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IX0600: Equipment Cleaning

EFFECTIVE DATE: February 2009

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 December 2012, March 2013, October 2019

REVIEWED DATE:

1.0 PURPOSE:

To prevent the transmission of microorganisms from soiled equipment to patients and staff, and minimize damage to medical equipment/devices through improper handling and cleaning practices

High-level disinfection (HDL) and sterilization requires specialized training and certification and is outside the scope of this document. For more information contact [Medical Device Reprocessing](#). For information on hydrotherapy tubs and use of public pools for therapeutic interventions see [Appendix A](#).

2.0 DEFINITION:

Cleaning

The physical removal of dirt, dust or foreign material. Cleaning usually involves soap and water, detergents or enzymatic cleaners. Thorough cleaning is required before disinfection or sterilization may take place.

Disinfectant

A product that is used on medical equipment/devices, which results in disinfection of the equipment/device. Disinfectants are applied only to inanimate objects. Some products combine a cleaner with a disinfectant.

Personal Protective Equipment (PPE)

Barriers placed between the infectious source and one's own mucous membranes, airways, skin, and clothing to prevent exposure to blood and body fluids.

Sterilization

The complete elimination or destruction of all forms of microbial life. Accomplished by either physical or chemical processes.

3.0 GENERAL PRINCIPLES:

- 3.1** Cleaning and disinfection of medical equipment/devices is a shared responsibility between multiple departments and healthcare providers. Refer to the [Designation of Cleaning Responsibilities Matrix](#) and the [Cleaning and Disinfecting Quick Guide](#).
- 3.2** Department manager or designate should establish a schedule for routine cleaning and disinfection of equipment
- 3.3** Where possible dedicate equipment for a single patient (i.e. commodes, vital signs machines) especially when the patient is on isolation precautions

- 3.4** Equipment shared between patients must be cleaned and disinfected:
- Between use
 - At the point of care (patients room/bed space etc.)
 - Before storage
 - Before sending for repair
 - When visibly soiled
- 3.5** Clean grossly soiled equipment immediately to avoid contamination of the environment and damage to equipment from blood or body fluids drying on the surfaces
- 3.6** When cleaning and disinfecting equipment, avoid splash contamination of nearby furnishings, linens, carts, and other clean items
- 3.7** Designate a location or space for clean equipment storage. Ideally, clean storage rooms, clean service rooms, or utility rooms with minimum 2 meters (Six feet) separation from dirty equipment
- 3.8** Contaminated equipment/devices shall not be transported through areas designated for storage of clean or sterile supplies, client/patient/resident care areas or high-traffic areas.
- 3.9** Use hospital approved disinfectant wipes for point of care cleaning and disinfection of patient equipment. Keep wipes wet; discard if they become dry. Follow instructions on the product label for appropriate personal protective equipment and contact time
- 3.10** Follow the equipment manufacturer's instructions for cleaning protocols of specialty equipment. Confirm cleaning protocols with manager or designate
- 3.11** Department manager or designate should ensure equipment cleaning protocols are monitored at least annually and with implementation of new equipment or procedures to ensure adherence to manufacturer's instructions for cleaning and infection control standards
- 3.12** Medical equipment/devices labelled by the manufacturer "single pt. use" may be disinfected and reused on the same patient but must not be used on other patients.
- 3.13** Medical equipment /devices labelled by the manufacturer "single use/disposable" are for single use only and must be discarded immediately following use
- 3.14** Do not use tape or labels that leave sticky residue on medical equipment/devices (i.e. garbage bags to V/S monitor)
- 3.15** Report damaged medical equipment to manager or designate. Ensure item is clean and disinfected before sending for repair
- 3.16** Staff owned/dedicated equipment (phones, tablets, stethoscopes, pagers etc.) must be cleaned and disinfected between pts, and immediately after use if in contact with the patient. or the patients' environment
- 3.17 Macerators, disinfectors, automated wheelchair washers and other specific items**
- 3.17.1 Macerators ([Vernacare](#))** Reduces disposable products to a watery slurry for drainage into existing facility plumbing
- Housekeeping to wipe down external surfaces using hospital approved disinfectant daily and as required.
 - Direct care workers run weekly cleaning cycle with machine empty
 - Keep the antibacterial deodorizer/disinfectant topped up
 - Can dispose a maximum of 4 single use containers at one time or 2

washbowls

- Manager or designate to review loading procedures with staff at time of hire and with introduction of new processes or products

3.17.2 Washer/Disinfector ([Deko](#))

Intended for emptying, flushing, cleaning, and thermally disinfecting by steam human waste containers intended for re-use such as bed pans/supports, urine bottles, measuring containers etc.

