

Cleaning and Disinfection Protocol

Cleaning and Disinfection Protocol for Non-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.

PREFACE

Non-enveloped virus lack a lipid-bilayer membrane. To reproduce they must breach the membrane of a target host cell to gain access to its cytoplasm. The mode of transmission for non-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 non-enveloped viruses may also be transmitted by airborne transmission. Unlike, enveloped viruses, non-enveloped viruses are not easily inactivated by routine surface cleaning and disinfection.

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

Virus	Mode of Transmission	Infective Material
Adenovirus	Large droplets; direct and indirect contact	Respiratory Secretions
Astrovirus	Direct and indirect contact (fecal/oral)	Feces
Norovirus	Direct and indirect contact (fecal/oral)	Feces
Chickenpox	Direct and indirect contact; Airborne	Lesion drainage, Respiratory Secretions
Coxsackievirus	Direct and indirect contact	Feces, Respiratory Secretions
Echovirus	Direct and indirect contact	Feces, Respiratory Secretions
Enterovirus	Direct and indirect contact	Feces, Respiratory Secretions
Hepatitis A	Direct and indirect contact (fecal/oral)	Feces
Hepatitis E	Direct and indirect contact (fecal/oral)	Feces
Parvovirus B-19	Direct contact; Large Droplets	Respiratory Secretions
Poliovirus	Direct and indirect contact	Feces, Respiratory Secretions
Rhinovirus	Direct and indirect contact; possibly large droplets	Respiratory Secretions
Rotavirus	Direct and indirect contact	Feces

PREPARATION

Transmission of non-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



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applied, including limiting the amount of aerosols generated and disturbance to dust / soil in the area to be cleaned and disinfected.

PROTECTIVE BARRIERS

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

1. Disposable gloves. Gloves should be changed as required, i.e., when torn, when hands become wet inside the glove or when moving 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

All disinfectant or disinfect-cleaner products to be used for cleaning and disinfection of Patient Care Equipment or Devices and environmental surfaces must be approved by Health Canada and carry a Drug Identification Number (DIN). Products claiming to be a disinfectant but do not carry a DIN have not been approved for sale in Canada and should not be used. Non-enveloped viruses are in the same category as Mycobacteria with respect to difficulty of inactivation, therefore, it is important to review the product label for efficacy against non-enveloped viruses. Choose products that either have proven efficacy against the virus of interest or that carry the General Virucide Claim which in accordance to Health Canada proves efficacy against both enveloped and non-enveloped viruses.

Disinfectant Chemistries Approved for Low Level Disinfection include:

1. Alcohol
2. Accelerated Hydrogen Peroxide
3. Sodium Hypochlorite
4. Quaternary Ammonium Compounds
5. Phenolics

The concentration and contact time for each product will differ. For that reason it is important to read the product label prior to commencing any cleaning and disinfection process.



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RECOMMENDED PROCEDURES FOR CLEANING AND DISINFECTION

Summary of Procedure:

Apply the solution to either the surface or device 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 applying the disinfectant and allowing for contact time as per the product label. If using cloth & bucket method with double dipping, once room has been cleaned discard all unused cleaning solution before proceeding to the next room. Allow surfaces to air dry or wipe dry if surfaces are still wet after the contact time as been achieved. Periodic rinsing of soft surfaces such as vinyl or naughahyde is suggested as well as equipment regularly handled by hand.

1. Gather all equipment, cleaning solutions and materials required to clean the patient care devices.
2. WASH hands and put gloves prior to cleaning the devices. Personal protective equipment should be changed if torn or soiled.
3. 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.]
4. As appropriate clean all surfaces in the patient room, including the patient care equipment or devices using a detergent or enzymatic solution. Where appropriate, dismantle the devices to ensure that all surfaces can be cleaned and move all objects to ensure all environmental surfaces have been cleaned. To ensure that cross contamination does not occur use clean cloths for each device to be cleaned. If using an open bucket system, ensure that solutions do not become contaminated (NO DOUBLE DIPPING).
5. To disinfect all surfaces of the patient care devices and environmental surfaces, apply the disinfectant and allow surfaces to remain wet for the appropriate contact time as specified on the product label.
6. If using a 1-Step Cleaning-Disinfecting Solution a separate cleaning step is not necessary unless the surfaces are visibly soiled. To ensure disinfection occurs, the cleaner-disinfectant solution may need to be applied multiple times in order to achieve the contact time as specified on the product label.
7. Soiled rags should be placed in a bag for laundering. Disposable cloths should be disposed as regular waste in garbage bags.
8. Remove and discard gloves, WASH hands.



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RECOMMENDED PROCEDURES FOR CLEANING AND DISINFECTION 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 Disinfectant Solution to spill.
4. Blot up the blood with disposable towels. Dispose of paper towel in plastic-lined waste receptacle.
5. Spray or wipe surface with the Disinfectant Solution to the area and ensure the appropriate contact time is met as specified on the product label. 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 INFECTION 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.



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REFERENCES

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