



# Cleaning and Disinfecting Guidelines for Semi-Critical Devices or Instruments

*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

The overall goal of infection prevention practices for Semi-Critical devices or instruments such as laryngoscope blades, pessary and diaphragm fitting rings, breast pump accessories etc is to eliminate the risk of the transmission of pathogens between patients and between patients and the health care worker. The following recommendations should be implemented when cleaning and disinfecting. These procedures follow the Spaulding Classification of the level of care required for surfaces and instruments.

Laryngoscope blades, pessary and diaphragm fitting rings, breast pump accessories etc are examples of devices or instruments classified as Semi-Critical items. These are devices that come in contact with non-intact skin or mucous membranes but ordinarily do not penetrate them. Reprocessing semi-critical items involves meticulous cleaning followed by high-level disinfection.

## PREPARATION

Appropriate cleaning, disinfection and sterilization of patient care equipment are important in limiting the transmission of organisms related to reusable patient care equipment. Cleaning is an extremely important part of equipment and instrument reprocessing and is necessary to permit maximum efficacy of subsequent disinfection and sterilization treatments.

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

## PROTECTIVE BARRIERS

Appropriate personal protection must be used for those responsible for the decontamination and disinfection of respiratory equipment and the area with which the process occurs.

1. Wash hands.
2. Put on gloves.
3. Put on protective eye shields
4. Assemble equipment and supplies (cleaning/disinfecting solutions, paper towels, instrument soak container, sterilization bags, indicator strips, high level disinfectant container)

## PRODUCTS

**High Level Disinfection:** *Accel HLD5 a 2% Accelerated Hydrogen Peroxide*  
**Instrument Cleaning:** *Accel WASH a 3% Stabilized Hydrogen Peroxide*  
**Environmental Surfaces:** *Accel TB RTU, Accel TB Wipes, Accel Intervention RTU, Accel Intervention Wipes, Accel Prevention RTU, Accel Prevention Wipes or Accel Prevention Concentrate*

1. Accel HLD5 is Ready to Use (2% AHP).
2. Preparation of Accel WASH solution – pre-mix at a ratio of 1:128 into a large cleaning basin.
3. Preparation Accel Prevention Concentrate - Pre-mix and label from a controlled location at a ratio of 1:40 (0.18% AHP). Place mixed solution in either a labeled - flip top 1 Litre bottle or a small hand bucket.
4. Accel TB, Accel Intervention and Accel Prevention are ready to use liquids (0.5% AHP).



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5. Accel TB Wipes, Accel Intervention Wipes and Accel Prevention Wipes are ready to use pre-moistened wipes (0.5% AHP).

### Dilution Table

Ratio	Metric	US Gallons
1:40	100 mL Accel Concentrate to 4 Litres water	3.2 oz Accel Concentrate to 1 Gallon water
1:128	32 mL AHP Concentrate to 4 Litres water	1 oz AHP Concentrate to 1 Gallon water

### PRODUCT GERMICIDAL EFFICACY

Accel HLD5 is based upon patented Accelerated Hydrogen Peroxide (AHP). Accel HLD5 is a 2% AHP High Level Disinfectant solution that carries a 5-minute Bactericidal, Virucidal, Fungicidal and Tuberculocidal claim. Additionally, Accel HLD5 is also an approved Chemosterilant with proven Sporicidal efficacy in 6-hours. Accel HLD5 has a 12-month shelf life with a 14-day reuse claim.

All Environmental Surface products listed above are based upon Accelerated Hydrogen Peroxide – and have a Broad-Spectrum Sanitizing claim against vegetative bacteria, a Bactericidal claim against gram negative and gram positive vegetative bacteria as well as 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.

The Accel TB RTU and Wipes and Accel Prevention RTU, Wipes and Concentrate also carries a Fungicidal and Tuberculocidal claim.

Accel Intervention also carries a Tuberculocidal claim.

### SUMMARY OF PROCEDURES

Semi-critical disinfection involves disinfection of items that come in contact with mucous membranes and intact skin, but not with internal, natural sterile areas of the body. Cleaning of semi-critical items/equipment is an important step in the disinfection process to ensure the disinfecting of the items/equipment will be successful. Cleaning must be thoroughly done before “processing” because organic material may protect microorganisms from the disinfection process.

### Recommended Procedures for Cleaning and Disinfecting Respiratory Equipment

1. Cleaning should take place between each device/equipment usage. Items will be disassembled (as appropriate) and thoroughly cleaned.
2. Semi-critical items may be contaminated with dried or wet sputum and/or blood and should be cleaned using a detergent such as Accel Wash (Diluted 1:128 or 32 mL Accel Wash Concentrate to 4 Litres water), rinsed, and dried prior to using Accel HLD5 for High Level Disinfection.
3. High Level Disinfection consists of immersing the device/equipment in the Accel HLD5 solution for 5-minutes.



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4. Once the 5-minute High Level Disinfection contact time has passed, the device/equipment should be removed from the Accel HLD5 solution using clean, disinfected tongs or forceps.
5. The disinfected device/equipment should be thoroughly rinsed using sterile water when practical, otherwise potable water is acceptable for semi-critical devices not intended for use on immunocompromised patients or potentially immunocompromised patients based on institutional procedures (ie. high-risk populations).
6. Following removal from Accel HLD5 solution, thoroughly rinse device/equipment by immersing it completely in a large volume of water.
7. Manually flush all lumens.
8. Remove device/equipment and discard the rinse water. Always use fresh water for each rinse. Do not reuse the water for rinsing or any other purposes.
9. Following the rinsing step the device/equipment should be dried and stored in a suitable container (ie. clear polyethylene bag) for future use.

### 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 1 - 5 minutes depending on formulation used. 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 blood and body fluid should 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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### Instructions for Confirmatory Testing of PREvention (2% AHP)

The Accelerated Hydrogen Peroxide Test Strip 2% (Part No. AHP2) should be used for confirmatory testing. These strips are easy to use dip-and-read reagents strips for a pass or fail determination of the hydrogen peroxide concentration in the Accel HLD5 solution.

1. Remove a test strip and immediately close the container.
2. Dip the test strip into the Accel HLD5 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 60-seconds then compare the reaction zone with the colour scale.

**NOTE:** The purpose of confirmatory testing is not to extend the reuse life beyond the 14-day claim. Should the test strip show that the Accel HLD5 solution still meets the targeted level of hydrogen peroxide the product **MUST** still be disposed.

### References:

Provincial Infectious Diseases Advisory Committee, Best Practices for Cleaning, Disinfection and Sterilization in All Healthcare Settings, 2006

Public Health Agency of Canada, Infection Control Guidelines for Hand Washing, Cleaning, Disinfection and Sterilization in Healthcare, Volume 24S8, 1998