HURON PERTH & AREA
ONTARIO HEALTH TEAM

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INFECTION PREVENTION AND CONTROL POLICY MANUAL

CLEANING AND DISINFECTION POLICY

Approved by:	HPA OHT IPAC Working Group
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Scope:
The documents in the Huron Perth & Area (HPA OHT) Infection Prevention and Control (IPAC) Policy Manual are intended to be adopted by all HPA OHT member organizations. The policies are designed to create a standard and evidence-based approach to IPAC practice resulting in a consistent healthcare experience while minimizing the risk of healthcare-associated infections. These policies are most effective when used in conjunction with organizational policies that address client/patient/resident, facility, and sector-specific needs.

This policy addresses environmental cleaning and disinfection of non-critical items and does not discuss high-level disinfection or sterilization. Organizations performing this type of reprocessing must have procedures in place outlining these processes. Refer to the Best Practices for Cleaning, Disinfection and Sterilization in All Health Care Settings.

Purpose:
To create a safe and healthy environment and to reduce the risk of transmission of infection between healthcare workers, clients/patients/residents, family members and others in the environment by reducing the microbial contamination of surfaces, items, and equipment within the healthcare setting.

Policy:
Healthcare settings can become contaminated with harmful microorganisms due to a large number of clients/patients/residents sharing a space, and/or due to the type of care being provided. Healthcare workers will work to reduce the amount of contamination in their environment through routine and effective cleaning and disinfection of surfaces, items, and equipment, as described in this policy.

Cleaning and disinfection is used in combination with, not in place of, other IPAC interventions including hand hygiene, routine practices and additional precautions.

Responsibility for Cleaning

The organization has an individual designated as most responsible for the care and environmental cleaning of the facility. The primary focus of the cleaning program is higher risk areas such as client/patient/resident care areas and treatment rooms.

The facility has regularly updated procedures for environmental cleaning and provides these documents to the healthcare workers responsible for cleaning. Facility procedures must include information around enhanced cleaning when required due to outbreak, high occupancy, or the presence of a specific infectious agent resistant to the normal cleaning process.

Compliance with the cleaning and disinfection policy and procedures should be included in the individual's performance appraisal as part of IPAC practices.

If cleaning is done by a contracted service, the policies and procedures of the service provider must be consistent with facility policies around cleaning, disinfection, and health and safety.

Hotel Clean vs. Healthcare Clean

Hotel Clean

Cleaning in healthcare facilities should be approached differently based on the purpose of the area to be cleaned. The most basic level of cleaning is referred to as "Hotel Clean" and involves removal of dust and dirt, cleaning windows, wiping surfaces, and waste disposal. **Hotel clean is required at a minimum everywhere in the healthcare facility and results in a visually clean space**. Hotel clean is adequate for public spaces such as administrative offices, lobbies, hallways, and service areas.

Healthcare Clean

Most healthcare spaces require an additional level of clean referred to as "Healthcare Clean" or "Hospital Clean". **Healthcare Clean is Hotel Clean PLUS more intense, thorough, and frequent cleaning AND the use of disinfectants.** The goal of Healthcare Clean is to reduce or eliminate microbial contamination within the environment. Healthcare Clean in required for any area of the facility that is involved in the provision of healthcare. This includes:

- Client/patient/resident rooms, treatment/exam rooms, or any areas where care is provided
- Waiting rooms
- Clean storage and linen areas
- Medication preparation areas
- Washrooms/tub rooms, and
- All other areas involved with the provision of healthcare

Surfaces must be clean for disinfectants to be effective. Many can be inactivated by the presence of organic material (ie. blood, secretions, excretions). Often one-step cleaner-disinfectants are adequate; however, for heavily soiled surfaces, the area will need to be cleaned prior to disinfection.

Additional Cleaning Practices / Enhanced Cleaning

Extra cleaning may be done in cases where a client/patient/resident is known or suspected to have a specific organism that could persist in the environment for long periods of time, or is resistant to some disinfectants, or in outbreak situations. These special circumstances will be specifically addressed in facility procedures.

Selecting Cleaning and Disinfectant Products

Each facility should have designated products to be used that have been evaluated and shown to be effective. Multiple products may be required to meet all of the facility needs, however too many options can make it difficult for healthcare workers to choose the appropriate product for the task. The manufacturer's instructions for use must be followed for all cleaning agents.

