Cleaning and Disinfection of Medical Equipment/Devices (Critical, Semi-Critical & Non-Critical)

Level	Manual	Section	Originating Date	Revised	Reviewed
Regional	PMH Regional Policy & Procedure Manual	Clinical Services	2014-Dec-10	N/A	N/A
Scope	All sites and programs				

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DEFINITIONS

Blueware: Non-critical equipment (e.g., bedpans, basins, urinals, etc.) that are typically made of, but not limited to, turquoise/blue hard plastic (e.g., may be alternate color).

Cleaning: The physical removal of foreign (e.g., dust, soil) and organic material (e.g., blood, secretions, excretions, microorganisms). Cleaning physically removes rather than kills microorganisms. It is accomplished with water, cleaning agents (e.g., soap, detergent, cleaner/disinfectant) and manual friction.

Disinfection: The inactivation of disease-producing microorganisms. Equipment/devices must be cleaned thoroughly before effective disinfection can take place.

- **High-Level Disinfectant (HLD):** The level of disinfection required when processing semi-critical medical equipment/devices. High-level disinfection processes destroy vegetative bacteria, mycobacteria, fungi and enveloped /non-enveloped viruses, but not necessarily bacterial spores.
- **Low-Level Disinfectant (LLD):** The level of disinfection required when processing non-invasive medical equipment (e.g., non-critical equipment) and some environmental surfaces.

Reprocessing: The steps performed to prepare used medical equipment/devices for use (e.g., cleaning, disinfection, sterilization).

Routine Practices: A comprehensive set of Infection Prevention & Control (IP&C) measures that have been developed for use in the routine care of all clients at all times in all health care settings. Routine Practices aim to minimize or prevent health care-associated infections in all individuals in the health care setting and are a standard of practice recommended by the Public Health Agency of Canada.

Single Client Use Device: A term given to medical equipment/devices that may be used on a single client and may be re-used on the same client, but may not be used on other clients.

Single-use/Disposable Medical Device: A term given to medical equipment/devices designated by the manufacturer for single-use only. Single-use equipment/devices must not be reprocessed. Single-use medical equipment/devices are usually labeled by the manufacturer with a symbol: 

Spaulding Classification System: The classification system that divides medical devices into categories based on the risk of infection involved with their use. Three categories of medical devices and their associated level of disinfection are recognized:

- **Critical:**
  A device that enters normally sterile tissue or the vascular system through which blood flows. Such devices must be sterilized.
- **Semi-critical:**
  A device that comes into contact with non-intact skin or mucous membranes and does not ordinarily penetrate sterile tissue. These devices must receive at minimum high-level disinfection.
- **Non-critical:**
  Devices that do not ordinarily touch the client or touch only intact skin.These devices must be cleaned and/or low-level disinfected.

Sterilization: The destruction of all forms of microbial life including bacteria, viruses, spores and fungi.

Wet Contact Time: The specified amount of time surfaces and equipment must remain wet after being soaked in or wiped down with a specific concentration of disinfectant for the disinfectant to be considered effective.

POLICY

All Prairie Mountain Health (PMH) staff involved in the cleaning and disinfection of medical equipment/devices and/or the preparation of them for transport to a Medical Device Reprocessing (MDR) department, must review and follow appropriate established procedures within this document and associated documents. Cleaning and disinfection of medical equipment/devices is a collaborative approach and interdisciplinary involving facility and community service departments, e.g., Nursing, Environmental Services (ES), MDR, Emergency Medical Services (EMS), Home Care/Community Programs. Routine Practices (including hand hygiene,utilizing Personal Protective Equipment [PPE]) and appropriate use of PMH approved cleaning and disinfection products) must be followed. Staff must be aware of the cleaning and disinfecting products they use by accessing the Workplace Hazardous Materials Information System (WHMIS) and by following product label instructions.

RESPONSIBILITIES

Care Team Manager/Program Manager

- Identifies all staff involved in the cleaning and disinfection of reusable medical equipment/devices within their sites and programs and ensures it is communicated that they must review the appropriate responsibilities and applicable procedures within this document.
- Determines and ensures provision of appropriate training for individuals responsible for cleaning and disinfecting non-critical, reusable items and/or preparation/transport of semi-critical and critical items to an MDR department. Regional Single Use Medical Devices policy should be referred to. (see Associated Documents and Policies section)
- Ensures that appropriate posters and resources within this document(s) are made available and in visible areas of soiled utilty rooms (e.g., posted above or near sinks) and in areas where reusable non-critical equipment is being cleaned and disinfected on-the-spot (e.g., at nurses' desk, community services, EMS, etc.).
- Ensures all new medical equipment/device purchases go through the Product Evaluation and Capital Equipment (PEACE) Committee before the equipment/device is purchased. Issues such as regional standardization, sterilization, clinical trials etc. are addressed through the PEACE Committee.

