



OUTBREAK & TERMINAL CLEANING Cleaning and Disinfection Protocol for *Clostridium difficile*

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

C. difficile is a spore forming bacteria which can be part of the normal intestinal flora in as many as 50% of children under age two and less frequently in individuals over two years of age. *C. difficile* is the major cause of pseudomembranous colitis and antibiotic associated diarrhea. *C. difficile*-associated disease occurs when the normal intestinal flora is altered, allowing *C. difficile* to flourish in the intestinal tract and produce a toxin that causes a watery diarrhea. Repeated enemas, prolonged nasogastric tube insertion and gastrointestinal tract surgery increase a person's risk of developing the disease. The overuse of antibiotics, especially penicillin (ampicillin), clindamycin and cephalosporins may also alter the normal intestinal flora and increase the risk of developing *C. difficile* diarrhea.

Individuals with *C. difficile*-associated disease shed spores in the stool that can be spread from person to person. Spores can survive up to 70 days in the environment and can be transported on the hands of health care personnel who have direct contact with infected patients or with environmental surfaces contaminated with *C. difficile*. Strict adherence to hand washing techniques and the proper handling of contaminated wastes (including diapers) are effective in preventing the spread of the disease. Environmental surfaces contaminated with *C. difficile* spores should be cleaned with an effective disinfectant. Limiting the use of antibiotics will lower the risk of developing *C. difficile* diarrhea.

INFECTIOUS AGENT¹

NAME: *Clostridium difficile*

SYNONYM OR CROSS REFERENCE: N/A

CHARACTERISTICS: Gram positive rod, anaerobic, motile, subterminal spores, produces a cytotoxin and enterotoxin

HEALTH HAZARD

PATHOGENICITY: Opportunistic pathogen, broad-spectrum antibiotic therapy eliminates competing gut flora, allowing the overgrowth of *C. difficile*; important cause of antibiotic-associated diarrhea and pseudomembranous colitis; diarrhea in cancer patients receiving chemotherapy; symptoms range from mild diarrhea to severe colitis (possibly fatal).

EPIDEMIOLOGY: Worldwide; 2-3% of adults are asymptomatic carriers; 50% of healthy neonates (, 1 year old) are carriers; nosocomial transmission increasingly important.

HOST RANGE: Humans and other animals

INFECTIOUS DOSE: Not known

MODE OF TRANSMISSION: Fecal-oral contact; evidence for transmission via fomites and hands exists.

INCUBATION PERIOD: Not known, some evidence shows 1 to 10 days.

COMMUNICABILITY: May be transmitted from person to person.

¹ Public Health Agency of Canada

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Preparation

C. difficile-associated disease shed spores in the stool that can be spread from person to person. Spores can survive up to 70 days in the environment and can be transported on the hands of health care personnel who have direct contact with infected patients or with environmental surfaces contaminated with *C. difficile*. Strict adherence to hand washing techniques and the proper handling of contaminated wastes (including diapers) are effective in preventing the spread of the disease. Environmental surfaces contaminated with *C. difficile* spores should be cleaned with an effective disinfectant.

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

Personal Protection Equipment (PPE)

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

Products

4.5% Accelerated Hydrogen Peroxide Sporicidal Liquid or Wipes (sold as RESCUE Sporicidal Liquid or RESCUE Sporicidal Wipes) for cleaning and disinfection of hard, non-porous surfaces of patient rooms and bathrooms.

4.5% Accelerated Hydrogen Peroxide Sporicidal Gel (sold as STBC and RESCUE Sporicidal Gel) for cleaning and disinfection of sinks, toilets, commodes and basins.

Tuberculocidal Accelerated Hydrogen Peroxide Surface Disinfectant (sold as Accel INTERvention, Accel PREvention, Accel TB or Oxivir Tb) used for cleaning and disinfection of patient care equipment.

Product Germicidal Efficacy

The 4.5% AHP Sporicidal Gel, Liquid and Wipe products have been proven effective as a 10 minute Sporicide indicating a viable 6 Log reduction against *Bacillus subtilis*, *Clostridium sporogenes* and *Clostridium difficile*.

AHP TB products are Health Canada registered Intermediate Level Disinfectants that carry a broad-spectrum sanitizing claim and bactericidal claim indicating a 6 Log reduction against Vegetative Bacteria including *C. difficile* as well as a General Virucide claim against both enveloped and non-enveloped viruses as well as a Tuberculocidal claim against *Mycobacterium* spp.

Refer to product labels for additional claims and product specific contact times.

Procedures Summary

Inform housekeeping when a patient has *C. difficile*. Wear appropriate PPE as defined by the Isolation Sign.

C. difficile Isolations Rooms or units affected by a *C. difficile* Outbreak should be cleaned and disinfected twice per day in accordance with Infection Control guidelines including all frequently touched surfaces and obviously soiled areas. Direct patient care equipment such as stethoscopes, BP cuffs, commodes etc may be dedicated to the patient's use. If not



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dedicated, equipment must be cleaned and disinfected between patients as the organism can be transmitted from one patient to another via shared items.