Cleaning products used in the health care setting MUST:

- Be approved by IPAC, occupational health, and environmental services.
- Have a drug identification number (DIN) from Health Canada if it contains a disinfectant.
- Be used according to the manufacturers' recommendations (e.g., for dilution, temperature, water hardness, contact time, etc.).
- Be used according to the product's safety data sheet. Do not use an expired product.

Disinfectant products used in the healthcare setting MUST:

- Be effective in inactivating all of the microorganisms most likely to cause healthcare-associated infections within the setting where it will be used – check the label.
- Be easy to use.
    - The disinfectant should have a sufficiently short contact time and should keep surfaces wet long enough to ensure that the contact time is met. This is especially important for disinfecting wipes which are more convenient, but may dry quicker.
    - The disinfectant should be simple to prepare and use at the required concentration.
    - Consider using a one-step cleaner disinfectant; they are quicker and simpler to use than separate products. Remember that an additional cleaning step will still be required in soiled areas.
- Be compatible with the items and surfaces requiring disinfection. Some materials and surfaces break down with repeated use of certain chemicals
- Be safe for use for both staff and clients/patients/residents:
    - Most disinfectants require some PPE for safe use.
    - Staff will be more likely to use products that are nontoxic, nonirritating and have an acceptable odour.
    - Flammability and safe storage should be considered.
- Cost and the impact on the environment should also be considered.

Note that products designed for skin (hand sanitizers, antiseptics) are NOT effective disinfectants for equipment and surfaces.

Personal Protective Equipment (PPE)

PPE should be used when cleaning if it is required based on the Point-of-Care Risk Assessment (PCRA) to protect against exposure to infectious microorganisms OR if recommended by the product manufacturer or the organizational policy to protect against exposure to harmful chemicals in the cleaning product.

At a minimum, gloves should be worn while handling cleaning products. **Hands must be cleaned prior to putting on gloves and immediately after removing them.** Gloves should be changed when soiled or torn and between cleaning the equipment or environment of different clients/patients/ residents.

For more information on glove use, please refer to the Routine Practices and Additional Precautions Policy.

General Cleaning Principles

Before Cleaning

1. Wash or sanitize hands and put on clean gloves. Perform a Point-of-Care Risk Assessment (PCRA) to determine if additional PPE is required. See Routine Practices and Additional Precautions Policy for more details.
2. Follow the manufacturer's instructions for frequency of changing cleaning solutions, and proper dilution of cleaning and disinfecting products. Disinfectants must be clearly labeled and dated with expiry date. Do not use expired products.
3. Gather required equipment prior to entering the space to be cleaned. Do not bring extra items or equipment into the room when cleaning.

During Cleaning

1. Progress from least (low touch) to most soiled areas (high touch), and from high to low surfaces.
2. Follow manufacturer's instructions for required contact time for cleaning and disinfecting products. When using wipes this is especially important as it can be difficult to keep the surface wet for the required time. If the surface dries too quickly, disinfect again with a fresh wipe or cloth.
3. When using cloths and a pail of cleaning solution, **do not double dip**. Cloths must not be immersed in a disinfectant after they have been used. Get a fresh cloth every time.
4. Be alert for needles and other sharp objects. Pick up sharps using a device such as brush and dustpan and place into sharps container. Report any improperly disposed sharps immediately according to organizational policy.
5. Empty garbage last. Handle bags from the top and do not compress. See Safe Handling of Waste and Linen Policy.

After Cleaning

1. Equipment used for cleaning and disinfecting should be disposed of or cleaned and dried prior to next use. Mop heads and cloths can be washed and dried after each use. Cleaning carts and buckets should be wiped down daily.

Cleaning Spills of Blood / Body Fluid

Blood, urine, feces, emesis, and other body substances must be cleaned and the areas disinfected immediately due to the high risk of slips and falls and exposure to infectious substances. Properly diluted bleach, or a mycobactericidal should be used to clean blood spills.

The organization will have a procedure on the cleaning of spills that includes who is responsible, where to find supplies, disposal of waste, what to do in case of exposure, the urgency of the clean-up, and where to report the incident (if required).

