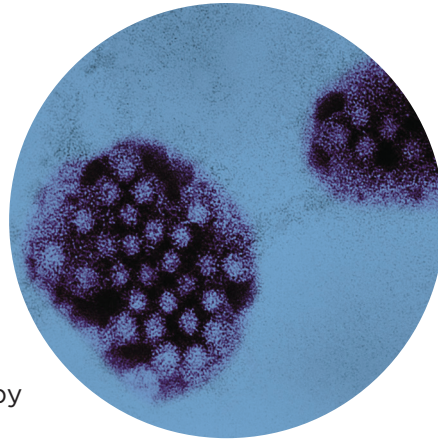


Norovirus

What Is Norovirus?

Norovirus is a highly contagious virus that can cause the sudden onset of nausea, vomiting and diarrhea. Norovirus infection is often called by other names such as stomach flu, stomach bug, food poisoning or viral gastroenteritis.

Norovirus infection is fairly predictable in that there is not a lot of variation in symptoms and duration from person to person. Once exposed, susceptible persons experience symptoms in approximately 12–48 hours and severe symptoms usually last one to two days.¹ While both norovirus infection and influenza are prevalent in winter, norovirus does not cause the flu, which is a severe respiratory infection caused by influenza viruses.



Norovirus causes illness and outbreaks in many settings. Between 2009 and 2012, almost 3,500 outbreaks were reported to the CDC's National Outbreak Reporting System. Of those, 63% were in healthcare settings, with the overwhelming majority of those outbreaks occurring in long-term care facilities and nursing homes. Restaurants and banqueting facilities accounted for 22% of all outbreaks, while 6% occurred in schools.² While noroviruses are the cause for most of the diarrheal outbreaks on cruise ships, cruise ships account for only 1% of reported norovirus outbreaks.³

Why Is Norovirus a Concern?

- ▶ Norovirus negatively impacts many people. It causes approximately 90% of epidemic nonbacterial outbreaks of gastroenteritis around the world.⁴ In the U.S., norovirus is responsible for 19 million to 21 million cases of gastroenteritis each year. Almost two million people seek outpatient treatment, and a further 400,000 seek treatment at hospital emergency rooms. Annually, 56,000–71,000 people are hospitalized, and approximately 570–800 die.⁵
- ▶ While norovirus affects people of all ages, norovirus deaths disproportionately impact children, the elderly and people with other illnesses. Dehydration is the main concern with norovirus.
- ▶ Norovirus causes many infections and outbreaks each year. A norovirus outbreak is defined as an occurrence of two or more similar illnesses resulting from a common exposure to the virus.

How Is Norovirus Spread?

Norovirus is shed in the stool (feces) and vomit of infected people. Transmission results from the accidental ingestion of very small amounts of contaminated feces and vomit. This can occur in several ways:

Contact with contaminated surfaces:

Transmission of norovirus via inanimate objects such as shared medical equipment, computers and mobile devices puts the general public at risk. This is especially true in locations such as hospitals, nursing homes, schools and colleges. Transmission through contaminated surfaces also increases the risk of infection for healthcare providers who care for infected patients, and for environmental service workers and custodians who clean and disinfect contaminated areas.

Contact with contaminated food and water:

Transmission can also occur in restaurants and communal eating areas after an infected worker has spread the virus to the food. Food may also be contaminated at any point, such as when it's grown, harvested, processed or prepared by contaminated water. Foods that are commonly responsible for outbreaks include leafy greens, fresh fruits and shellfish, particularly oysters.

How to Prevent the Spread of Norovirus?

There is no vaccine for norovirus, although scientists are working on it. These are the main ways to prevent it:

- ▶ **Practice proper hand hygiene.** Careful hand washing with soap and water, especially after using the toilet, changing diapers, and always before eating or preparing food, is critically important.
- ▶ **Handle and prepare food safely.** DO NOT prepare food or care for others if you are sick. Wash fruits, vegetables and cook seafood thoroughly before eating. Sick food service employees in restaurants, schools, daycares, and long-term care facilities should not return to work until at least two days after symptoms resolve.
- ▶ **Clean and disinfect surfaces.** Use proper cleaning technique (e.g., clean to dirty, top to bottom) and follow label instructions of an EPA-registered disinfectant with efficacy against norovirus. Ensure surfaces stay wet for the contact time listed on the

product label, and use disposable cleaning cloths unless using pre-moistened disinfecting wipes. If using a diluted product, prepare solution daily and ensure concentration is correct. Care should be taken to ensure correct concentration and fresh solutions (mixed with water only) should be prepared daily.

- ▶ **Wash laundry with precautions.** If an item has been contaminated with feces or vomit and cannot be disposed of, wear gloves to handle contaminated item and take care not to agitate it before placing it in the laundry. Run washer and dryers on their longest cycles, consider using a laundry sanitizer or disinfectant as an additive. Wash hands immediately and thoroughly after handling a contaminated load. It's also a good practice to clean and disinfect all surfaces that may have come in contact with the contaminated item or hands.

Recommended CloroxPro® products effective against norovirus (visit www.cloroxpro.com for full list of product options):

Bleach based	
Clorox Healthcare® Fuzion® Cleaner Disinfectant EPA Reg. No. 67619-30	 1 minute
Clorox Healthcare® Bleach Germicidal Cleaner & Wipes EPA Reg. No. 56392-7 & 67619-12 (spray & wipes)	
Dispatch® Wipes EPA Reg. No. 56392-8	
Clorox® Clean-Up® Spray EPA Reg. No. 67619-17	
Clorox® Germicidal Bleach EPA Reg. No. 67619-32	 5 minute

Non-bleach based	
Clorox Healthcare® Hydrogen Peroxide Cleaner Disinfectant Spray & Wipes EPA Reg. No. 67619-24 & 67619-25 (spray & wipes)	 1 min (spray)/3 min (wipes)
CloroxPro® Clorox® Disinfecting Bio Stain & Odor Remover EPA Reg. No. 67619-33	 5 minute
CloroxPro® Clorox Total 360® Disinfectant Cleaner₁ EPA Reg. No. 67619-38	 2 minute
Clorox® Disinfecting Spray EPA Reg. No. 67619-21	 10 minute

Use all products as directed. For food contact surfaces, a potable water rinse is required after disinfection.

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- Centers for Disease Control and Prevention. MMWR. Vital Signs: Foodborne Norovirus Outbreaks — United States, 2009–2012 [cited 2019 Dec 11]. Available from: <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6322a3.htm>.
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- Patel MM, Widdowson MA, Glass RI, Akazawa K, Vinje J, Parashar UD. Systematic literature review of role of noroviruses in sporadic gastroenteritis. *Emerg Infect Dis.* 2008;14(8):1224-31.
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