- Ensures that the cleaning, disinfection and maintenance of non-critical reusable items follows manufacturer's recommendations. Sites are responsible to review, manage and maintain manufacturer instructions. Ensures that a routine cleaning schedule for reusable non-critical equipment/devices be developed for each unit/program.
    - Ensures where automated washer-disinfectors (e.g., bedpan washers) and macerator units for (Vernacare) disposable products are available, that manufacturer's instructions for use, cleaning and preventative maintenance are posted and followed as appropriate.
        - Consideration must be given to a contingency plan should the automated washer-disinfector or macerator unit be temporarily taken out of service, e.g., repairs needed.
    - Where on-site MDR departments exist, the decision may be made by individual sites to utilize the on-site MDR department for cleaning and low level disinfection of non-critical reusable items, e.g., blueware.
    - Where sites with no MDR department have previously been sending non-critcal equipment, e.g., blueware, to an external MDR department, the decision may be made to continue this practice.
- Considers use of disposable equipment for clients requiring Additional Precautions and when recommended by IP&C during outbreaks of illness.
- Identifies and ensures that there are separate areas designated for clean and dirty items where cleaning and disinfection is occurring.
- Establishes and maintains a designated area where used items are held until cleaning/disinfection can be completed.
- Establishes/identifies an area where damaged items are to be placed (after being cleaned/disinfected) pending repair, replacement or disposal.
- Establishes and maintains a process within their site for identification of items that are considered to be "clean" (e.g., labelled in some manner that all staff can be aware of and easily identify).
- Ensures that a cleaning, disinfection and transport process is developed and implemented for any reusable equipment/devices that are utilized in community programs, inside and outside of facility, and being brought into facility soiled utility room for cleaning/disinfection:
    - Communicates that items must be covered, e.g., placed in a plastic impermeable bag, prior to being transported to facility soiled utility room.
    - Communicates that items must go directly to soiled utility room and have all visible soil removed immediately as required. It must be clearly communicated whose responsibility it will be to complete the cleaning/disinfection of these items.
    - Items must be identified in some manner as to owner of equipment.
    - Semi-critical and critical reusable items require further processing in a MDR department. Processes for transporting to a MDR department internally or externally are to be followed as per facility guidelines posted in soiled utility rooms.

Environmental Services Supervisor/Manager

- Assists Care Team Manager/Program Manager as required with policy/procedure requirements.
- Communicates/reinforces ES roles & responsibilities in the cleaning and disinfection of medical equipment/devices to all ES staff at site.

All Staff

- Reviews policy and responsibilities within this document. Utilizes posters and resources referenced in Procedure section of this document.
- Identifies any damaged reusable items. Removes item from use after item has been cleaned/disinfected as appropriate and reports damage to their Immediate Supervisor/Manager. Refer to Procedure section.