Frequency of Cleaning

It is essential to identify the required frequency for cleaning and disinfecting items and areas in the healthcare environment. High touch surfaces need to be cleaned more frequently than low touch surfaces, items that become heavily contaminated must be cleaned more often than items with very light contamination, and patient care equipment must be cleaned between each client/patient/resident.

Regardless of the classification of the space or equipment, any time blood or body fluid contamination occurs, the area must be cleaned and disinfected immediately.

The following chart can be used to guide decisions around cleaning and disinfection of common equipment and spaces.

Recommended Frequency of Cleaning and Disinfection by Healthcare Area

	After each use	Daily	According to a set schedule
Client/patient/resident care equipment	X		
Exam/treatment room	X	X	
Operating/procedure room	X	X	
Medical transport vehicles	X	X	
Labour and delivery room	X		
ICU		XX (twice daily)	
Client/patient/resident room		X	
Shared client/patient/resident spaces (activity room, dining room, cafeteria, nursing station, etc.)		X	
Laboratory		X	
Pharmacy		X	
Equipment reprocessing areas		X	
Clean supplies storage		X	
Linen storage and laundry areas		X	
Sterile storage			X
Public areas (meeting rooms, hallways, elevators, lobbies, etc.)			X
Service areas			X
Offices			X

*All areas and equipment, regardless of cleaning schedule, must be cleaned and disinfected if they become contaminated with blood or body fluid.

For a more exhaustive list of recommended cleaning frequency in various healthcare areas, please review Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings

Equipment / Finishes/ Surfaces

To provide a safe space for the provision of care, all items and equipment in the facility must be cleanable. Cleanable surfaces are hard and smooth with minimal seams or crevices. Soft surfaces, such as carpets and most furniture are difficult to clean and impossible to disinfect. When possible, soft surfaces in care areas should be replaced with alternatives that can be easily cleaned and disinfected.

Note that damaged surfaces (torn, chipped, scratched, worn) can harbor microorganisms and cannot be properly cleaned. Any damaged items that are no longer cleanable should be repaired, or discarded and replaced as soon as possible.

When selecting new equipment, furnishings and surfaces, consider how they will be cleaned. Individuals most responsible for IPAC, occupational health and environmental cleaning should be involved in decision-making around the purchasing of new equipment. **New equipment, furnishings, and surfaces should not be purchased if they cannot be cleaned.**

It is also important to consider compatibility between the equipment purchased and the facility approved cleaning and disinfection products. Some cleaning products will degrade certain materials. Before purchasing an item, check which healthcare disinfection products are approved for use on it.

Electronic Equipment

Electronics such as phones, computers, and medical displays require the same level of cleaning and disinfection as other items within the care area. These items are often high touch and have the ability to act as a vector, transmitting microorganisms from person to person.

Many electronics were not designed for healthcare and therefore will not include recommendations for cleaning and disinfection; however, these items must be cleaned and disinfected according to this policy and with an effective product approved by the healthcare facility.

Protective coatings

Plastic coverings may be used to protect electronic equipment. Protective coatings or covers must be cleaned and disinfected (or discarded) between clients/patients/residents (for patient
care equipment) or on a regular basis (for other items within the care environment.). Coverings or coatings must be replaced if damaged.

Personal electronics that are not or cannot be cleaned and disinfected appropriately must not be used in care areas. Always clean your hands before and after touching your personal electronic device.

Environmental Cleaning Audits

To ensure that cleaning in the healthcare facility meets best practice guidelines and is helping to create a safer environment for clients/patients/residents, regular audits of the cleaning process and the cleanliness of the space are required.

Audits should be done through both observation and surface testing to get a full picture of the quality of the cleaning process. Each of the types of audits, with examples of each are discussed further in the charts below.

Audit and feedback results must be presented to the environmental service leadership of the health care facility and to the appropriate infection control and/or quality and safety committee (or equivalent). Results will also be provided to the healthcare workers performing the cleaning to assist in the provision of constructive feedback and ongoing training as appropriate. Environmental cleaning processes will also be evaluated in the annual IPAC Audit.

