

Norovirus and Norwalk-Like Cleaning and Disinfection Protocol

This document has been developed in accordance with current applicable infection control and regulatory guidelines. It is intended for use as a guideline only. At no time should this document replace existing documents established by the facility unless written permission has been obtained from the responsible facility manager.

PREFACE

Noroviruses are non-enveloped viruses that are transmitted primarily through the fecal-oral route, either by consumption of fecally contaminated food or water or by direct person-to-person spread. Environmental and fomite contamination may also act as a source of infection. Good evidence exists for transmission due to aerosolization of vomitus that presumably results in droplets contaminating surfaces or entering the oral mucosa and being swallowed. No evidence suggests that infection occurs through the respiratory system.

Noroviruses are highly contagious and as few as 10 viral particles may be sufficient to infect an individual. During outbreaks of norovirus gastroenteritis, several modes of transmission have been documented; for example, initial foodborne transmission in a restaurant, followed by secondary person-to-person transmission to household contacts.

This protocol has been developed based on current practices for cleaning and disinfection of enveloped and non-enveloped viruses.

INFECTIOUS AGENT¹

NAME: *Norwalk virus*

SYNONYM OR CROSS REFERENCE: Acute viral gastroenteritis, Norwalk-like disease, epidemic viral gastroenteritis, acute infectious nonbacterial gastroenteritis, viral diarrhea, epidemic diarrhea and vomiting, winter vomiting disease, epidemic nausea and vomiting

CHARACTERISTICS: *Caliciviridae*; round, non-enveloped, 27-32 nm virion; single-stranded positive - sense RNA

HEALTH HAZARD

PATHOGENICITY: Abrupt onset of diarrhea, vomiting, non-bloody diarrhea and abdominal cramps; 25-50% of affected persons report myalgias, malaise, headache, nausea and low-grade fever; illness usually resolves within 24-48 hours; fatality is associated with electrolyte imbalance; symptoms can persist for up to several weeks; higher risk of symptomatic infection in individuals with pre-existing levels of antigen-specific antibodies have been documented

EPIDEMIOLOGY: Worldwide and common; affects mainly older children and adults; frequent outbreaks in camps, schools, nursing homes, cruise ships and areas with contaminated drinking and swimming water; outbreaks are limited to 1-2 weeks

HOST RANGE: Humans

INFECTIOUS DOSE: Not known

¹ Public Health Agency of Canada, Material Safety Data Sheet – Infectious Substances: Norwalk Virus. <http://www.phac-aspc.gc.ca/msds-ftss/msds112e.html>

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MODE OF TRANSMISSION: Principally by fecal-oral route; other documented sources include water, food (particularly shellfish and salads), aerosol and fomites

INCUBATION PERIOD: From 10-60 hours; usually 24-48 hours

COMMUNICABILITY: Communicable during the acute stage of the disease; up to 48 hours after resolution of symptoms; presymptomatic shedding has been implicated in epidemiological studies

PREPARATION

Norwalk and Norwalk like viruses are highly contagious. This virus is transmitted primarily through the fecal-oral route, either by consumption of fecally contaminated food or water or by direct person-to-person spread. Environmental and fomite contamination may also act as a source of infection.

Appropriate personal protection must be taken for those responsible for the decontamination of a room or area.

PROTECTIVE BARRIERS

1. Disposable gloves. Gloves should be changed as required, i.e., when torn, when hands become wet inside the glove and between patient rooms.
2. Household gloves can be worn, but they must be discarded when the cleaning is complete.
3. Protective Eye wear (goggles, face shield or mask with eye protection)
4. Masks (surgical or procedural masks sufficient)
5. Gowns

PRODUCTS

Accelerated Hydrogen Peroxide Surface Disinfectant (sold as 7% Virox 5 Concentrate, Virox 5 Ready-To-Use and/ or Virox 5 Wipes, 7% PerCept Concentrate, PerCept RTU or PerCept Wipes, 7% Accel Surface Cleaner Disinfectant Concentrate, Accel RTU or Accel Wipes) and 0.5% Accelerated Hydrogen Peroxide Tuberculocidal Surface Disinfectant (sold as Accel TB TRU or Accel TB Wipes)

1. Preparation of solution - Pre-mix and label from a controlled location 7% AHP Concentrate at a ratio of 1:16 (0.5% AHP).
2. Place mixed solution in either a labeled - flip top 1Litre bottle or a small hand bucket.
3. AHP RTU is ready to use (0.5% AHP).
4. AHP Wipes are ready to use (0.5% AHP).

PRODUCT GERMICIDAL EFFICACY

All products listed above are based upon Accelerated Hydrogen Peroxide – and have a General Virucide Claim against Poliovirus Type 1, Sabin Strain, which includes inactivation of both enveloped and non-enveloped viruses. In addition to the General Virucide Claim, Accelerated Hydrogen Peroxide has been proven to show efficacy against HIV, Human Coronavirus, Human Rhinovirus, Human Rotavirus, Canine Parvovirus, Feline Calicivirus (Norovirus) and the H3N2 strain of Avian Influenza A.