- Contacts Immediate Supervisor with any questions or concerns for cleaning, disinfection and transport for sterilization. PMH IP&C Team members may be consulted.
- Follows the below guiding principles:
    - Dedicates the appropriate blueware (e.g., urinal, basin, bed pan) to each client where disposable (Vernacare) products are not being utilized. Dedicated blueware and holders for disposable products are cleaned after each use and low level disinfected at least weekly and when visibly soiled. Equipment/items dedicated to one client are kept in the client's room, bed space and/or bathroom.
        - Following Routine Practices, all visibly soiled items must be covered when transported from point of use to a soiled utility room, e.g., disposable plastic bag or with lid or in covered container or enclosed cart (with easily cleanable surfaces). Reusable lids, containers or carts used to transport soiled items must be cleaned and disinfected after each use
    - Disposable sharps are discarded into a puncture-resistant sharps container at point-of-use, prior to transport.
    - Soiled equipment/devices are transported by direct routes that avoid high-traffic, clean/sterile storage and client care areas, to where reprocessing will be done.
    - Personal care items (clippers, razors, denture cups) are single client use items and are not shared between clients.
    - Refers to Workplace Hazardous Materials Information System (WHMIS) material safety data sheets (MSDS) and follows product label instructions when utilizing cleaning and disinfectant products.
    - Begin each task by starting with the least soiled items first (e.g., wash basin) progressing to most soiled items (e.g., urinals, bedpans).
    - Refrains from using spray wands during cleaning and disinfection procedures. Spray wands cause splashes/sprays/aerosolization of soil/organisms during cleaning.
    - Checks expiry dates of cleaning/disinfection products prior to use and replaces as required.
    - Applies cleaning/disinfection product onto the equipment/item to be cleaned/disinfected. Refrains from spraying cleaner/disinfectant directly onto soiled/contaiminated surfaces. Follows manufacturer's recommendations when using cleaning and disinfection products with aerosol or trigger sprays.
    - Follows manufacturer's directions when operating automated bedpan washers and macerator units for disposable (Vernacare) products where in use.
- Adheres to facility process for identification of items being considered "clean" (e.g., labeled).
- **Additional cleaning/disinfection considerations may be required in an outbreak situation or when Additional Precautions are in effect.** Refer to PMH policy R.380, Influenza-Like Illness/Respiratory and Gastrointestinal Illness Outbreak, Antibiotic Resistant Organism (ARO) guidelines (e.g., Vancomycin-resistant enterococci (VRE), and *Clostridium difficile* guidelines) found in Infection Prevention & Control manual or existing departmental specific guidelines.

MDR/ Materiel Management Staff

- Reviews policy and responsibilities within this document. Utilizes posters and resources referenced in the Procedure section of this document as appropriate.
- In sites with MDR departments, responsibility for transport of prepared semi-critical/critical equipment/devices from the soiled utility room to the MDR department (utilizing designated bins and return of processed items to clean utility areas) is determined at the site level by MDR collaborating with Care Team Manager/Program Manager:
    - In Brandon Regional Health Centre it is the responsibility of the Materiel Management Technician (Central Dispatch) to transport bins.

- In Dauphin Regional Health Centre it is the responsibility of the Materiel Management Aide or designate to transport bins.

- All MDR staff must refer to MDR specific policy/procedures for receiving soiled equipment/devices into their department and reprocessing of those items within their department.
- Cleaning/disinfection of transport bins should be performed by MDR staff.

PROCEDURE

Cleaning and disinfection is a two-step process:

i. Removal of visible soiling
ii. Application of disinfectant

In the absence of visible soiling, when utilizing a PMH-approved cleaner/disinfectant product, this can be accomplished in one step.

1. Identify and Classify

Begin by identifying and classifying the equipment/device that requires cleaning/ disinfection.

- Refer to *Spaulding Classification System*, R.CS.IC.120a to classify item as critical, semi-critical or non-critical. Facilities should have this poster available in their soiled utility rooms.
- Single use items must be discarded immediately after single use. Regional Single Use Medical Devices policy should be referred to. (see Associated Documents and Policies section)

2. Collect Necessary Supplies

- Refer to *Personal Protective Equipment (PPE) for Cleaning of Equipment*, R.CS.IC.120b. Poster should be posted in areas where cleaning and disinfection of non-critical equipment/devices or preparation for transport of semi-critical/crtical equipment/devices is occurring. This quick reference should assist staff in selection of PPE to meet Routine Practices requirements.
- Review appropriate procedure based on classification, as below, to establish necessary supplies, e.g., sufficient amount of cleaning cloths, scrub brush, cleaner/disinfectant product, etc.

3. Perform Cleaning and Disinfection as appropriate for:

3.1 Reusable Semi-Critical and Critical items

All reusable Semi-Critical and Critical items must be sent to a Medical Device Reprocessing (MDR) department:

- When sending to an external MDR site: refer to quick reference poster *Preparation and Transport of Reusable Medical Items for Off-Site Medical Device Reprocessing (MDR),* R.CS.IC.120c. Transporting facilities should have this poster available in their soiled utility rooms.
    - Where surgical instruments are being utilized (e.g., hard to clean hinged instruments) and preparation/transport times are longer than 72 hours, the use of disposable instruments is recommended.
- When MDR is on-site: refer to quick reference poster *Pre-cleaning of Soiled Reusable Medical Items for On-Site Medical Device Reprocessing (MDR), R.CS.IC.120d.* MDR facilities should have this poster available in their soiled utility rooms.
- Where instrument transport gel products are utilized for surgical instruments, refer to PMH resource poster How To Use Instrument Gel Products (e.g., PRE-Klenz™) (PMH340).
- <u>For damaged semi-critical and critical devices:</u>
    - Clean, low-level disinfect and dry item. Place item into plastic bag and label as “clean/damaged”, e.g., using tape/marker. Report damage to Immediate Supervisor/Manager and place bagged item in area designated for damaged items.

