CLEANING, DISINFECTION AND STERILIZATION

Appropriate cleaning, disinfection and sterilization of resident care equipment is essential in limiting the transmission of organisms within the Elgin County homes. The reprocessing method needed for a specific item will depend on the intended use of the item, the risk of infection to the resident and the amount of soiling. Cleaning is always essential prior to disinfection or sterilization. An item that has not been cleaned cannot be disinfected or sterilized.

Effective cleaning removes large numbers of microorganisms. Soil can shield microorganisms and protect them from the action of disinfectants/sterilants or interact with the disinfectant/sterilant to neutralize the process. It's important to manage all care equipment as it has been contaminated, soil is not always visible to the eye.

The manufacturer's directions for cleaning should be considered prior to the purchase of any piece of equipment. Products that cannot be effectively cleaned and disinfected should not be purchased.

Cleaning

Environmental cleaning and maintenance prevent the build up of soil, dust or other foreign material that can harbour pathogens and support their growth.

The aim of cleaning is to achieve a clean environment with regular and conscientious general housekeeping. Extraordinary measures do not need to be taken to clean the environment. Visible dust and dirt should be removed routinely with water and detergent and/or vacuuming. Duct, fan and air conditioning systems should be cleaned and maintained according to a schedule. The environment should be kept free of clutter to facilitate housekeeping.

Environmental water reservoirs have been associated with numerous infections and outbreaks. Examples include faucet aerators, showerheads, sinks, drains, floor machines, flower vase water, ice machines, water carafes and hydrotherapy baths.

The following recommendations shall be incorporated into the policies of the Elgin County Homes.

1. An education program should be in place for housekeeping staff to assist them in understanding the effective methods of cleaning and the importance of their work. The housekeeping staff are accountable to complete a point-of care risk assessment (PCRA) prior to each resident/environment encounter and/or working with any chemicals. Housekeeping staff will follow job routines for frequency of mop and cloth changing.

2. Elgin County Homes will ensure policies are developed for cleaning schedules and methods. These should include the shift that is responsible for the cleaning task.

3. Routine cleaning of environmental surfaces and noncritical resident care items should be performed according to a predetermined schedule and should be sufficient to keep surfaces clean and dust free. Horizontal surfaces that are frequently touched by the hands of health care providers and residents (e.g. call bells, equipment, knobs) require a minimum of daily cleaning (twice daily when in outbreak). Resident bathrooms should be cleaned at least once a day, but the frequency should be assessed and may need to be increased. Curtains should be cleaned on a routine schedule and whenever there is visible soil. Walls should be cleaned as part of a regular schedule and spot-cleaned whenever visible soil is present.

4. Procedures for cleaning should use a process, which moves from the cleanest areas to those areas of highest soiling and from high areas to low areas.

5. Any dry cleaning should be done carefully with a chemically treated dry mop or vacuum cleaner (with exhaust filter) rather than a broom. A swiffer or dry microfibre floor mop may be used to minimize the dispersal of microorganisms into the environment.

6. Ceiling tiles and walls should be inspected for signs of leakage when high dusting is being done. This may indicate a leak in plumbing or HVAC system, which requires maintenance.

7. Vacuum cleaners should be used on carpeted areas. Expelled air from the vacuum cleaners should be diffused so that it does not aerosolize dust from uncleaned surfaces.

8. During wet cleaning, cleaning solutions and the tools with which they are applied soon become contaminated. A routine should be adopted that does not redistribute microorganisms.

9. Mop heads/microfibre floor mops should be laundered daily and thoroughly dried before storage.

10. Tools used for cleaning and disinfecting must be cleaned and dried between uses.

11. Cleaning and disinfecting agents must be mixed or mechanically dispensed and used according to manufacturers' recommendations.

12. Non-sterile latex free gloves should be worn during cleaning and disinfecting procedures.

13. Elgin County Homes shall determine a schedule for cleaning and maintaining ducts, fans, and air conditioning systems. A maintenance work order generating system can schedule these services based on a predetermined timeline.

Cleaning Procedures for Common Items

Surface/object	Procedure	Special Considerations
Horizontal surfaces such as bed tables, work counters, beds, mattresses, bedrails, call bells	1. Thorough regular cleaning 2. Cleaning when soiled 3. Cleaning between residents after discharge	
Walls, blinds, curtains	Should be cleaned regularly with a detergent and whenever visibly soiled	
Floors	1. Thorough regular cleaning 2. Cleaning when soiled 3. Cleaning between residents and after discharge Damp mopping preferred.	Detergent is adequate in most areas. Blood/body fluid spills should be cleaned up with disposable cloths followed by disinfection with a low-level disinfectant.
Carpets/upholstery	Should be vacuumed regularly and shampooed whenever soiled.	
Toilets and commodes	1. Thorough regular cleaning	These may be the source

	2. Cleaning when soiled 3. Clean between residents and after discharge. Use a low-level disinfectant. (In C. difficile cases an alternative approved disinfectant must be used)	of enteric pathogens such as *C. difficile*, *Shigella*.

