

## CLEAN UP FOR VOMITING & DIARRHEAL EVENT IN RETAIL FOOD FACILITIES

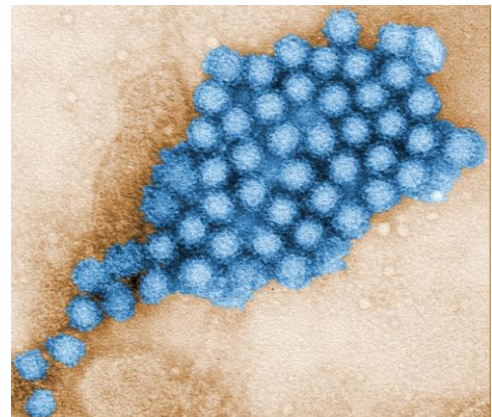
### GENERAL INFORMATION

Noroviruses are a group of viruses that cause gastroenteritis [gas-trō-en-ter-ī-tis] in people. Gastroenteritis is an inflammation of the lining of the stomach and intestines, causing an acute onset of severe vomiting and diarrhea. Norovirus illness is usually brief in people who are otherwise healthy. Young children, the elderly, and people with other medical illnesses are most at risk for more severe or prolonged infection. Like all viral infections, noroviruses are not affected by treatment with antibiotics. Norovirus infections spread very rapidly. Healthcare facilities and other institutional settings (e.g., daycare centers, schools, etc.) are particularly at-risk for outbreaks because of increased person-to-person contact.

**Assembling and storing these supplies in a 'kit' to allow for easier access and rapid response. All food employees should know where to find the Clean-up Kit and how to use it properly.**

### SUGGESTED SUPPLIES:

- ✓ 'Caution! - Wet Floor' signs or safety cones
- ✓ Eye protection
- ✓ Disposable gloves (vinyl, latex or rubber)
- ✓ Disposable mask
- ✓ Disposable plastic apron
- ✓ Biohazard clean-up kits which would include:
  - Liquid spill absorbent material
  - Disposable shovel or scrapper
  - Disposable bags and bag ties
  - Disinfectant rated for Noroviruses
- ✓ Paper towels
- ✓ Several plastic trash bags and bag ties
- ✓ Disinfectant and applicators (effective against viruses, including norovirus)
- ✓ Sanitizing solution
- ✓ Mop and mop buckets (note: mops are not recommended for clean-up, unless mop head is immediately discarded after use)
- ✓ Buckets for cleaning solutions
- ✓ Spray bottles and/or portable hand pump spray applicator



**DISINFECTION OF THE CONTAMINATED AREA:**

For environmental disinfection, the CDC recommends a diluted chlorine bleach solution (made from 5.25% sodium hypochlorite bleach) be applied to environmental surfaces at prescribed concentration levels.

Other EPA registered disinfectants for norovirus can be used for food establishments.

- When using an EPA registered (for norovirus) disinfectant, apply per manufacturer's instructions and follow prescribed contact time.
- Repeated application of disinfectants is suggested to further ensure the treated area remains saturated to achieve required contact time recommendations.

**DO NOT MIX CHEMICALS!!****CHLORINE BLEACH DISINFECTION REFERENCE CHART:**

Description of Environmental Surface	Chlorine Bleach (5.25% Sodium Hypochlorite) Concentration (PPM)	Mixture	Contact Time
'Clean' hard, non-porous surfaces	1000 ppm	1/3 cup bleach per gallon of water	5 minutes
'Soiled' hard, non-porous surfaces	5000 ppm	1 2/3 cup bleach per gallon of water	5 minutes
'Soiled' porous surfaces	5000 ppm	1 2/3 cup bleach per gallon of water	5 minutes

**Note: Discoloration or damage may occur where 5.25% hypochlorite bleach is used. Ensure treated areas are well ventilated.**

**Chart References:**

[http://www.nps.gov/public\\_health/info/factsheets/fs\\_noro\\_r&c.htm](http://www.nps.gov/public_health/info/factsheets/fs_noro_r&c.htm)  
[http://www.cdc.gov/ncidod/dhqp/id\\_norovirusFS.html](http://www.cdc.gov/ncidod/dhqp/id_norovirusFS.html)

**CLEAN UP PROCEDURES**

1. Specially trained staff should be assigned clean up and disinfection tasks.
2. Define the area of contamination and the area to be disinfected.
3. Close or block off the affected area(s) or department(s) using the 'Caution - Wet Floor' signs, caution tape or safety cones until the clean-up procedure is completed. Control foot traffic of employees and/or customers until clean up procedures and disinfection has been completed.
4. Put on your personal protective equipment (PPE).
5. To minimize potential aerosol spread, the soiled areas should be covered immediately with a disposable cloth or paper towels.
6. Use absorbent, paper towels, etc. to soak up excessive soil caused by vomitus and/or feces. Carefully transfer these and any solid matter into a plastic bag by folding it on itself and placing the waste materials into the plastic bag. Double bagging is recommended. Apply disinfectant solution over absorbent materials and seal bag(s).