- Semi-critical and critical items being sent for repair must be high level disinfected or sterilized as appropriate in a MDR department. Ensure communication with MDR has occurred.

3.2 Reusable Non-Critical items

All reusable Non-Critical items must be cleaned and disinfected by sites/programs as established by those sites/programs. **These items do not need to be sent to an MDR department** for routine cleaning and low level disinfection**.** (See Responsibilities section for Care Team Manager/Program Manager for below considerations).

- Sites with an on-site MDR department may choose to have non-critical blueware items reprocessed in the MDR department. In this instance, items are to be prepared as per *Pre-cleaning of Soiled Reusable Medical Items for On-Site Medical Device Reprocessing (MDR),* R.CS.IC.120d.
- Sites without a MDR department who currently send non-critical items to an MDR department are to prepare items as per *Preparation and Transport of Reusable Medical Items for Off-Site Medical Device Reprocessing (MDR),* R.CS.IC.120c.

Sites with automated bedpan washers and macerators for disposable (Vernacare) products must follow manufacturer's instructions for use.

PMH has adopted three manual cleaning procedures (the applicable procedure depends on the product type, product material and/or surface):

- Procedure A: for **wipeable items** made of certain fabrics (Crypton, Agion), metal, plastic, vinyl, rubber or non-porous wood (e.g., BP cuffs, IV poles, wheelchairs, mechanical lifts, etc.).
- Procedure B: for **hard-to-clean items** made of fabric, leather, paper, foam or similar materials (e.g., wheelchair cushions, sliders, slings, transfer belts).
- Procedure C: for **specialty items** (e.g., electronics).

Refer to *Reusable Non-Critical Equipment Cleaning/Disinfection Resource*, R.CS.IC.120e for some commonly used non-critical items that can assist in classifying and determining cleaning procedure recommended. This list is not intended to be an all inclusive list of all non-critical items and is subject to change.

Procedure A:

<u>For Wipeable Non-Critical Items - Cleaned and Disinfected in Soiled Utility Rooms</u>

- Refer to quick reference poster *On-Site Manual Cleaning and Disinfection Guidelines for Non-Critical Blueware Items,* R.CS.IC.120f. Facilities should have this poster available in their soiled utility rooms.
- For non-blueware items, if available, refer to manufacturer's instructions to ensure compatability with cleaner/disinfectant.

<u>For Wipeable Non-Critical Items- Cleaned and Disinfected at Point of Care Use</u>

- Refer to *On-the-Spot Equipment Cleaning/Disinfection Utilizing Disinfectant Wipes*, R.CS.IC.120g, that should be posted in client care areas or designated program areas where reprocessing (utilizing PMH approved, pre-moistened ready-to-use (RTU) disinfectant wipes) is occurring (e.g., at nurses' desk, Therapy Services areas, EMS, Home Care, etc.) It is recommended to have disinfectant wipes and PPE readily available in areas where on-the-spot cleaning is occurring (e.g., attached to BP machine with bracket, etc.)
- If available, refer to manufactuer's recommendations to ensure RTU wipe is compatible with cleaning and disinfecting equipment/device.

For damaged non-critical items:

- Clean, low-level disinfect and dry item. Place item into plastic bag and label as "clean/damaged", e.g. using tape/marker. Report damage to Immediate Supervisor/Manager and place bagged item in area designated for damaged items.

Procedure B: (Hard-to-Clean Items)

- Prior to performing task, perform hand hygiene and don PPE according to Routine Practices.

