

Norovirus Cleaning and Disinfection Guidelines

Excerpted from the “CDPH Norovirus Toolkit for Camp Outbreaks” and “CDPH Norovirus Toolkit for School and Childcare Center Outbreaks”, available at

<https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Norovirus.aspx>, accessed 12/18/2018

General Principles: Remove vomit or diarrhea right away! Remember that norovirus particles can settle on and contaminate objects and surfaces, especially if an ill person has vomited nearby. All areas, items, and surfaces, especially in restrooms, dining halls, and kitchens 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. Cleaning removes visible dirt and debris on objects and surfaces, and results in the removal of some germs. Disinfection kills any remaining germs on the objects and surfaces. If possible, increase the frequency of cleaning and disinfection to at least twice a day. High-touch surfaces may need to be cleaned multiple times a day. In addition, camps may need to bring in additional cleaning staff to manage the outbreak. Make sure rooms are well ventilated. Campers and staff should stay away from contaminated objects and areas until proper cleaning and disinfection has occurred. Refer to the [Clean-up and Disinfection of Norovirus \(“Stomach Bug”\)](#) sheet for more information.

Be careful and wear protective materials (such as disposable gloves, masks, safety goggles, and gowns) when handling anything contaminated with vomit or diarrhea, and when cleaning and disinfecting contaminated areas. Start by cleaning and disinfecting surfaces with a lower likelihood of norovirus contamination (such as light switches or door handles) then moving to surfaces likely to be highly contaminated (such as bathroom surfaces and dining areas). Consider using disposable mop heads, and change mopping water often. Wash hands with soap and water after any cleaning.

Cleaning: First, soak up vomit and diarrhea using disposable absorbent materials, such as cloth, baking soda, paper towels, sawdust, or kitty litter. Do not vacuum material; using gloves, pick it up using paper towels. Then, use soap and water to wash and rinse the area or object. Wipe dry with paper towels. Dispose of all waste in a plastic trash or biohazard bag and immediately close and dispose of the bag.

Disinfection: After an area or object has been cleaned, it must be disinfected. Although there may be health concerns with using bleach because it can be an irritant, a bleach solution is recommended for norovirus outbreaks. Please note that bleach should never be mixed with other cleaners/disinfectants as it can create poisonous gases. Bleach may damage metal surfaces, floor finishes, carpets, clothing, and other textiles.

To prepare a bleach solution, use 3/4 cup concentrated bleach (or 1 cup of regular strength bleach) to one gallon of water; the disinfection method will vary depending on the type of surface or material being disinfected (see below). Be sure to prepare fresh bleach solutions daily, because bleach can lose effectiveness if left out and exposed to air. When disinfecting, leave bleach on the surface for at least 5 minutes covering the entire surface and then rinse thoroughly with clean water.

A U.S. Environmental Protection Agency (EPA)-approved disinfectant for norovirus ([EPA List G](#)) can be used in certain situations. However, these disinfectants were tested

against a different virus similar to norovirus and may not be as effective as bleach. The use of a bleach solution is recommended for use during norovirus outbreaks whenever possible. Be sure to read the product labels, as there may be separate directions for using the products as disinfectants versus as cleaners. Follow the manufacturer's instructions to ensure appropriate dilution and contact time, which will vary depending on the type of surface.

Cleaning Specific Surfaces/Items:

- **High-Touch Surfaces:** Objects that are frequently touched include door handles, hand rails, light switches, toilets, faucets, tables, counters, chairs, walls, toys, phones, recreation/gym equipment, mats, blankets, sheets, keyboards, and shared items. Carefully remove any vomit and diarrhea, and clean contaminated objects and surfaces with soap and hot water. Then, disinfect with the bleach solution. Be sure to clean nearby objects that may also have been contaminated by vomit or diarrhea. This should be done multiple times a day if possible.
- **Non-Porous (Hard) Surfaces:** For toilets, sinks, furniture, walls, floors and other hard, non-porous surfaces, carefully remove vomit and diarrhea, and clean contaminated objects and surfaces with soap and hot water. Then, disinfect with the bleach solution.
- **Porous Surfaces (Carpets/Upholstery):** For carpets, upholstery, and other porous surfaces, carefully remove as much vomit and diarrhea as possible, and clean with soap and hot water. Then, steam clean at a temperature of 158° F for five minutes or 212° F for one minute. To minimize aerosolization of particles, do not vacuum.
- **Food/Mouth Contact Items:** For objects that may come in contact with food or the mouths of people (such as toys or dishes), carefully remove vomit and diarrhea. Then, disinfect with the bleach solution. Rinse thoroughly with clean water afterwards. Alternatively, dishes, utensils, and cups can be cleaned with a dishwasher (using hot water and dishwasher detergent) immediately after use.
- **Cloth and Plush Items:** For clothing/linens/textiles and plush items, including stuffed animals, bedding, curtains, and mattress covers, carefully remove as much vomit and diarrhea as possible. Then, wash items in a pre-wash cycle, followed by a regular wash cycle with detergent. Dry items at a temperature greater than 170° F. Do not mix contaminated and uncontaminated items in one load; it is better to discard soiled materials than to risk exposure during cleaning. 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. If soiled items are sent home, be sure to provide guidance on proper washing and drying procedures to parents or guardians.
- **Diaper Changing Surfaces and Potty Chairs:** For diaper changing stations and potty chairs, clean with soap and hot water, and disinfect using the bleach solution after each use (including equipment or supplies that were touched). Rinse thoroughly with clean water afterwards.
- **Objects Not Easily Cleaned:** Items that are difficult to clean, like board games, playing cards, books, puzzle pieces, crayons, and clay, should be discarded.
- **Outdoor Areas:** Remove waste, and cover the affected area with dirt or soil.