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7. Apply a chlorine bleach solution or other EPA registered (against norovirus) disinfectant to all surfaces within defined contamination areas (equipment, floors, walls, etc). Avoid application of disinfectant solution via excessive force or focused stream (i.e., power washer or hose with sprayer handle) to prevent aerosolizing any virus particles.

**NOTE:** Work from the perimeters of the room or affected area towards either the center of contamination site or a floor drain.

8. For floor surfaces, generously apply the disinfectant with a disposable towel or mop head, keeping surfaces wet per the manufacturer's label then allowing surfaces to air dry.

9. Disassemble all exposed food preparation equipment within potential contamination area and apply disinfectant solution per manufacturer's label. Allow the surfaces to remain wet per contact time recommended on chemical manufacturer's label instructions.

10. Consider repeating steps 7 through 9 above as a precautionary measure to further ensure the norovirus agent is fully inactivated.

11. It is recommended that open and exposed food items and single service items be discarded. Some alternatives to discarding intact and sealed food containers or packaging supplies might include implementing a documented product disinfection process that is approved by your local regulatory official. For those items discarded, place food and containers into a trash bag, seal, and then place into outside dumpster/compactor.

12. For food contact surfaces, which were disinfected, rinse the surface and resume routine cleaning and sanitizing procedures.

13. For non-food contact surfaces, resume routine cleaning and sanitizing procedures.

14. Bag, seal and discard all disposable cleaning equipment (i.e., mop heads, gloves, aprons), exposed to the initial contamination or used during clean up.

15. Disinfect any tools or other non-disposable items used in the clean-up (i.e., mop buckets, handles).

16. Immediately after clean-up procedures are completed, thoroughly wash face and hands (giving extra attention between fingers and under finger nails) using defined procedures and soap.

17. Reopen the affected area following natural drying.

**IMPORTANT:** Special cleaning attention should also be given to areas such as restrooms and drinking fountains and other common areas with high potential for hand contact. Even though vomitus or fecal material may not be visible, it is common for sick individuals to use public restrooms following an incident.

**Is Quaternary ammonium effective against norovirus? What is the recommended procedure in disinfecting against norovirus?**

**Answer:**

Quaternary Ammonium and ethanol alcohol are lipophilic sanitizers and therefore are not very effective against single-stranded, non-enveloped RNA viruses, such as norovirus, since they lack a lipid envelope to attack. Barker, et al., 2004, did a disinfection study using norovirus, and found that when an area is contaminated with fecal material, the area must first be wiped clean with detergent and water, and then followed by disinfection with exposure to 5000 ppm hypochlorite solution for at least 5 min., in order to completely eliminate norovirus. This would be equivalent to about 1/4 Cup of chlorine bleach in 1 gallon of water. However, this concentration is much higher than recommended for sanitizing food contact surfaces in the Food Code, and may damage many materials, so great care must be taken in using this

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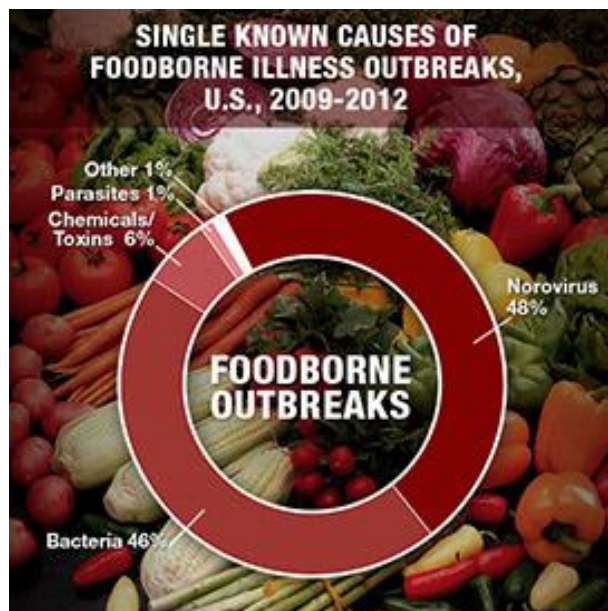
disinfection procedure, and if the area is a food contact area, this disinfection procedure must be followed by a second step.

If the contaminated area consists of food contact surfaces, then the disinfection must be followed by a clear-water rinse, and a final wipe down with a sanitizing bleach solution, consisting of 200 ppm chlorine bleach. There are other disinfectants that have been found to be effective against the feline calicivirus, which is genetically similar to the norovirus, but there is no assurance that the feline calicivirus is similar in biocide resistance characteristics to norovirus. For example, EPA has registered a 0.5% hydrogen peroxide solution against the feline calicivirus.

