



WASHINGTON

**Integrated Food Safety
Center of Excellence**

Norovirus Prevention Recommendations for Evacuation Centers

People crowded together in evacuation centers may be vulnerable to infectious disease outbreaks, which can be caused by bacteria, parasites, and more commonly viruses, such as norovirus.

Symptoms of norovirus include diarrhea, vomiting, nausea, and stomach cramps. The symptoms of norovirus alone cannot distinguish it from other gastroenteric viruses (such as rotavirus) or bacterial causes (such as *Salmonella*). Collection and testing of stool specimens should be performed to confirm the cause of an outbreak.

Preventing and controlling outbreaks of norovirus-like illnesses can be challenging in evacuation centers. The risk for person-to-person transmission may be higher due to community dining and shared bathroom facilities and sleeping quarters. The following general recommendations may assist local health department staff in investigating and controlling outbreaks of norovirus-like illness in evacuation centers. Any cluster or outbreak of norovirus at evacuation centers should be reported to public health immediately.

If persons in the evacuation center are sick with vomiting and diarrhea, evacuation center staff should:

- Encourage handwashing and personal hygiene. Proper handwashing includes covering all parts of the hands, including fingernails, with soap; rubbing lathered hands together vigorously for at least 20 seconds; thoroughly rinsing hands with water; and drying hands with a paper towel. Of note, hand sanitizers are not an acceptable substitute for handwashing because they are usually not effective against norovirus.
- Place handwashing signs in restrooms and at other locations throughout the evacuation center.
- Provide residents and volunteers/staff with a fact sheet about gastrointestinal disease.
- Maintain a line list of all persons with gastrointestinal illness and the date of their illness onset. Ask sick persons about the type and frequency of symptoms (including whether they have fever or bloody diarrhea) to determine if medical care is necessary.
- Ill staff should be sent home for a minimum of 48 hours after diarrhea and vomiting has stopped.

- Separate sick persons from other residents until 48 hours after diarrhea and vomiting has stopped. If possible, isolate ill residents in a separate room or section of the evacuation center (preferably with its own bathroom facilities) away from well persons.
- Designate some toilets “FOR USE BY ILL PERSONS ONLY”. These toilets should be easily accessible to ill persons.
- The isolation room or section should have easily cleanable floors (e.g., not carpet) and fixtures.
- Serve food to ill persons away from persons who are not sick.
- Provide residents with plastic bags (e.g., small bathroom trash can liners) to contain vomit and to dispose of diapers.
- A specialized cleaning crew with appropriate cleaning, disinfection, and personal protective equipment (see below) should be ready to respond quickly to clean up vomit and stool in any area.
- Consider limiting transfer or movement of ill persons and staff/volunteers between shelters to limit the spread of infection.

Since norovirus is highly contagious, all areas, items, and surfaces that may have been contaminated (within a 10- to 25-foot radius of the vomit incident) must be cleaned and disinfected in order to kill norovirus. Norovirus can remain on surfaces that have been cleaned and can still cause infection. Be sure to disinfect all surfaces after cleaning. Although there may be health concerns with using bleach because it can be an irritant, a bleach solution is recommended for outbreaks of norovirus-like illness. Wear disposable gloves and masks. Handle items carefully to avoid spreading the virus. Cleaning and disinfection of bathrooms and high-touch surfaces (door handles, hand rails, light switches, toilets, faucets, tables, chairs, walls, and shared items) should be performed multiple times a day and as needed.

For cleaning and disinfection, the following items are needed: disposable gloves, masks, gowns, eye protection, shoe covers, and household bleach. Steps for cleaning and disinfection are:

Prepare a bleach solution

1. Use $\frac{3}{4}$ cup concentrated bleach (or 1 cup of regular strength bleach) to one gallon of water.
2. Be sure to prepare fresh bleach solutions daily, because bleach can lose effectiveness if left out and exposed to air.
3. Bleach should never be mixed with other cleaners/disinfectants as it can create poisonous gases.

Cleaning

1. Remove vomit or diarrhea right away! Items that are difficult to clean should be discarded.
2. Soak up vomit and diarrhea using disposable absorbent materials, such as cloth, baking soda, paper towels, or kitty litter. Do not vacuum as vacuuming can spread the virus.

3. Use soap and hot water to wash and rinse the area or object.
4. Wipe dry with paper towels.
5. Dispose of all waste in a plastic trash or biohazard bag and immediately close and dispose of the bag.

Disinfection

1. After an area or object has been cleaned, it must be disinfected.
2. Wipe surfaces with freshly made bleach solution.
3. Leave bleach solution on the surface for at least 5 minutes covering the entire surface.
4. Let surface air dry.
5. Rinse thoroughly with clean water if an object may come in contact with food or the mouths of people.
6. Remove all personal protective equipment (gloves, masks, etc.) after use and discard in a plastic bag.
7. Wash hands with soap and water.

Additional Recommendations for:

- **Public Restrooms**
 - Clean and disinfect restrooms frequently; restrooms used by sick people should be cleaned hourly, if possible. Cleaning staff should put on gloves and mask before entering restrooms used by sick people and then remove them immediately after leaving.
 - Keep restrooms supplied with paper towels and hand soap.
 - Post signs in appropriate languages to remind people to wash hands after restroom use.
 - If feasible, provide hands-free exit from the toilet room. For example, prop the doors open or by providing paper towels (with appropriately placed trash cans) for use to open doors.
- **Food Service Operations**
 - Provide hand washing facilities at the beginning of food service lines.
 - If possible, ensure that food is served to residents. Do not allow self-service buffets.
 - Require food service staff to wear personal protective equipment (such as disposable gloves and masks) when handling, serving, or preparing food.
 - Exclude ill food service staff from work until at least 48 hours after symptoms have ended.
- **Cloth and Plush Items**
 - Clothing/linens/textiles and plush items, including bedding and mattress covers, should be machine-washed and dried at a temperature greater than 170° F. If there are no on-site laundry facilities, double wrap soiled items in plastic bags, and take them to an off-site facility to be washed and dried.

Additional Information:

- [CDC Infection Control Recommendations for Prevention of Transmission of Diarrheal Diseases in Evacuation Centers:](https://www.cdc.gov/disasters/disease/diarrhea-evac.html)
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