- Housekeeping to wipe down external surfaces using hospital approved disinfectant daily and as required
- Direct care workers run weekly cleaning cycle with machine empty
 - Keep the antibacterial deodorizer/disinfectant topped up
 - Store clean and disinfected items on their side or upside down to facilitate drainage and complete drying
 - Establish a schedule for routine cleaning of containers (i.e. washbasins).
 - Manager or designate to review loading procedures with staff at time of hire and with introduction
 - of new processes or products

3.17.3 Wheelchair Washers (Medco)

Follow instructions in the [Standard Operating Procedure for Wheelchair Washers](#)

3.17.4 Electronic items

- Use hospital approved disinfectant wipes to clean and disinfect all cables and external surfaces avoiding any electrical or electronic connectors to prevent malfunction.
- Use manufacturer approved screen cleaners or rinse screens and soft keys with water-dampened cloth to remove any residue left from the approved hospital disinfectant once contact time is reached
- Allow to air dry

3.17.5 Fabric items (Non-washable fabrics not recommended)

- All fabric items used in patient care areas must be cleanable (i.e. vinyl) using the procedure below or able to withstand laundering in commercial washer.
- Never apply tape to fabric items to cover holes or splits in seams
- If fabric is torn or worn and the structures underneath are visible –it must be discarded/ replaced

3.17.6 Cardboard/paper items

- Wipe laminated cardboard/paper with cloth or wipe
- If not laminated, discard after use

3.17.7 Toys.

- Refer to [IX0700](#) Toy Management Guideline

3.17.8 ACCU-CHEK® Inform II glucometers

- Refer to cleaning procedure [Accu-Chek Meter Cleaning](#)

4.0 CLEANING/DISINFECTION PROCEDURE

4.1 Assemble supplies; wipes, PPE, garbage

4.2 Perform hand hygiene and don appropriate personal protective equipment (PPE)

4.3 Clean

- Use wipes to remove any foreign matter (dust, soil, food, feces, blood, sputum etc.) from the device using friction and rub/scrub motion
- Use as many wipes as needed-until wipe comes away clean

4.4 Disinfect

- Use fresh wipes/cloth to apply disinfectant
- Allow surfaces to remain wet for the necessary “contact time” as written on the product label
- Avoid electronic connectors to prevent malfunction

4.5 Rinse

- To avoid damage to screens or soft keys, use manufacturers approved screen cleaner or rinse off cleaner with water-dampened cloth after contact time is reached

4.6 Remove PPE and perform hand hygiene

4.7 Tag clean equipment with a label indicating it is clean prior to storage (i.e. green painters tape)

4.8 Remove the “clean” indicators when equipment is in use

5.0 REFERENCE

- 1) PIDAC, Best Practices For Environmental Cleaning For Prevention And Control In All Health Care Settings, 3rd edition, April 2018, Accessed at <https://www.publichealthontario.ca/-/media/documents/bp-environmental-cleaning.pdf?la=en>, Oct 2019
- 2) PIDAC: Best Practices for Cleaning, Disinfection and Sterilization of Medical Equipment/Devices In All Healthcare Settings May 2013, Accessed at <https://www.publichealthontario.ca/-/media/documents/bp-cleaning-disinfection-sterilization-hcs.pdf?la=en>, Oct 2019
- 3) PICNet, Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Healthcare Settings and Programs 2016 Accessed at <https://www.picnet.ca/wp-content/uploads/British-Columbia-Best-Practices-for-Environmental-Cleaning-for-Prevention-and-Control-of-Infections-in-All-Healthcare-Settings-and-Programs.pdf> Oct 2019

Appendix A

Information on Hydrotherapy Tubs and Use of Public Pools for Therapeutic Interventions

Part 1: Infection Control Recommendations for Hydrotherapy

Recommendations for Hydrotherapy are required to prevent infections to pool participants and staff, as well as to prevent contamination of the pool.