Disinfection and Sterilization

Disinfection is defined as the inactivation of disease-producing microorganisms. Disinfection does not destroy bacterial spores. Disinfectants are used on inanimate objects. Medical equipment/devices must be cleaned thoroughly before effective disinfection can take place. Disinfection is required when the cleaning process alone does not make the product safe for its intended use. In LTCHs there are two main methods of disinfection available: liquid chemicals and pasteurization. Regardless of the type of disinfection process chosen, it is essential that the process is used correctly. Failure to use the process correctly may result in the transmission of infections.

- **Chemical Disinfection**
  The Health Protection Branch of Health Canada regulates chemical disinfectants. The label on the disinfectant must clearly state: the product name, active ingredients, intended use, the area and site of use and specific directions for use.

- **Pasteurization**
  Pasteurization is a process of hot water disinfection accomplished through the use of automated pasteurizers or washer disinfectors. Pasteurization provides high-level disinfection for semi-critical items such as respiratory therapy equipment. Equipment is exposed to water above 75°C for 30 minutes. The items must be totally immersed in water throughout the pasteurization cycle. The pasteurization cycle should be monitored to ensure that the correct temperature is being maintained for the required time frame.

Sterilization is the destruction of all forms of microbial life including bacteria, viruses, spores and fungi. Items must be cleaned thoroughly before effective sterilization can take place. Methods of sterilization include steam, dry heat and chemicals.

Sterilization must be used for all critical devices that contact the bloodstream, non-intact mucous membranes or normally sterile body sites. The sterilization process must be validated and documented to ensure that the parameters have been met. This monitoring process includes:

- Mechanical – time and temperature graphs, charts or printouts
- Chemical – time/temperature and/or humidity sensitive tape, strips or pellets
- Biological – spore-laden strips or vials

Each home must have policies identifying what processes are to be followed and the action to be taken if there is a failure in the process.

Quick Reference of Key Elements of Environmental Cleaning in Healthcare Settings:

Public Health Ontario | Santé publique Ontario

Coronavirus Disease 2019 (COVID-19)

Key Elements of Environmental Cleaning in Healthcare Settings

This fact sheet provides a summary of the most important elements of environmental cleaning for environmental services workers. For more information, please see Best Practices for Environmental Cleaning for Prevention and Control of Infections.

Safe work practices

- No food or drink should be kept on cleaning carts or in housekeeping closets.
- Perform hand hygiene regularly with alcohol-based hand rub or wash hands with soap and water if hands are visibly soiled. Do not substitute gloves for hand hygiene.
- Wear appropriate personal protective equipment (PPE) as indicated by product instructions, type of additional precautions and/or organizational policy and procedures.

Disinfectants

- Clean surfaces before you disinfect them and use only hospital disinfectants that have a Drug Identification Number (DIN). A DIN is an 8-digit number given by Health Canada that confirms it is approved for use in Canada. Do not use household products in healthcare settings.
- Read and refer to the manufacturer's instructions, the product's Safety Data Sheet and your organizational policies for how to safely use disinfectants. If using more than one product, make sure they are safe to use together (e.g., it is dangerous to mix a quaternary ammonium product and bleach).
- Products are available that perform cleaning and disinfection in one step, and these should be chosen where possible.
- Do not use spray or trigger bottles for cleaning products or disinfectants.
- Know the contact time for the disinfectant being used. The surface should remain wet for the required contact time (e.g., for a 3 minute contact time, the surface stays wet for 3 minutes). Let air dry and do not wipe off.

High touch surfaces

- Clean and disinfect high touch or frequently touched surfaces at least once per day and more frequently in outbreak areas. Examples of these surfaces include doorknobs, call bells, bedrails, light switches, toilet handles, hand rails, and keypads.

Workflow

- When cleaning surfaces and equipment, start at one end or side and clean in one direction: from clean to dirty. Do not go back and forth between clean and dirty sections to avoid contaminating the cloth or wipe.
- Clean patient/resident bathrooms last after completing room cleaning.

No "double-dipping"

- When cleaning with a cloth and a disinfectant solution, soak the cloth in the solution and then clean the surface/equipment from a clean to dirty direction.
- Discard the cloth into a separate container for disposal or laundering and use a fresh cloth to continue.
- Do not repeatedly immerse or dip ("double-dip") a used cloth back into the clean solution as it will contaminate the solution.