Terminal Cleaning of rooms occupied by *C. difficile* patients should be **double cleaned** as per the following recommended protocol with the addition of removal and laundering of all bedside, shower and window curtains, and all disposable items including paper towels and toilet paper, toilet bowl brushes etc must be thrown away.

Flush toilet and thoroughly rinse the sink and commode (if present). Apply the 4.5% AHP Sporicidal Gel to the toilet, sink and commode ensuring the surfaces are adequately covered using a clean cloth or brush.

Change gloves and wash hands before beginning to clean the patient room. Apply RESCUE Sporicidal Liquid or Wipes solution to either surface or to cloth. Clean and disinfect all hand contact, hard, non-porous surfaces of the room ensuring that the cloth/wipe is changed when soiled and always using a clean portion of the cloth/wipe when moving to the next area. Allow for the appropriate contact time as listed on the label.

For sensitive patient care or monitoring equipment such as monitors etc, it may be preferred to utilize the AHP-TB products. If so, apply the AHP-TB solution to either surface or to cloth. Clean and disinfect all surfaces of the patient care or monitoring equipment ensuring that the cloth is changed when soiled and always using a clean portion of the cloth when moving to the next area. Allow for the appropriate contact time as listed on the label. Periodic rinsing of soft surfaces such as vinyl or Naugahyde is suggested.

Once the patient room has been cleaned, proceed to the patient bathroom. Clean and disinfect all hand contact surfaces in the bathroom that were not previously addressed with the 4.5% AHP Gel by moving from cleanest to dirtiest surfaces using the RESCUE Sporicidal Liquid or Wipes. Rinse sink to ensure all Gel Residue has been removed. Scrub the inside of the toilet and flush to ensure all Gel residue has been removed.

Remove PPE prior to leaving room and wash hands.

Recommended Procedures for Cleaning and Disinfecting Patient Rooms

1. Check door to see if the Isolation Precaution Sign is present (Contact Precautions). Follow Isolation Precaution requirements for PPE. Goggles should be used in addition to PPE when using the 4.5% AHP Sporicidal Products.
2. Gather all supplies/equipment and cleaning solutions required and leave supply cart outside of door of patient room.
3. **WASH** hands and put on PPE prior to entering room. Personal protective equipment should be changed if torn or soiled and between patient rooms.
4. Place wet floor sign at the door entrance.
5. Flush the toilet prior to cleaning and disinfecting to ensure that there will not be any accidental mixing of chemicals.
6. Using the flip-top applicator, apply **4.5% AHP Sporicidal Gel** evenly to the interior and exterior surfaces of the toilet, sink or commode ensuring sufficient product is applied to cover the complete surface. Allow the product to sit for 10 minutes while cleaning and disinfecting patient room.
7. Change gloves and wash hands before cleaning and disinfecting the patient room.

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8. Pick up garbage in room and place in regular garbage bag.
9. Visible or gross soil present and/or blood or body fluid spills must be removed prior to cleaning.
10. Clean and disinfect all furniture, bed, night table, all high touch areas, knobs, switches, call bells etc. and everything that is touched by the patient with **RESCUE Sporicidal Liquid or Wipes** ensuring that the cloth/wipe is changed when soiled and always using a clean portion of the cloth/wipe when moving to the next area. Allow surfaces to remain wet for the appropriate product contact time in accordance to label claims.
11. Spot wipe all walls, high to low with **RESCUE Sporicidal Liquid or Wipes**.
12. Clean and disinfect any sensitive patient care equipment and medical devices such as bedside monitors, BP Cuffs etc. with the **AHP-TB Solution** ensuring that the cloth/wipe is changed when soiled and always using a clean portion of the cloth/wipe when moving to the next area. Allow surfaces to remain wet for the appropriate product contact time in accordance to label claims.
13. Soiled rags should be placed in a regular plastic bag and then in regular soiled linen bin or the dirty utility room.
14. Clean and disinfect the hand contact surfaces in the bathroom not previously addressed with 4.5% AHP by applying **RESCUE Sporicidal Liquid or Wipes** to a cloth and wipe all surfaces of the bathroom ensuring that the cloth/wipe is changed when soiled and always using a clean portion of the cloth/wipe when moving to the next area. Allow the product to sit for the appropriate contact in accordance with the product label.
15. Thoroughly rinse the sink to remove all Gel residues.
16. Using a dedicated scrub brush thoroughly clean the bowl of the toilet or commode ensuring that all surfaces have been scrubbed. The commode bowl should be cleaned in a dirty zone to avoid cross-contamination.
17. Rinse the toilet brush in the toilet to remove any debris from the bristles.
18. Flush toilet to ensure all gel residue has been removed.
19. Remove and discard gloves and other personal protective equipment, **WASH** hands prior to leaving room.

Disposal of Infectious Material

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

References:

1. Public Health Agency of Canada, Pathogen Safety Data Sheets and Risk Assessment.
2. Health Canada Infection Control Guideline, Hand Washing, Cleaning, Disinfection and Sterilization in Health Care, December 1998.
3. Provincial Infectious Diseases Advisory Committee, Best Practices for Environmental Cleaning for Prevention and Control of Infections, December 2009
4. Provincial Infectious Diseases Advisory Committee, Testing, Surveillance and Management of *Clostridium difficile* in all health care settings, May 2010