



## Norovirus\* in Health-Care Facilities

(\*Viral Gastroenteritis or Norwalk-like Virus)

### What is norovirus?

Noroviruses cause diarrhea and vomiting in people worldwide. The disease occurs most often in outbreaks but can occur as single events, affecting all age groups.

### Who is at risk for norovirus?

All people of all ages are at risk for norovirus. Outbreaks of norovirus occur in many settings, including restaurants, nursing homes, hospitals, schools, day care, vacation settings such as cruise ships and others. Among elderly people living in institutional settings, (e.g., nursing homes), the illness spreads more easily because of enclosed living quarters and reduced levels of personal hygiene that result from incontinence, immobility or reduced mental alertness. Because of underlying medical conditions, the disease among elderly people in institutional settings can be severe or fatal.

### What are the symptoms of norovirus?

The symptoms of norovirus illness usually include nausea, vomiting, diarrhea and some stomach cramping. Low-grade fever, chills, headache, muscle aches and a general sense of tiredness is also common. Symptoms usually last about one to two days. In general, children experience more vomiting than adults.

### How soon do symptoms appear?

Symptoms of norovirus illness usually begin about 24 to 48 hours after exposure to the virus, but may appear as early as 12 hours after exposure.

### How is norovirus spread?

Noroviruses are very easily spread from person to person. Both stool and vomit are infectious. People can become infected with the virus in several ways, including eating food or drinking liquids that are contaminated with norovirus, touching contaminated surfaces or objects and then placing their hands in their mouth, nose or eyes or having direct contact with another person infected with norovirus.

### When and for how long is a person able to spread the disease?

Excretion of viruses in the stool occurs a few hours before symptoms begin and continue throughout the illness. Millions of virus particles are shed in the stool and vomit and it takes as few as 100 particles to cause illness. Some people can shed the virus in their stools and may be contagious for several days after recovery. Noroviruses are transmitted primarily through the fecal-oral route, either by direct person-to-person spread or by fecal-contaminated food or water. Noroviruses also can spread in airborne droplets of vomit. In health-care facilities, transmission can additionally occur through hand transfer of the virus to the mouth, nose or eyes through use of equipment such as blood pressure cuffs, stethoscopes and thermometers and environmental surfaces such as bed rails, door handles and faucets that have been contaminated with either feces or vomit.

### How is a person diagnosed?

Diagnosis of norovirus infection relies on the detection of the virus in the stools of affected people by polymerase chain reaction (PCR). Testing is available at the North Dakota Department of Health (NDDoH) Division of Laboratory Services and should be considered in the event of outbreaks of gastroenteritis in health-care facilities. Identification of the virus can be best made from stool samples taken within 48 to 72 hours after symptoms begin, although good results can be obtained by testing samples taken as long as seven days after symptom onset. **Call the NDDoH at 800.472.2180 for more information about laboratory testing for**

## **norovirus.**

Because of the limited availability of timely and routine laboratory diagnostic methods, a clinical diagnosis of norovirus infection is often used, especially when other agents of gastroenteritis have been ruled out.

### **What is the treatment?**

Currently, there is no medication for norovirus and no vaccine to prevent infection.

### **Does past infection make a person immune?**

No. Norovirus illness can recur throughout a person's lifetime.

### **What are the isolation precautions in health-care and long-term care facilities?**

Patients with suspected norovirus infection should be managed with standard precautions, with careful attention to hand hygiene practices. However, contact precautions should be used when caring for diapered or incontinent people, during outbreaks in a facility, and when there is the possibility of splashes that may lead to contamination of clothing. People cleaning areas heavily contaminated with vomit or feces should wear surgical masks, as well. In an outbreak setting, it may be prudent to place patients with suspected norovirus in private rooms or to cohort such patients.

### **Should ill employees be excluded from health-care and long-term care facilities?**

Health-care workers and providers should be excluded from work while symptomatic with diarrhea and/or vomiting. Direct contact with high-risk patients is discouraged until two days after diarrhea resolves. Food workers should be excluded from work until two days after diarrhea ends. Special attention to hand hygiene is important.

### **What are the environmental disinfection recommendations for health-care and long-term care facilities?**

There are no hospital disinfectants registered by the U.S. Environmental Protection Agency (EPA) that have specific claims for activity against noroviruses. In the absence of such products, CDC recommends that chlorine bleach be applied to hard, nonporous, environmental surfaces in the event of a norovirus outbreak. A minimum 10 percent bleach concentration (1½ cups household bleach to 1 gallon of water) has been shown to be effective against viruses similar to norovirus. Health-care facility staff should use appropriate personal protection equipment (e.g., gloves and goggles) when working with bleach.

Clean carpets and soft furnishing with hot water and detergent or steam clean. Dry vacuuming is not recommended.

Soiled linens and clothes should be handled carefully and as little as possible. They should be laundered with detergent at the maximum available cycle length and then machine dried.

Heat disinfection (i.e., pasteurization) has been suggested for items that cannot be subjected to chemical disinfectants. A temperature equal to or greater than 60°C (140°F) has been used successfully in laboratories.

### **Additional Information:**

For additional information, call the North Dakota Department of Health at 800.472.2180.

Resources: Adapted from the Centers for Disease Control and Prevention Norovirus in Healthcare Facilities Fact Sheet [www.health.state.nd.us/Disease/Documents/faqs/Norovirus.pdf](http://www.health.state.nd.us/Disease/Documents/faqs/Norovirus.pdf)

