



Florida Department of Health Recommendations and Guidelines for the Control of Norovirus Outbreaks in Nursing Homes and Health Care Facilities

Fast Facts about Norovirus

Outbreaks of gastroenteritis in nursing homes and other residential facilities are not uncommon. Norovirus, which is highly contagious, is most often the cause and requires immediate action to prevent further spread of the virus to residents and staff. A Norovirus outbreak should be suspected if vomiting and diarrhea are about equally common symptoms among people with gastroenteritis (staff and residents). Norovirus-associated gastroenteritis outbreaks may be detected early by recognizing the typical symptoms of illness, and controlled by taking specific infection control steps to prevent the virus from being transmitted from person to person. While Norovirus outbreaks may occur any time of the year they are more frequent in the winter and spring months. **For more detailed information about Norovirus see the links and references below.**

Signs and Symptoms of Norovirus-associated Gastroenteritis

The symptoms of norovirus illness usually include nausea, vomiting, diarrhea, and stomach cramping. Sometimes people experience a low-grade fever, chills, headache, muscle aches, and a general sense of tiredness. The illness often begins suddenly. In most people the illness is self-limiting, with symptoms lasting for one or two days. In general, vomiting is more common in children and diarrhea is more common in adults. Dehydration is a potential life-threatening problem that is usually only seen among the very young, the elderly, and people with underlying medical conditions.

Incubation Period

Illness begins between one and two days following exposure to the virus.

Transmission of Norovirus

Norovirus is very contagious and can spread easily from person to person. Both stool and vomit are infectious. People who have direct contact with a person who is infected with the virus can become infected. People can also become infected by eating food or drinking liquids contaminated with the virus, or by contacting surfaces or objects contaminated with the virus and then placing their hands in their mouth.

Persons working in nursing homes or other residential healthcare facilities, such as assisted living facilities, should pay special attention to residents who have symptoms suggestive of a

norovirus infection. This virus is very contagious and can spread rapidly throughout such settings.

Outbreak Detection

The ability to detect an outbreak early will allow for more timely interventions to control and prevent the spread of Norovirus. Diarrheal illnesses are common within nursing homes, making early detection of a Norovirus outbreak more difficult. Conducting surveillance for illness throughout the facility and monitoring the results for increases may reveal an outbreak. Surveillance should include monitoring for new onset of diarrheal illnesses among both patients and employees. Diarrheal illness associated with vomiting should increase the suspicion for a norovirus illness, since vomiting is not a hallmark of other common gastrointestinal illnesses found in nursing homes, such as *Clostridium difficile*. Also, norovirus illnesses frequently affect staff members as well as residents. Employees should report a diarrheal illness to their supervisor and should not come to work when they are symptomatic. Outbreaks of Norovirus may be caused by contaminated food or person-to-person transmission. By promptly notifying your county health department at the first sign of an outbreak, they can assist in understanding the cause of the outbreak so prompt control measures can be implemented.

Reporting

If you observe any unusual increase in residents with gastrointestinal symptoms or any other illness, report it to your local county health department. The county health department may be able to assist in controlling the outbreak and with laboratory diagnosis.

Outbreak Management

- Infection control measures, which may include contact isolation, should be instituted immediately with a single case of diarrhea of new onset without a non-infectious etiology.
- Frequent hand washing with soap and water is an effective means of prevention. The recommended procedure is to rub all surfaces of lathered hands together vigorously for at least 20 seconds and then thoroughly rinse the hands under a stream of warm water. A paper towel should be used to dry hands and to turn off the water. Alcohol-based hand sanitizers are, in general, not very effective against Norovirus.
- It is recommended that everyone, including (but not limited to) residents, staff, volunteers, visitors, and service personnel, wash their hands when entering and leaving the facility or resident's/patient's room, after using the restroom, after assisting with toileting or diaper changes, before and after handling food or eating, after having contact with residents, and/or after having contact with infective material that may contain micro-organisms. If a resident is not able to perform good hand hygiene, staff members should assist the patient.
- Equip all restrooms with soap, disposable paper towels or an electric hand drying device, and trash containers so people can properly wash their hands after using the restroom.