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SUMMARY OF PROCEDURES

Apply solution to either surface or to cloth. Clean all horizontal surfaces in the room ensuring that the cloth is changed when soiled. Place used cloth in a marked plastic-lined waste receptacle. Disinfect all horizontal surface of the room by reapplying the AHP Solution and allowing for a 5-minute contact time. If using cloth & bucket method, once room has been cleaned discard all unused cleaning solution before proceeding to the disinfection step. Allow to air dry or wipe dry if surfaces are still wet after the 5-minute contact time. Periodic rinsing of soft surfaces such as vinyl or naugahyde is suggested.

Bathrooms within a room should be cleaned last.

Recommended Procedures for Housekeeping Activities Detailed Activity

1. Gather all equipment, cleaning solutions and materials required to clean the room.
2. **WASH** hands and put gloves prior to entering room. Personal protective equipment should be changed if torn or soiled and should always be changed between patient rooms.
3. Place wet floor sign at the door entrance.
4. Pick up garbage in room and place in regular garbage bag.
5. Strip beds and place linen in regular linen bags. Put soiled linen in regular linen bins. If bins are more than half filled or if there is no bin, leave in the soiled utility room.
6. Basin, bedpan, urinal etc. to be placed in CSR bins in soiled utility room.
7. Visible or gross soil present and/or blood or body fluid spills must be removed prior to cleaning. [See Protocol for Cleaning & Disinfecting a Blood or Body Fluid spill.]
8. Clean all furniture, bed, night table, basin and all bathroom fixtures and all high touch areas, knobs, switches, call bells etc. and everything that is touched by the patient in the bathroom ensuring that clean cloths and solutions do not become contaminated (**NO DOUBLE DIPPING**) with the **AHP Solution**. Allow surfaces to remain wet for 30 seconds to achieve the 30-second Broad-Spectrum Sanitizing claim.
9. Disinfect all furniture, bed, night table, basin and all bathroom fixtures and all high touch areas, knobs, switches, call bells etc. and everything that is touched by the patient in the bathroom ensuring that clean cloths and solutions do not become contaminated (**NO DOUBLE DIPPING**) with the **AHP Solution**. Reapply the **AHP Solution** and allow surfaces to remain wet for 5 minutes to achieve the Bactericidal and Virucidal claim.
10. Remake beds and restock dispensers.
11. Spot wipe all walls, high to low with the **AHP Solution**.
12. Remove and replace cubicle curtains.
13. Soiled rags should be placed in a regular plastic bag and then in regular soiled linen bin or the dirty utility room. Take all garbage bags to the appropriate disposal area.
14. Remove and discard gloves, **WASH** hands prior to leaving room.

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Recommended Procedures for Cleaning & Disinfecting of Blood & Body Fluid Spills

Appropriate personal protective equipment should be worn for cleaning up a body fluid spill. Gloves should be worn during the cleaning and disinfecting procedures. If the possibility of splashing exists, the worker should wear a face shield and gown. For large spills, overalls, gowns or aprons as well as boots or protective shoe covers should be worn. Personal protective equipment should be changed if torn or soiled, and always removed before leaving the location of the spill, and then wash hands.

1. **WASH** hands and put on gloves.
2. If the possibility of splashing exists, the worker should wear a face shield and gown. For large spills, overalls, gowns or aprons as well as boots or protective shoe covers should be worn. Personal protective equipment should be changed if torn or soiled and always removed before leaving the location of the spill.
3. Apply the **AHP Solution** to spill – wait 30 seconds.
4. Blot up the blood with disposable towels. Dispose of paper towel in plastic-lined waste receptacle.
5. Spray or wipe surface with the **AHP Solution** – wait 5 minutes. Wipe dry with disposable paper towel. Discard paper towel as above.
6. Remove gloves and dispose in plastic-lined waste receptacle.
7. **WASH** hands.

Disposal of Infectious Material

All cleaning cloths gloves and handled tools used for the decontamination of a suspected Avian Flu virus case must be placed in a clearly marked plastic lined waste receptacle. Decontaminate all wastes before disposal; steam sterilization, chemical disinfection and or incineration.

Instructions for Confirmatory Testing of 7% AHP Concentrate Surface Disinfectants

The Accelerated Hydrogen Peroxide Test Strip (Part No. AHP500) can be used for confirmatory testing when required by facility protocol. These strips are easy to use dip-and-read reagents strips for a pass or fail determination of the hydrogen peroxide concentration in the 7% AHP Concentrate Surface Disinfectant solution.

1. Remove a test strip and immediately close the container.
2. Dip the test strip into the Diluted AHP solution to be tested for 1-second ensuring that the reaction zone is completely wetted.
3. Remove the test strip and shake of excess liquid.
4. Wait for 120-seconds then compare the reaction zone with the colour scale.

NOTE: The purpose of confirmatory testing is not to extend the shelf life beyond the 30-day claim. Should the test strip show that the Diluted AHP Solution still meets the targeted level of hydrogen peroxide after 30 days the product **MUST** still be disposed to ensure compliance with testing and label claims.



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References:

Public Health Agency of Canada, Material Safety Data Sheet – Infectious Substances: Norwalk Virus. <http://www.phac-aspc.gc.ca/msds-ftss/msds112e.html>

Center for Disease Control, Norovirus Technical Fact Sheet. <http://www.cdc.gov/ncidod/dvrd/revb/gastro/norovirus-factsheet.htm>

Saskatchewan Health, Norwalk Virus, Norovirus Fact Sheet. http://www.health.gov.sk.ca/rr_norwalk.pdf