



Hepatitis B Virus 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

Hepatitis B is one of the major diseases of mankind and is a serious global public health problem. It is preventable with safe and effective vaccines that have been available since 1982. Of the 2 billion people who have been infected with the hepatitis B virus (HBV), more than 350 million have chronic (lifelong) infections. These chronically infected persons are at high risk of death from cirrhosis of the liver and liver cancer, diseases that kill about one million persons each year. Although the vaccine will not cure chronic hepatitis, it is 95% effective in preventing chronic infections from developing, and is the first vaccine against a major human cancer.

Hepatitis means inflammation of the liver. The virus can cause an acute disease with symptoms lasting several weeks including yellowing of the skin and eyes (jaundice); dark urine; extreme fatigue; nausea; vomiting and abdominal pain. It can take several months to a year to feel fit again. Hepatitis B virus can cause chronic infection in which the patient never gets rid of the virus and many years later develops cirrhosis of the liver or liver cancer. HBV is the most serious type of viral hepatitis and the only type causing chronic hepatitis for which a vaccine is available.

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

INFECTIOUS AGENT¹

NAME: Hepatitis B virus

SYNONYM OR CROSS REFERENCE: HBV, Viral hepatitis B, type B hepatitis,

CHARACTERISTICS: Hepadnaviridae, DNA, enveloped virus

HEALTH HAZARD

PATHOGENICITY: Two major forms: asymptomatic infection and symptomatic hepatitis. Severity ranges from inapparent cases to fatal acute hepatic necrosis or becomes chronically infected. Low short term case fatality rate in hospitalized patients; long term case fatality rate is 2 – 3% due to cancer or cirrhosis of the liver. 95% of adult infections are self limited.

EPIDEMIOLOGY: Worldwide; endemic with little seasonal variation. Commonly found in young adults in North America and in high risk groups such as drug abusers, persons in the healthcare field exposed to blood or body fluids and in sexually promiscuous individuals

HOST RANGE: Humans (chimpanzees are susceptible)

¹ PHAC, Material Safety Data Sheet – Infectious Substances: Human coronavirus. www.phac-aspc.gc.ca/msds-ftss/msds83e.html



Hepatitis B Virus Cleaning and Disinfection Protocol

INFECTIOUS DOSE: Not known

MODE OF TRANSMISSION: Percutaneous or permucosal exposure to infectious body fluids (blood, blood products, cerebral spinal fluid, saliva, semen, vaginal fluids, unfixed tissues and organs), indirect contact with contaminated items in the laboratory. Commonly spread by contaminated needles, syringes and other IV equipment. Contamination of wounds or lacerations, exposure of mucous membranes, sexual contact, household contact, perinatal transmission from other to infant and nosocomial exposure.

INCUBATION PERIOD: Usually 24 – 180 days with average being 60 – 90 days

PREPARATION

Hepatitis B virus is transmitted by contact with blood or body fluids of an infected person. The majority of infections in industrialized countries are acquired during young adulthood by sexual activity, and injecting drug use. In addition, hepatitis B virus is the major infectious occupational hazard of health workers, and most health care workers have received hepatitis B vaccine. Hepatitis B virus is not spread by contaminated food or water, and cannot be spread casually in the workplace.

Appropriate personal protection should 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.

Hepatitis B Virus Cleaning and Disinfection Protocol

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 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 as appropriate.
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.

Hepatitis B Virus Cleaning and Disinfection Protocol

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.



Hepatitis B Virus Cleaning and Disinfection Protocol

References:

Public Health Agency of Canada, Material Safety Data Sheet – Infectious Substances: Hepatitis B Virus. www.phac-aspc.gc.ca/msds-ftss/msds76e.html

Centers for Disease Control, Viral Hepatitis B Fact Sheet, <http://www.cdc.gov/ncidod/diseases/hepatitis/b/fact.htm>

The World Health Organization, Hepatitis B, <http://www.who.int/mediacentre/factsheets/fs204/en/>