MATERIAL	TASK
Laminated Items	◦ Wipe laminated items with regionally-approved disinfectant.
Fabric	◦ **Follow manufacturer's instructions.** Most fabrics require machine washing and drying at specified drying time/temperature. Bleach should not be added unless approved by the product manufacturer and ES and Care Team Manager/Program Manager have been advised.
Foam (covered)	◦ All reusable foam must be covered with an approved material (e.g., vinyl). ◦ Covered/seam-sealed cover must be thoroughly wiped with a regionally-approved disinfectant. ◦ **Please note**: The recommended wet contact time must be followed for disinfectant to be effective.
Foam (no cover)	Limit uncovered foam for single use, then discard.
Other	Consult PMH IP&C team member and/or Environmental Services for cleaning instructions. *Upholstered furniture and other cloth or soft furnishings that cannot be cleaned and disinfected must not be used in care areas of facilities. Facilities should have a plan to replace such items (other than client's personal furnishings).*

Procedure C: (For Specialty Items)

- For specialty items that are sensitive to the excessive use of standard cleaner/disinfectant (e.g., television sets, LCD screens, DVD players, VCRs, remote controls), refer to manufacturer's guidelines for cleaning and disinfection recommendations. If no recommendations available, contact PMH IP&C Team member for guidance.

3.3 Single Client Use Semi-Critical items

Refer to *Single Client Use Semi-Critical Medical Equipment/Device Resource (Acute & Long Term Care Settings)*,R.CS.IC.120h for guidelines for disposable and certain reusable items that may have limited reuse when dedicated to one client (e.g., nebulizer being used by same client). This list is not intended to be an all inclusive list of all single client use semi-critical medical equipment/devices and is subject to change. When manufacturer's guidelines exist, follow those recommendations.

4. **Refer to Department Specific Guidelines in ambulatory care areas and/or non-facility settings** where they exist (e.g., Home Care, EMS, Therapy Services, Primary Care Clinics, Dialysis and Cancer Care Units, etc.)

5. **Check With Immediate Supervisor** when unsure of item or process. PMH IP&C Team members may be consulted.

6. Optional *Equipment Cleaning and Disinfection Schedule*, R.CS.IC.120i may be utilized by sites/programs/services.

ASSOCIATED DOCUMENTS and POLICIES

R.380, Influenza-like Illness/Respiratory and Gastrointestinal Illness Outbreak
R.CS.IC.120a, Spaulding Classification System (PMH331)
R.CS.IC.120b, Personal Protective Equipment (PPE) for Cleaning of Equipment (PMH332)
R.CS.IC.120c, Preparation and Transport of Reusable Medical Items for Off-Site Medical Device Reprocessing (MDR) (PMH333)
R.CS.IC.120d, Pre-Cleaning of Soiled Reusable Medical Items for On-Site Medical Device Reprocessing (MDR) (PMH334)
R.CS.IC.120e, Reusable Non-Critical Equipment Cleaning/Disinfection Resource (PMH335)
R.CS.IC.120f, On-Site Manual Cleaning and Disinfection Guidelines for Non-Critical Blueware Items (PMH336)
R.CS.IC.120g, On-The-Spot Equipment Cleaning/Disinfection Uitlizing Disinfectant Wipes (PMH337)
R.CS.IC.120h, *Single Client Use* Semi-Critical Medical Equipment/Device Resource (PMH338)
R.CS.IC.120i, Equipment Cleaning and Disinfection Schedule (optional) (PMH339)

Other

Former ARHA: Single Use Medical Devices, QI-XVIII-698
Former Brandon RHA: Reuse/Reprocessing of Single Use Disposable Products, I-M-20
Former PRHA: Reuse of Single-Use (Disposable) Medical Devices, 21252
How To Use Instrument Gel Products (e.g., PRE-Klenz™) poster (PMH340)

REFERENCES

Public Health Ontario; Provincial Infectious Diseases Advisory Committee (PIDAC); May 2013; *Best Practices for Cleaning, Disinfection and Sterilization in All Health Care Settings,* 3rd Edition.

Manitoba Health; April 2012; *Routine Practices and Additional Precautions: Preventing Transmission of Infection in Health Care*.

Winnipeg Regional Health Authority (WRHA), Infection Prevention & Control Program; January 2010; *Cleaning and Disinfection of Non-Critical Reusable Equipment/Items for Patients in Hospital*.

Public Health Ontario; Provincial Infectious Diseases Advisory Committee (PIDAC); May 2012; *Best Practices for Environmental Cleaning for Prevention and Control of Infections,* 2nd Edition.

Winnipeg Regional Health Authority (WRHA), Infection Prevention & Control Program; January 2009; *Cleaning of Non-Critical Reusable Items; Policy # 90.00.040*.

Winnipeg Regional Health Authority (WRHA), Infection Prevention & Control Program; February 2009; *Cleaning and Disinfection of Non-Critical Reusable Equipment/Items for Clients in the Community*.