improper handling of food. Norovirus is part of a family of small, round-structured viruses. Common names of the illness caused by Norovirus are viral gastroenteritis, acute nonbacterial gastroenteritis, food poisoning, and foodborne infection. Of viruses, only the common cold is reported more often than viral gastroenteritis.

Symptoms of illness
Usual symptoms include nausea, vomiting, diarrhea, and abdominal pain. Headache and low-grade fever may also accompany this illness. The symptoms are usually mild and brief. Symptoms develop 24 to 48 hours after contaminated food or water is eaten and lasts for 24 to 60 hours.

Public health consequences
The exact number of Norovirus cases that occur each year is hard to determine because many people attribute their illness to the flu. The local Health Department and Centers for Disease Control and Prevention (CDC) cannot record the number of cases accurately unless the ill person seeks medical care, which is unusual in mild cases. The CDC has calculated an estimate of the number of cases of Norovirus based on corrections for under reporting, misdiagnosis, and the number of cases that are not caused by contaminated food. The CDC estimates that there are almost 5.5 million cases of Norovirus each year in this country, and that 26% of the cases are caused by eating contaminated food. Almost 15,000 cases will be severe enough to require hospitalization; 149 deaths are possible each year.

Risk factors
Anyone can get Norovirus. The reason is that Norovirus is found in vomit and diarrhea and anyone who comes in contact during an episode can become contaminated. The viral particles can spread through the air and, because they are microscopic, the places they land may not at all look like they have been contaminated. Someone who touches these surfaces and then handles food is at risk of contaminating the food or making themselves sick. If 26% of the cases of Norovirus are caused by eating contaminated food, then the other 74% are caused by exposure in a contaminated environment.

Foods implicated
Any food can be contaminated with Norovirus. The foods most often implicated in Norovirus outbreaks are shellfish and salad ingredients. Water is the most common source of outbreaks and may include water from municipal supplies, wells, recreational lakes, swimming pools, and water stored aboard cruise ships.

The good news about this virus is that it doesn’t multiply in foods or water like bacteria. Also, this virus is destroyed by heat. To avoid this illness, make sure the food you eat is cooked completely. If you are traveling in an area that appears to have polluted water, drink pasteurized milk or bottled beverages without ice. Any clothing or linens that come into contact with infected vomit or fecal matter should be thoroughly washed with detergent, on the longest washing cycles available on the washing machine, and then dried in the dryer and not
on a clothes line. Heat and detergent are important to remove the virus from the fabric.

**How can you control this pathogen in your home?**

1. Wash hands with warm soapy water before and after handling raw foods.
   a. First, wet your hands.
   b. Add soap to your hands.
   c. Rub both sides for at least 20 seconds.
   d. Rinse thoroughly.
   e. Air dry, or dry your hands with a clean towel or paper towel.
   f. Wash hands with warm soapy water before and after handling foods.
   g. Always wash your hands
      - after using the toilet.
      - after cleaning up from another infected person.
      - after changing a baby’s diaper.
      - after touching pets or other animals.
      - after sneezing or coughing.
   h. Prepare food for yourself, but not others if ill with diarrhea.

2. Wash fruits and vegetables before eating them. Although washing fruits and vegetables cannot completely eliminate microbial contamination, it helps to remove soil or waxes where organisms may be attached.
   a. Do not eat raw alfalfa and other raw sprouts.
   b. Use water from a safe water supply for drinking and washing fresh produce.

3. The only way foods can become contaminated with Noroviruses is through contact with human waste and vomit, or touching a surface that has been contaminated.
   a. Clean sinks and counters with paper towels or clean cloths and hot soapy water before and after preparing food.
   b. Wash knives, cutting boards, and counters with hot water and soap before you prepare foods.
   c. Scrub your cutting board with dish soap. If your cutting board is not made of wood, you can put it in the dishwasher.
   d. Wash your hands with soap and warm water before preparing foods.

**References**


For more information about food safety, visit Foodsafety.osu.edu.

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