1. **Contraindications:** According to the BC Swimming Pool, Spray Pool and Wading Pools Regulations, it is contraindicated for residents, staff, community clients or their attendants to enter the pool with the following:
 - Open areas of the skin (unless covered by a waterproof bandage).
 - Fungal infections (i.e. Athlete's foot, fungal infections of the groin).
 - Unmanaged fecal incontinence.
 - Fever, diarrhea or vomiting.
 - Any other identified infections may be a contraindication. Appropriateness of swim session for these cases will be at the discretion of the nurse, physiotherapist, doctor, health care assistant, in consultation with the lifeguard.
2. **Hand Hygiene:** Hand hygiene is the single most effective measure available to prevent infections. Hand hygiene should be done:
 - Before and after direct care with a client.
 - Before and after working with gloved hands.
 - Before and after working with open areas/dressings, urinary equipment, ostomy equipment or body fluids.
 - Between working with different clients.
3. **Urinary Incontinence:**
 - The bladder must be emptied before entering the pool.
4. **Fecal Incontinence:**
 - Swimmers with fecal incontinence are requested to arrange their pool time around their bowel habits.
 - Swimmers are requested to have a bowel movement prior to bathing.
 - Swimmers should wear properly fitting waterproof pants/incontinence product.
5. **Ostomy Appliances:**
 - Must be firmly secured and able to withstand pool related activities (temperature, moisture, body movements and exercises).
 - It is the responsibility of the client, or the client's attendant, to ensure that the bag is secured to the body and free from seepage.
 - Ostomy bags must be clean before entering the pool.
6. **Skin lesions and Rashes:**
 - It is the responsibility of the client, or nurse, to check the skin for any wounds before the pool session.
 - If open wounds are present prior to swimming, the session should be cancelled.
 - If the wound is small and can be completely covered and sealed by one waterproof dressing, then the session can continue once the bandage had been properly applied.
 - Waterproof dressings can include various brands of waterproof bandages. Water resistant bandages will allow water to move through the bandage therefore allowing organisms to be carried to and away from the wound.
 - Non waterproof bandages, tape, dressings, etc... must be removed before entering the pool. Rationale: These items, if dislodged, become trapped in the pool filter system resulting in mechanical breakdown. Also, if an open area is covered by an

inadequate dressing, the pool will potentially be contaminated.

Part 2: Infection Control Practices for Pool Usage

Pool users are required to adhere to the following practices when using the pool:

1. All pool users are required to wash their hands upon arrival and before leaving the pool facility. An antiseptic hand sanitizer solution is an option, if the hands are not visibly soiled.
2. All pool users are required to place a clean towel or other adequate barrier on the change bench to sit on as well as place their clothing on while changing.
3. All clothing and personal belongings are to be stored neatly away in either the lockers or underneath the benches after changing and while using the pool.
4. All pool users are required to take a cleansing shower using warm water and soap before entering the pool.
5. No person shall enter the pool whom:
 - Is obviously ill.
 - Has an open wound that has not been appropriately covered.
 - Has sore or infected eyes.
 - Has a discharge from the ears or nose.
6. Disinfecting wipes should be supplied in each change room and should be used to wipe benches between each use. Clients and staff are encouraged to use these wipes before and after using the benches. The wiped surface is left to air dry for effective disinfecting.
7. Disinfecting wipes are also used to wipe the grab bars and lifts after each use.
8. Disinfecting wipes are used to wipe the sling back and lift after each use. Lift slings should be washed after each use.
9. Change rooms should be cleaned and sanitized thoroughly once daily, or more often, as needed.
10. The pool deck should be cleaned and sanitized thoroughly once daily, or more often, as needed.
11. Wheelchairs that have been contaminated with body fluids are cleaned in the following manner: excess contaminant is absorbed with paper towel. The chair is then rinsed under a shower with a continuous flow of clean water. Disinfectant is then sprayed on the item and left for a minimum of 10 minutes (or per manufacturer instructions). The chair is then rinsed under clean water again, before storing it its regular location.
12. Head floats that have been contaminated with feces or blood will be thrown out. Other body fluids contaminating the head floats can be either wiped with a hospital approved disinfectant or washed in the washer.
13. Body fluid spills, (outside the pool basin) are first soaked up using paper towel. Dispose of the paper towel in the garbage. A hospital approved disinfectant is then used to wipe the area, which is left to air dry. A mop can be used for large spills after the paper towels have absorbed as much of the spill as possible. Mop head must be washed and disinfected before reuse on another surface.
14. [Vomit in the pool may create a higher risk for infection.](#)