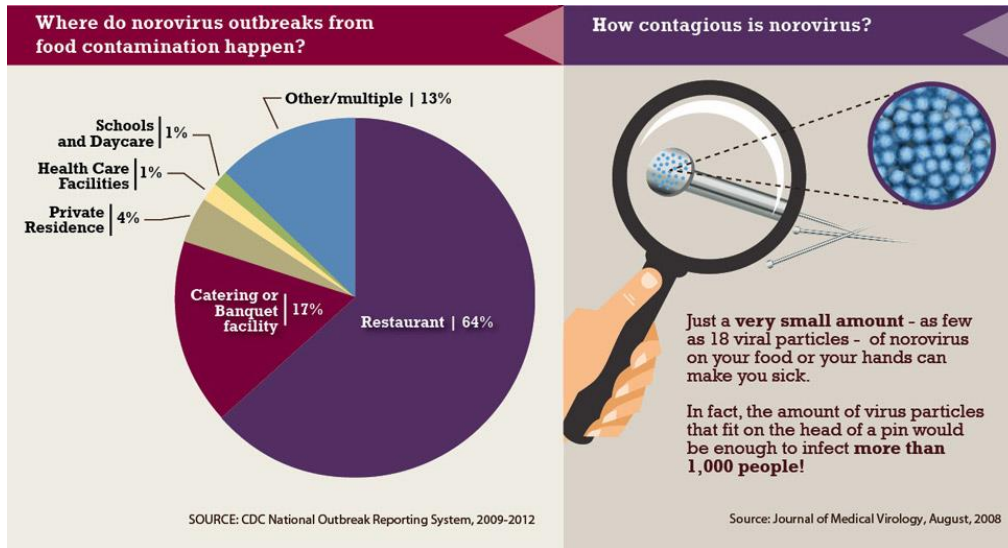
Environmental disinfection recommendations in the literature include the need to disinfect all heavy hand contact surfaces such as food preparation surfaces, self-service utensil handles, faucets, tables, chairs, counters, door handles, push plates, railings, elevator buttons, telephones, keyboards, vending machine keyboards, pens, pencils, casino chips, cards, slot machines, sports equipment, etc. Public restroom surfaces, including: faucet handles, soap dispensers, stall doors and latches, toilet seats and handles, and towel dispensers are also important heavy fecal contamination areas that require disinfection. When norovirus contamination is suspected, cleaning procedures that increase the aerosolization of norovirus should not be utilized, such as vacuuming carpets or buffing hard surface floors. Contaminated carpeting should be disinfected with a chemical disinfectant if possible, and then steam cleaned for a minimum 5-minute contact time at a minimum temperature of 170 degrees F.

When a food worker or patron vomits in a public area or food preparation area, the vomit should be treated as potentially infectious material and should be immediately covered with a disposable cloth, and doused with a disinfectant to reduce the potential airborne contamination. All individuals in the immediate area of the vomiting incident should be cleared from the area before the vomit is cleaned-up. Cleaning staff should use disposable face masks, gloves, and aprons when cleaning up after a vomiting incident. Paper toweling or other toweling used to clean-up liquid vomit should be immediately disposed in a sealed trash bag and properly disposed.

SOURCE: FDA, CFSAN Risk Profile Norovirus (in FDA review process).



<http://www.cdc.gov/norovirus/>



<http://www.cdc.gov/vitalsigns/norovirus/infographic.html#infographic>

This poster and others can be found at:

<http://www.disinfect-for-health.org/resourceswww.CDC.gov>

# Help Prevent the Spread of Norovirus ("Stomach Bug")

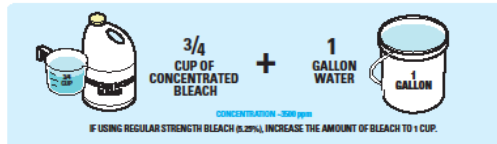
IF NOROVIRUS IS AFFECTING YOUR COMMUNITY, HERE ARE SOME ACTIONS YOU CAN TAKE TO HELP PREVENT FURTHER ILLNESS

- Clean up surfaces**
  - Clean frequently touched surfaces with soapy water
  - Rinse thoroughly with plain water
  - Wipe dry with paper towels
  - Dispose of paper towels

**DON'T STOP HERE: GERMS CAN REMAIN ON SURFACES EVEN AFTER CLEANING!**

- Disinfect surfaces**
  - Prepare and apply a chlorine bleach solution**

Make bleach solutions fresh daily; keep out of reach of children; never mix bleach solution with other cleaners. Mixing directions are based on EPA-registered bleach product directions to be effective against norovirus. For best results, consult label directions on the bleach product you are using.



- Leave surface wet for at least 5 minutes
- Rinse all surfaces intended for food or mouth contact with plain water before use

- Wash your hands thoroughly with soap and water**

Hand sanitizers may not be effective against norovirus.

**Facts about Norovirus**

Norovirus is the leading cause of outbreaks of diarrhea and vomiting in the US, and it spreads quickly.

Norovirus spreads by contact with an infected person or by touching a contaminated surface or eating contaminated food or drinking contaminated water. Norovirus particles can even float through the air and then settle on surfaces, spreading contamination.

Norovirus particles are extremely small and billions of them are in the stool and vomit of infected people.

Any vomit or diarrhea may contain norovirus and should be treated as though it does.

People can transfer norovirus to others for at least three days after being sick.

Scientific experts from the U.S. Centers for Disease Control and Prevention (CDC) helped to develop this poster. For more information on norovirus prevention, please see <http://www.cdc.gov/norovirus/preventing-infection.html>.