Types of Observation Audits

Table 7: Observational Methods Used to Monitor Cleaning and Cleanliness in Health Care Facilities

Method	Description	Advantages	Disadvantages
Visual assessment [376,452]	Trained observer (e.g., environmental service supervisor) assesses cleanliness of an area following cleaning	▪ Easy to implement[376] ▪ Useful to assess whether a "hotel clean" has been obtained ▪ Allows feedback to individual environmental service staff	▪ Results do not correlate with levels of microbial contamination[376] ▪ Does not assure that a "health care clean" has been achieved[452] ▪ Results may vary across different observers[376]
Performance observation [230,376]	Environmental service supervisor observes environmental service workers perform cleaning	▪ Easy to implement[376] ▪ Useful to assess that facility procedures for cleaning are performed correctly[376] ▪ Allows feedback to environmental service staff	▪ Time consuming ▪ Labour intensive[230] ▪ Performance while observed may not be the same as performance when not observed[376]
Satisfaction surveys [453]	Patients/residents/clients complete surveys and provide feedback on the facilities' cleanliness	▪ Useful to ensure needs of client/patient/resident are met	▪ Results may not correlate with levels of microbial contamination[453]

Types of Surface Testing Audits

Table 8: Assessment of Cleaning Through Testing of Surfaces Following Cleaning

Method	Description	Advantages	Disadvantages
Environmental marking [462]	Prior to cleaning, environmental surfaces are marked with an invisible tracing agent that can only be seen using a revealing agent. After cleaning, a trained observer can check to determine if the tracing agent was removed from the surfaces during cleaning. Failure to remove the tracing agent from a smooth surface suggests that the surface was not cleaned.	▪ Allows direct assessment of cleaning thoroughness (i.e., proportion of surfaces actually cleaned) ▪ Allows assessment of which high- and low-touch surfaces are cleaned consistently and which are omitted ▪ Associated with rapid improvement when constructive feedback is provided ▪ Easy to implement ▪ Results easily understood[462]	▪ Does not directly measure microbial contamination ▪ Does not measure quality or intensity of cleaning (i.e., a single wipe will remove marker) ▪ Does not assess adequacy of cleaning of unmarked surfaces ▪ Surface texture may affect removal of the tracing agent
Adenosine triphosphate (ATP) bioluminescence [3,376,463-468]	ATP is a substance found in all living cells. Surfaces can be tested after cleaning to determine the quantitative level of ATP present.	▪ Allows assessment of residual organic material present after cleaning ▪ Provides quantitative result ▪ Easy to implement[376] ▪ Provides quick and direct feedback[376]	▪ Not a direct measure of microbial contamination[376] ▪ Some cleaning products and materials may interfere with the test (e.g., microfibre,[468] bleach,[463,466,467] hydrogen peroxide,[463,466] quaternary ammonium compounds,[463] etc.) ▪ Does not assess adequacy of cleaning of unmarked surfaces ▪ Results not comparable across systems due to lack of standardization[465]
Environmental culture[376]	Cultures can be taken from surfaces after cleaning to determine if bacteria are present.	▪ provides the only direct measure of contamination of viable microorganisms[376] (level of bacterial contamination, type of bacteria present)	▪ expensive[376] ▪ slow turnaround time[376] ▪ not standardized[376] ▪ does not assess bacterial contamination beyond the small areas tested[376]

Provincial Infectious Diseases Advisory Committee (PIDAC). Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings, 3rd Ed. April 2018.

Considerations When Providing Care Outside the Healthcare Setting

When providing care in a client/patient home or in a public setting, you cannot be sure how clean the space is. Even in a visually clean area, you should assume that all surfaces are potentially contaminated with microorganisms.

Clean hands are the best way to prevent infections. Always clean your hands prior to entering and after leaving the area, as well as when indicated by the 4 Moments of Hand Hygiene (Hand Hygiene Policy).

Bring only the equipment and supplies needed for that visit into the space. Any items placed in the environment should be cleaned prior to and after each use.

When the area is visibly dirty, try to avoid putting personal belongings or clean equipment or supplies on the floor or other surfaces. Any items that may have become contaminated should be cleaned and disinfected between clients/patients/residents.

Education / Occupational Health and Safety

All healthcare workers will complete education on cleaning and disinfection on hire and annually. All healthcare workers responsible for cleaning and disinfection will be provided with procedures and training on cleaning the areas and items that they are responsible for. The primary focus of environmental cleaning is the safety of the client/patient/resident. See the IPAC Education for All Healthcare Workers Policy.