Part 3: Infection Control Guidelines for Staff

1. Staff are expected to follow the same infection control guidelines set out for community clients. These include washing hands upon arriving at work, protecting open wound with waterproof dressings, putting a towel down on any bench you use to change on, ensuring your belongings are tucked away while working and having a cleansing shower before and after using the pool.
2. Staff are also expected to ensure a clean environment by doing the following:
 - Remind community clients to wash their hands upon arrival.
 - Remind community clients to take a cleansing shower before entering the pool.
 - Remind community clients to place their towel down upon the bench to sit on while changing.
 - Wipe the benches in the change room with a hospital approved disinfectant as often as time permits, preferably between each client.

3. Staff are expected to wear appropriate footwear around the pool following the footwear guidelines for pool staff.
4. Staff should encourage clients to wear appropriate footwear around the pool facility.
5. Do not allow any open wounds that are not appropriately covered in the pool.

Part 4: Responding to Fecal Accidents in Rehabilitation Swimming Pools

Information from the Center for Disease Control (Atlanta, Georgia) addresses fecal accidents in pools. In recent times, there have been increasing concerns about the transmission of *Cryptosporidium parvum* in swimming pools. While this parasite can cause self-limited diarrhea in healthy people, the diarrhea can be much more significant in those with severe immunosuppression. The infecting dose of Cryptosporidia is quite small, and even a small visible fecal spill of liquid can contaminate an entire pool. Most bacteria are very susceptible to low concentration of free chlorine, however, Cryptosporidia are not. Chlorine (2ppm) kills *Escherichia coli* in less than 1 minute, while Cryptosporidia may require as long as 8 hours.

Although Cryptosporidia may be found in the stool of people who have persistent diarrhea and nausea, investigators from the CDC have demonstrated Cryptosporidia are not carried as normal human enteric flora, and is not found in formed stool.

In order to address the potential hazards of *Cryptosporidia parvum*, pool protocols have been designed to combat this organism. This has led to the recommendation of raising chlorine concentrations for up to 8 hours, and to maintain the pool unused for 3-4 filtration cycles for 24 hours.

The consequences of these policies have been significant on pools used for rehabilitation patients. Many individuals may have incompetent sphincter control, resulting in minor incontinence without diarrhea or being unwell. Small accidents, which have been totally contained within the bathing suit, are a relatively common occurrence. Unfortunately, these occurrences have been sufficient to trigger pool-closure responses, which last 24 hours. The consequence is that pools may be closed as often as they are open. This results in severe restrictions, inconvenience, and loss of valuable therapeutic pool time for many individuals.

To address pools potential contaminated with feces or vomit, please refer to the "Fouled Pool Remedial Procedure".

REFERENCES

[BC Health Act. "SWIMMING POOL, SPRAY POOL AND WADING POOL REGULATIONS"](#), B.C. Reg. 289/72, O.C. 4190/72 Responding to fecal accidents in disinfected swimming venues. CDC MMWR weekly. May 25, 2001. 50(20); 416-417.

Vancouver Coastal Health. Guidelines for the Stan Stronge Pool.

Provincial Infection Control Network of British Columbia. Appendix 7: Pools. PICNet Antibiotic Resistant Organism Provincial Guidelines. Draft Two. April 18, 2008.

[CDC. Fouled Pool Remedial Procedures](#)