- Educate staff, volunteers, residents, visitors, and service personnel regarding the outbreak, methods of transmission, and control measures.
- In situations in which the outbreak is extended in duration, the facility or institution might have to be closed to new admissions until the outbreak is over and the facility can be cleaned appropriately.
- Consider use of anti-emetics for patients with vomiting.

Residents/Patients

- Isolate all symptomatic persons. Symptomatic residents/patients should be placed in a private room, if possible. When a private room is not available, place them in a room with someone who has active infection with the same micro-organism but with no other infection. Ask residents with vomiting or diarrhea to stay in their room until they are symptom-free for 72 hours.
- Limit the movement and transport of the patients for essential purposes only. If the resident/patient is transported out of the room, ensure that precautions are maintained to minimize the risk of transmission of micro-organisms to other patients and contamination of environmental surfaces or equipment.
- Limit new admissions until at least 72 hours after the last identified case. If new admissions are necessary, admit residents to an unaffected unit or to a unit that has had no new cases within the last 72 hours.
- Avoid discharging ill patients until at least 72 hours after resolution of illness.
- Cancel or postpone non-essential group activities until at least 72 hours after the last identified case.
- Common areas such as activity rooms and dining rooms should be closed. Meals should be served in the resident's rooms.
- If a resident is transferred to the hospital, notify the hospital that the resident is coming from a facility at which an outbreak is occurring.

Staff

- Exclude all ill staff members who work in food service for at least 48 and preferably 72 hours after resolution of their symptoms. Exclude all other staff members for at least 48 hours after resolution of symptoms. Since some infectious agents, including Norovirus, can be shed for a long duration after recovery from illness and in the absence of clinical disease, all staff members should be required to maintain strict personal hygiene at all times.
- Provide staff, visitors, and volunteers with proper personal protective equipment when caring for or visiting an ill resident. Disposable gloves (clean, non-sterile gloves are adequate) should be worn when entering the room of a symptomatic patient when direct

contact with ill persons or contaminated surfaces is possible. Gowns should be worn when contamination of clothing with fecal material or vomitus is possible. People who clean areas grossly contaminated by feces or vomitus should wear a surgical mask.

- Care should be taken when changing and laundering soiled bed linen, so as to not aerosolize the infectious material.
- During the course of providing care for a patient, change gloves and gowns after having contact with infective material that may contain high concentrations of micro-organisms (fecal material, vomitus, and wound drainage). Remove gloves and gowns before leaving the patient's room and wash hands immediately with soap and water and turn off water with a paper towel. After removing gowns and gloves, and hand washing, ensure that hands do not touch potentially contaminated environmental surfaces or items in the patient's room to avoid transfer of micro-organisms to other patients or environments.
- Do not allow staff to float between affected and non-affected units, if possible. Staff should try to maintain same staff-to-resident assignments, if possible. Non-essential staff should be excluded from affected units.
- Employee hand washing vigilance should be monitored through active management reminders and correction.
- Staff responsible for cleaning rooms and accidents should be trained regarding proper personal protective equipment, infection control procedures, and cleaning and disinfection of infective material when responding to fecal or vomitus accidents.

Environmental Disinfection

- Environmental surfaces should be kept visibly clean and be disinfected on a routine basis.
- During an outbreak, the frequency of cleaning and disinfecting high-touch surfaces throughout the facility should be increased. High-touch surfaces would include, but are not limited to, door handles, elevator buttons, sink and toilet handles, food preparation and dining areas, hand and stair rails, telephones, light switches, counters, and computer keyboards.
- Disposable cleaning cloths and mop heads should be used for all cleaning and sanitizing/disinfection. Staff should use disposable cleaning cloths. Staff should use one cloth for cleaning and a new cloth for sanitizing/disinfecting surfaces. Separate cleaning cloths should be used in toilet areas. Staff should use a new set of cleaning cloths for each room. Staff should use single-use disposable gloves. Gloves should be removed and discarded before moving to clean the next room.
- In the event of a vomiting or fecal accident, the surfaces that have been soiled and the surrounding area should be cleaned and sanitized by trained staff wearing appropriate protective barriers (i.e., a disposable mask, gloves, eye shield, disposable shoe covers, and plastic disposable apron).
 - Residents, guests, and non-essential staff should be excluded from these areas for the duration of the clean-up.