Waste

- Know the different types of waste (biomedical, sharps and general) and the organizational policies for safe handling and disposal.
- Biomedical waste, including sharps, requires special handling and disposal, while general waste such as used PPE from isolation rooms and that from offices, kitchens, washrooms and public areas does not.

Laundry

- Bag or otherwise contain soiled laundry at the point-of-care.
- Routine practices for handling and laundering are sufficient, regardless of the source of the linen or if it is soiled with blood, body fluids, secretions or excretions.
- Special handling of linen for patients/residents on Additional Precautions is not routinely required.

Learn about the virus

To learn more and access up-to-date information on COVID-19, visit the Ontario Ministry of Health's website at ontario.ca/coronavirus.

The information in this document is current as of July 16, 2021

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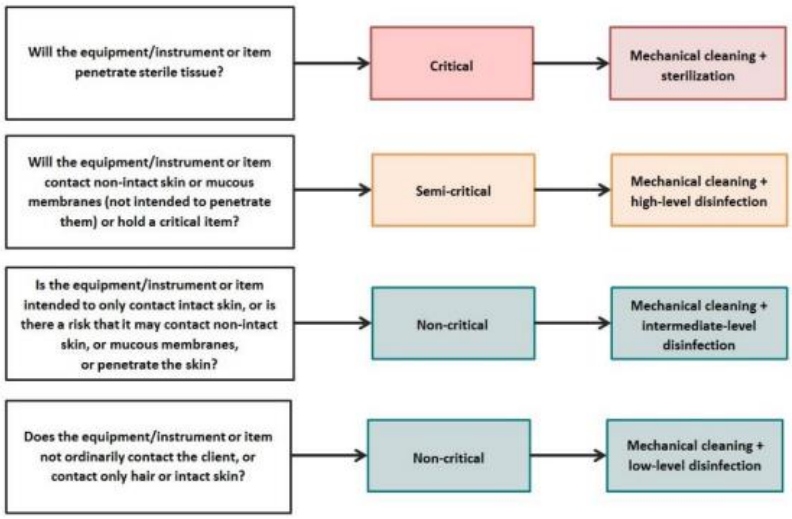
Ontario

Algorithm for Level of Reprocessing for Equipment:

AT A GLANCE

Algorithm for Level of Reprocessing for Equipment and Instruments

This document is an excerpt from the Guide to Infection Prevention and Control in Personal Service Settings. It helps to classify equipment/instruments and determine the level of reprocessing required based on the intended and actual use of the equipment/instruments. For more information, please consult the full Guide, visit the IPAC in Personal Service Settings webpage or email ipac@oahpp.ca.



Adapted from British Columbia Ministry of Health, Health Protection Branch document *Guidelines for Personal Service Establishments*.[87]

Examples of levels of reprocessing required based on classification of equipment and instruments:

Tattoo, piercing, or electrolysis needles. Because these needles are designed to penetrate the skin, they are classified as **critical** and are to be **sterilized**. It is recommended these items be purchased as pre-sterilized, single use and disposable.

- Tweezers used to expose and remove ingrown hairs. Because these tweezers are in contact with non-intact skin, they are classified as **semi-critical** and require cleaning followed by **high-level disinfection.**
- Nail clippers or nippers. Because these items are designed to trim nails and cuticles but may accidently penetrate the skin, they are classified as **non-critical, (intermediate-level disinfection)**, and require cleaning followed by **intermediate-level disinfection**.
- Hair-cutting scissors. Because these items are designed to only contact hair and sometimes intact skin, they are classified as **non-critical (low-level disinfection)**, and require cleaning followed by **low-level disinfection**. Although the instrument is non-critical, if the scissors come into contact with non-intact skin, mucous membranes, or penetrate the skin, the instrument becomes **non-critical (intermediate-level disinfection)**, requiring cleaning followed by **intermediate-level disinfection**.

References

The following references follow the order of the original document. For a full reference list please refer to Guide to Infection Prevention and Control in Personal Service Settings.

87. British Columbia. Ministry of Health. Health Protection Branch. Guidelines for personal service establishments [Internet]. Victoria, BC: Province of British Columbia; 2017 [cited 2018 May 18]. Available from: www2.gov.bc.ca/assets/gov/health/keeping-bc-healthy-safe/pses/pse_guidelines_final_nov_2017.pdf

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References:

PIDAC: *Best Practices for Environmental Cleaning for Prevention and Control of Infections. April 2018*

APIC Text of Infection Control and Epidemiology. APIC 2020;

Key Elements of Environmental Cleaning in Healthcare Settings; PHO; July 16, 2021

Ontario Agency for Health Protection and Promotion (Public Health Ontario). Guide to infection prevention and control in personal service settings. 3rd ed. Toronto, ON: Queen's Printer for Ontario; 2018. At a glance, Algorithm for level of reprocessing for equipment and instruments.