



Cleaning and Disinfection Protocol for Enveloped Viruses

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.

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

PREFACE

Enveloped viruses are viruses that possess an envelope or outer coating that is composed of a lipid layer (fat-like substance that is water insoluble). The envelope is needed to aid in attachment of the virus to the host cell. Loss of the envelope results in loss of infectivity. The mode of transmission for enveloped viruses is characterized by the specific virus; however, the most common routes are via indirect or direct contact of infectious virus particles, contact with or inhalation of respiratory droplets. Some enveloped viruses may also be transmitted by airborne transmission.

Enveloped viruses are easily inactivated by routine surface cleaning and disinfection.

The following table provides examples of Enveloped Viruses and Mode of Transmission of concern for Healthcare settings.

Virus	Mode of Transmission	Infective Material
Coronavirus (ex, SARS-CoV)	Direct and Indirect Contact, Droplet	Respiratory secretions
Cytomegalovirus (CMV)	Sexual contact, Direct Contact	Blood, exposure to mucosal contact with infected tissues, secretions (saliva, breast milk, semen etc), excretions
Ebola Virus	Direct and Indirect Contact, Possibly by airborne if pneumonia present	Blood and body fluids, Respiratory secretions
Epstein-Barr Virus	Direct contact	Oropharyngeal route via saliva, blood products
Hantavirus	Inhalation of infected particles from Rodent urine or feces	Urine and Feces
Hepatitis B	Direct (mucosal or percutaneous exposure to infective body fluids) and Indirect contact	Blood and body fluids
Hepatitis C	Direct contact (sexual or percutaneous)	Blood and body fluids
Herpes Simplex (ex, HS-1, HS-II)	Direct Contact	Skin or mucosal lesions, body secretions and excretions
Herpes zoster (Varicella-Zoster)	Airborne, Direct and Indirect contact	Vesicle fluid, respiratory secretions
Human Immunodeficiency Virus (HIV)	Mucosal or percutaneous exposure	Blood and Body Fluids
Influenza (including A, B, Avian)	Large droplets, Direct and Indirect contact, possibly airborne	Respiratory secretions
Lassa Virus (Lassa Fever)	Direct and Indirect contact (possibly airborne if pneumonia is present)	Blood and body fluids, respiratory secretions, possibly urine and stool
Marburg Virus	Direct and Indirect contact (possibly airborne if pneumonia is present)	Blood and body fluids, respiratory secretions
Monkeypox Virus	Direct Contact (person-to-person)	Vesicle secretions
Measles (Morbillivirus)	Airborne	Respiratory secretions
Mumps (Rubulavirus)	Large droplets and Direct contact	Saliva
Parainfluenza virus	Direct and Indirect contact, large droplets	Respiratory secretions
Respiratory Syncytial Virus (RSV)	Direct and Indirect Contact, Large droplets	Respiratory secretions



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PREPARATION

Transmission of enveloped viruses can be attributed to direct and indirect contact, respiratory droplets and airborne transmission. Appropriate personal protection should be taken for those responsible for the decontamination of a room or area. Appropriate bio-security practices should be applied, including limiting the amount of aerosols generated and disturbance to dust / soil in the area to be cleaned and disinfected.

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 (N95)
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 Oxivir Tb RTU, Oxivir Tb Wipes, Carpe Diem Tb RTU, Carpe Diem Tb Wipes, Accel TB RTU 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 1 Litre 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 Sanitizing claim and a Bactericidal claim against Vegetative Bacteria including MRSA and VRE. Additionally, the products carry 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.

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 surfaces of the room paying special attention to hand contact and frequently touched surfaces 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.



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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 and mask prior to entering room. Personal protective equipment should be changed if torn or soiled and 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 such as, door 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. If using an open bucket and cloth method, the cloths should not be returned to the bucket for rinsing or rewetting (**NO DOUBLE DIPPING**) with **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 **AHP Solution**. Reapply the **AHP Solution** and allow surfaces to remain wet for the appropriate contact time as specified on the product label (1 to 5 minutes) to achieve the Bactericidal and Virucidal claim.
10. Remake beds and restock dispensers.
11. Spot wipe all walls, high to low with **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.

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.



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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 **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 **AHP Solution** – allow the appropriate contact time to pass in accordance with product label instructions (1 – to 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 Influenza 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.

Disposal of Spent AHP

0.5% Ready-To-Use Surface Cleaner and Disinfectants

- Turn on cold water tap.
- Pour the solution down the drain with water running.
- Allow water to run for 5 minutes.

7% Concentrate Surface Cleaner and Disinfectant

- Dilute the product at a ratio of 1:64 with tap water (ambient temperature).
- Turn on cold water tap.
- Pour the solution down the drain with water running.
- Allow the tap water to run for 2 minutes.
- Alternatively, for facilities with access to pH indicator/pH measuring unit:
 1. Adjust the pH to between 6 and 8 using common baking soda (approximately 1 g per litre).
 2. Pour the solution down drain.
 3. Allow tap water to run for 1 minute.

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.



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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.

References:

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