

DISINFECTION OF SURFACES AFTER CONTAMINATION WITH NOROVIRUS

Best Practices for Cleaning Vomit/Diarrhea to Prevent the Spread of Disease

According to The Centers for Disease Control and Prevention, noroviruses are the leading cause of vomiting, diarrhea, and foodborne illness in the United States. Noroviruses are extremely contagious, spread very easily and quickly, and are transmitted in many ways.

Children attending schools in Georgia should be assured of a healthy environment any time they are on school property. Appropriate cleaning supplies and disinfectants must be available and used properly to clean and disinfect surfaces that may have been contaminated with norovirus by events that involve vomit or diarrhea.

If surfaces become contaminated with vomit and/or diarrhea, proper cleaning and disinfection must be administered immediately to help prevent the potential spread of norovirus. This document outlines the best practices to follow when disinfecting surfaces after possible contamination with this virus.

Key Terms and Definitions –

Aerosolization: The creation of a fine mist or exceedingly small droplets.

Chlorine Bleach: Household bleach (5.25% or 6.00%–6.15% sodium hypochlorite depending on manufacturer) usually diluted in water at 1:10 or 1:100. Approximate dilutions are 1.5 cups of bleach in a gallon of water for a 1:10 dilution (~5,000 ppm) and 0.25 cup of bleach in a gallon of water for a 1:100 dilution (~600 ppm). Sodium hypochlorite products that make pesticidal claims, such as sanitization or disinfection, must be registered by EPA and be labeled with an EPA Registration Number.

Cleaning: Removal, usually with detergent and water or enzyme cleaner and water, of adherent visible soil, blood, protein substances, microorganisms, and other debris by a manual or mechanical process that prepares the items for safe handling and/or further decontamination.

Disinfectant: Usually a chemical agent (but sometimes a physical agent) that destroys disease-causing pathogens or other harmful microorganisms but might not kill bacterial spores. It refers to substances applied to inanimate objects. EPA groups disinfectants by product label claims of “limited,” “general,” or “hospital” disinfection.

Disinfection: Thermal or chemical destruction of pathogenic and other types of microorganisms. Disinfection is less lethal than sterilization because it destroys most recognized pathogenic microorganisms but not necessarily all microbial forms (e.g., bacterial spores).

Noroviruses: A group of viruses that are a common cause of foodborne illness and acute gastroenteritis that can strike quickly with force and make a person feel extremely sick, but which typically resolves within 2-3 days. Common symptoms include vomiting and diarrhea.

Sanitizer: A substance or product that is used to reduce or eliminate pathogenic agents (such as bacteria) on surfaces.

Best Practice Procedure –

It is important to understand that sanitizers commonly used in food service cannot kill norovirus. As such, sanitizers should not be used. Chlorine bleach is the most effective disinfectant against norovirus (Centers for Disease Control and Prevention, 2023).

When disinfecting any hard, non-porous surface to kill norovirus, the following procedure should be used:

- Clean the surface with warm water and detergent.
- Disinfect with a 5000-ppm chlorine solution (1 ½ cups of 5.25% sodium hypochlorite (common bleach) in 1 gallon of water).
- For best results, the disinfectant should be allowed to stay on surfaces for at least 5 minutes and allowed to air dry.

Because this concentration of sodium hypochlorite is much stronger than the concentration recommended for food contact surfaces, immediately follow the above procedure when sanitizing a food contact surface with the following:

- Rinse food contact surfaces with clear water.
- Apply 200 ppm chlorine solution (1 tablespoon of 5.25% sodium hypochlorite in 1 gallon of water).
- Allow to air dry.

Recommendations from the Centers for Disease Control and Prevention for environmental disinfection for viruses 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, keyboards, vending machine keyboards, pens, pencils, 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 the virus 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 chlorine cannot be used, use a disinfectant that is rated as antiviral as noted on the product label.

When any person 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 or arresting compound. A 5000-ppm chlorine solution (like the solution described above) should be poured over the area 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 placed in a sealed trash bag and properly disposed.

Note: School foodservice staff should never clean-up any bodily fluids, especially vomit, because of possible contamination of hands that will subsequently be used to prepare food. Ideally, only custodial staff should clean up after a contamination event.

REFERENCES –

Centers for Disease Control and Prevention, Norovirus. Found at: <https://www.cdc.gov/norovirus/index.html>. Accessed on November 8, 2023

AUTHORITY – FEDERAL

Chapter 7, Code of Federal Regulation Parts 210.9(b)(14), 210.13(a)&(c) 210.19(e)

AUTHORITY – STATE
Georgia Department of Human Resources Rule 511-6-1