- The area should first be cleaned of visible material using detergent and hot water and then disinfected with a freshly prepared bleach solution (see below for appropriate concentrations) or an Environmental Protection Agency-approved disinfectant for norovirus (Vikron-S or NP 9.0).
 - Contaminated mop heads, cleaning clothes, personal protective equipment, and potentially infectious material (i.e., feces or vomitus) used/collected during the cleaning procedure should be promptly discarded in a manner that prevents transfer of this material to other surfaces or persons (e.g., biohazardous bag).
 - Staff should thoroughly wash hands after completing the clean-up procedure and again after completing the disposal procedure.
- Bleach solution concentrations:
 - For commercial bleach-containing products follow the manufacturer's recommendations.
 - Bleach solutions must be mixed daily for effectiveness.
 - For non-porous surfaces such as tile floors, counter-tops, sinks, etc.: 1/3 cup of bleach in 1 gallon of water (1000ppm).
 - For stainless steel, food/mouth contact items: 1 tablespoon of bleach in 1 gallon of water (200ppm).
 - For porous surfaces such as wooden floors: 1 2/3 cups of bleach in 1 gallon of water (5000ppm).
 - A list of EPA approved sanitizers for Norovirus can be found on their website: http://www.epa.gov/oppad001/list_g_norovirus.pdf
 - Contaminated towels, linens, pillows, bedspreads, blankets, and other fabric materials should be placed into separate laundry bags from non-contaminated items. They should be washed separately in a hot wash, and dried separately at 170°F. If an outside laundry service is used, they should be advised that the laundry is potentially infectious.
 - Contaminated carpets should be cleaned in a three-step process. First, carpets must be cleaned with carpet detergent and hot water. Second, carpets must be disinfected by applying an appropriate disinfectant. Finally, carpets should be steam cleaned (158°F for 5 minutes or 212°F for 1 minute is needed for complete inactivation). It is not recommended to dry-vacuum a contaminated carpet prior to this disinfection process.
 - Heat disinfection (i.e., pasteurization to 140°F) has been suggested, and used successfully under laboratory conditions, for items that cannot be subjected to chemical disinfectants such as chlorine bleach.
 - Facilities should monitor the effectiveness of their cleaning policies.

Case Surveillance/Management

Facilities should establish and maintain a surveillance program for gastrointestinal disease. During an outbreak, cases should be recorded daily using a case log, which will help with the investigation of the outbreak. The county health department may request daily updates to monitor the outbreak.

Laboratory Testing

The local county health department can provide stool sample containers upon request during an outbreak. The purpose of the testing is to confirm the disease causing the outbreak.

References

Norovirus information on the Department of Health web site can be found at:

<http://www.doh.state.fl.us/environment/medicine/foodsurveillance/norovirus.htm>

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CDC – Norovirus: Food Handlers - <http://www.cdc.gov/ncidod/dvrd/revb/gastro/norovirus-foodhandlers.htm>

CDC – Norovirus in Healthcare Facilities Fact Sheet -

http://www.cdc.gov/ncidod/dhqp/id_norovirusFS.html

CDC – “Norwalk-Like Viruses”: Public Health Consequences and Outbreak Management -

<http://www.cdc.gov/ncidod/dvrd/revb/gastro/rr5009.pdf>

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Doultree JC, Druce JD, Birch CJ, et al. Inactivation of feline calicivirus, a Norwalk virus surrogate. *J Hosp Infect* 1999; 41:51-57.

Florida Department of Health – Rule 64D-3, *Florida Administrative Code*. Control of Communicable Diseases and Conditions Which May Significantly Affect Public Health.

http://www.doh.state.fl.us/disease_ctrl/epi/topics/64D-3_11-08.pdf

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http://www.apic.org/Content/NavigationMenu/PracticeGuidance/APIC-SHEA_Guideline.pdf