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DPHHS Technical Guidance on Norovirus: Outbreak management and disease prevention guidelines for general settings.

This document serves as guidance for hygiene and disinfection procedures for general settings (e.g., workplaces, churches, community gatherings, etc.) during confirmed and suspected norovirus outbreaks.

Norovirus is the most frequent cause of acute gastrointestinal illness in the United States. Norovirus is very contagious and is spread by contaminated food or water, and after touching contaminated surfaces.

General staff and visitors

- Hand hygiene
 - Encourage frequent handwashing with soap and running water for at least 20 seconds — handwashing is especially important after using the toilet or changing diapers, and before eating
 - Recommend use of ethanol-based hand sanitizers (60–95%) between proper handwashings and when handwashing is not possible

NOTE: the use of hand sanitizer should be considered an adjunct for and not a replacement of proper handwashing with soap and running water
- Exclusion
 - Recommend any staff member or visitor with acute gastrointestinal illness stay home until at least 48 hours after symptoms have resolved

Food handlers

- Ensure food handlers wash hands frequently with soap and running water for at least 20 seconds and always before preparing or handling food
- Ensure staff use gloves when handling ready-to-eat foods and eating utensils
- Ensure staff do not prepare food for others while ill with an acute gastrointestinal illness and for at least 72 hours after symptoms end
- Food service employees are prohibited from working while suffering from an acute gastrointestinal illness (Administrative Rules of Montana 37.110.210) and should be encouraged to remain home until at least 72 hours after symptoms have resolved

Caretakers

- Staff or volunteers suffering from acute gastrointestinal illness should not care for infants, children, or other adults
- Recommend staff members caring for infants, children, or other adults stay home until at least 72 hours after gastrointestinal symptoms have resolved

Custodial staff

- Environmental disinfection
 - Sodium hypochlorite (chlorine bleach) products with activity against norovirus should be used to disinfect surfaces (**Table**)
Note: Other US EPA-approved cleaning products can be found at the following website: http://www.epa.gov/oppad001/list_g_norovirus.pdf
 - Particular attention should be given to areas most likely to have the greatest norovirus contamination such as bathrooms and high-touch surfaces (e.g., door knobs, computer keyboards and mice, light switches, hand rails, etc.)
 - Initial cleaning of contaminated surfaces to remove fecal material or vomitus should be performed **before** chlorine bleach disinfection
 - Areas visibly soiled with fecal material or vomitus should be cleaned using hot water and detergent, or steam cleaned
Note: do not vacuum as norovirus can become airborne
 - Bleach solutions should be prepared for use within 24 hours
 - Do not mix bleach and ammonia solutions; doing so can cause deadly vapors
 - Do not enter food service area with items soiled with fecal material or vomitus
 - Use a utility sink for washing items soiled with fecal material or vomitus

Table. Recommended cleaning agents for use during norovirus outbreak

Suggested uses	Suggested Cleaning Method	How to Make (1 cup = 240 ml)	Strength (parts per million)
Porous surfaces such as wood floors or surfaces visibly soiled with vomit/feces	Chlorine bleach ^a	1 ½ cup bleach in 1 gallon water	5000 ppm (1:10 dilution)
Non-porous surfaces such as handrails, tile floors, counter-tops, sinks, toilets, doorknobs, and other commonly handled items.	Chlorine bleach ^a	1/3 cup bleach in 1 gallon water	1000 ppm (1:50 dilution)
Food/mouth contact items, stainless steel and toys mouthed by children	Chlorine bleach ^a then rinsed with water OR dishwasher at 170°F	1 Tablespoon bleach in 1 gallon water	200 ppm (1:250 dilution)
Carpet & upholstered fabrics visibly soiled with vomit or fecal spillage. DO NOT dry vacuum as viruses can become airborne	Hot water & detergent OR steam clean	N/A	N/A

^aBleach solution must: be prepared fresh daily and have 10–20 minute surface contact time. Use unopened bleach for outbreak-related sanitization (open bottles lose effectiveness after 30 days from opening). EPA-registered disinfectants may also be used although effectiveness in outbreaks has not been evaluated.

Warning: cleaning staff should wear protective equipment when handling chemicals.

Table adapted from http://www.michigan.gov/documents/Guidelines_for_Environmental_Cleaning_125846_7.pdf

References:

1. Centers for Disease Control and Prevention (CDC). Norovirus. <http://www.cdc.gov/norovirus>.
2. CDC. Updated Norovirus Outbreak Management and Disease Prevention Guidelines. MMWR. 2011;60(No. RR-3):1–15. <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6003a1.htm>