Some cleaning and disinfection products can pose a risk to healthcare workers if they are not stored and used correctly. The healthcare facility will provide product information, and an environment and culture that promotes safe work practices and safe working conditions as required under the Occupational Health and Safety Act.

Resources:

Best Practices for Cleaning, Disinfection and Sterilization in All Health Care Settings - Information on high-level disinfection and sterilization of medical equipment

Chlorine Dilution Calculator – Public Health Ontario

How to Prevent Skin Damage from Cleaning Products – Public Health Ontario

Definitions:

Additional Precautions: Precautions (i.e., Contact Precautions, Droplet Precautions and Airborne Precautions) that are necessary in addition to Routine Practices for certain pathogens or clinical presentations. These precautions are based on the method of transmission (e.g., contact, droplet, airborne).

Cleaning: The physical removal of foreign material (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, detergents and mechanical action.

Disinfection: The inactivation of disease-producing microorganisms. Disinfection does not destroy bacterial spores. Medical equipment/devices must be cleaned thoroughly before effective disinfection can take place.

Healthcare Worker: Any person delivering care to a client/patient/resident. This includes, but is not limited to, the following: emergency service workers, physicians, dentists, nurses, respiratory therapists and other health professionals, personal support workers, clinical instructors, students, home healthcare workers, and volunteers.

Heavy-contamination Area: Areas where surfaces or equipment are regularly exposed to significant amounts of blood or other body fluids (e.g., birthing suite, autopsy suite, dialysis unit, emergency department, bathrooms of patients with diarrhea or incontinent).

High-touch Surfaces: High-touch surfaces are those that have frequent contact with hands. Examples include doorknobs, call bells, bedrails, light switches, wall areas around the toilet and edges of privacy curtains.

Healthcare Disinfectant: A low-level disinfectant that has a drug identification number (DIN) from Health Canada indicating its approval for use in Canadian health care settings. Healthcare disinfectants are also referred to as “hospital disinfectants” or “hospital-grade disinfectants”.

Hospital Clean: The measure of cleanliness routinely maintained in care areas of the health care setting. Hospital Clean is “Hotel clean” with the addition of disinfection, increased frequency of cleaning, auditing and other infection control measures in client/patient/resident care areas

Hotel Clean: A measure of cleanliness based on visual appearance that includes dust and dirt removal, waste disposal and cleaning of windows and surfaces. Hotel clean is the basic level of cleaning that takes place in all areas of a health care setting.

Light-contamination Area: Areas where surfaces are not exposed to blood or body fluids or items that have come in contact with blood or body fluids (e.g., lounges, libraries, offices).

Low-touch Surfaces: are those that have minimal contact with hands. Examples include (but are not limited to) floors, walls, ceilings, mirrors and window sills.

Moderate-contamination Area: Areas where surfaces or equipment are regularly contaminated with blood or body fluids (e.g., patient/resident rooms, bathrooms of continent patients) and the blood or body fluids are contained or rapidly removed (e.g., wet sheets). All client/resident/patient rooms and all bathrooms should be considered moderately contaminated.

Point-of-Care Risk Assessment (PCRA): An individual assessment of each client/patient/resident’s potential risk of transmission of microorganisms to the healthcare worker. Includes considerations around the health and behavioural status of the client/patient resident, the type of interaction, the environment, and the susceptibility of the healthcare worker (ie. immunization status).

Respiratory Etiquette: Personal practices that help prevent the spread of bacteria and viruses that cause acute respiratory infections (e.g., covering the mouth when coughing, care when disposing of tissues).

Routine Practices: The system of infection prevention and control practices recommended by the Public Health Agency of Canada to be used with all clients/patients/residents during all care to prevent and control transmission of microorganisms in all health care settings.

References:

Occupational Health and Safety Act, R.S.O. 1990, c O.1. Available from: http://www.elaws.gov.on.ca/html/statutes/english/elaws_statutes_90o01_e.htm

Provincial Infectious Diseases Advisory Committee (PIDAC). Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings, 3rd Ed. April 2018. https://www.publichealthontario.ca/-/media/documents/b/2018/bp-environmental-cleaning.pdf?la=en

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