Chapter 5
Environmental Health

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Sleeping space recommendations

To decrease the potential spread of illness, it is important to provide a minimum space per person in sleeping areas. Health Canada has established the following two standards for use in all emergency shelter facilities.

- The minimum required for a person’s sleeping space, as per Shelter Standards, should be no less than: 3.5 square metres (37.7 square feet/person)
- The minimum distance between beds, as per Shelter Standards, should be no less than: 75 centimetres (2.5 feet/person)

Additionally, it is recommended that beds be arranged so that clients/residents sleep in a foot-to-head fashion so as to further distance people from one another.

Heating, ventilation and air conditioning systems (HVAC)

In order to improve air quality and have a supply of fresh (e.g., non-contaminated) air, rooms in a shelter should be well ventilated. Some shelters may have HVAC (Heating, Ventilation, and Air Conditioning) systems.

Air handling systems (HVAC) supply, filter, condition, and exhaust air by a variety of methods. These may include central HVACs or individual units. Each of these may be associated with infection control risks, and facilities should have specific policies and procedures in place to minimize these risks including, but not limited to the following:

- A process to ensure HVAC systems are monitored in accordance with engineers’ and manufacturers’ recommendations
- A maintenance schedule for air changes per hour (ACH)
- A maintenance schedule for inspection of filters and air intakes

Special attention should be paid to the HVAC system when renovation and construction projects are planned to minimize the risk of transmission of infections to the clients/residents.

Smaller facilities without an HVAC system may be able to improve ventilation by opening windows (weather permitting) on both sides of a room to get a cross-draft. Portable fans can also be used to help create a more forceful draft as long as there is both a way for fresh air to enter and stale air to leave.
Cleaning and disinfection

Cleaning and maintenance prevent the build-up of soil, dust or other foreign material than can support the growth of organisms (germs) which may cause illness.

Cleaning is accomplished with water, detergents and mechanical action. The aim of cleaning is to achieve a clean environment with regular general housekeeping.

Principles of cleaning

- Cleaning products should:
  - be selected on the basis of effectiveness, acceptability, safety and cost
  - be appropriate to the task
  - used according to manufacturer’s instructions
  - be stored in a safe manner and
  - not be mixed inappropriately, for example do not mix chlorine bleach and soap, as a toxic gas will form

- Surfaces must not show any visible soil before they are disinfected

- Cleaning equipment should be maintained in a clean, dry state after use. Cloths, mop heads, etc. should be changed when soiled after use.

- Personal protective equipment, such as disposable gloves, should be available and used appropriately

- Garbage should be contained and disposed of by usual methods. Sharp objects, such as needles, should be placed in approved, puncture-resistant containers to prevent puncture injuries or cuts to the skin.

Products for cleaning and sanitizing

- Cleaning with detergent and water is generally acceptable

- Commercial household products are acceptable to disinfect environmental surfaces and should be used according to manufacturer’s instructions

- Cleaning should proceed from least to most soiled. Cleaning solutions should be changed when they appear dirty and/or after a spill cleanup.

- Cleaning primarily involves horizontal surfaces, such as countertops, table tops, floors, and surfaces that are frequently handled such as door knobs, telephones and bathroom fixtures. Walls may require spot cleaning.
• Spills involving blood or body wastes should be cleaned up with disposable towels/cloths, which should be placed in a plastic bag for disposal in the regular garbage. The area involved should be cleaned with detergent and water and then sanitized with an appropriate product. Reusable rubber gloves should be worn. Do not wear latex gloves; the cleaning chemicals can penetrate the glove making it ineffective.

* See section 2 Routine Practices– “Disinfecting Solutions and Blood/body Fluid Clean-up”

Cleaning schedules

Cleaning schedules should be established according to the type of surface to be cleaned and the type of soiling that occurs. For example:

• Spills – clean immediately

• Surfaces used for food preparation or diapering – clean after each use

• Kitchen, bathrooms, playroom – clean daily and as necessary

• Resident rooms, living rooms, offices, appliances – clean weekly and as necessary

• Mattresses, pillows, bed frames, bedroom furniture – clean between occupants, check for bed bugs. Mattresses and pillows should be encased in plastic (plastic mattress/pillow covers) to prevent bed bugs.

• Household furniture, walls, carpets, etc – follow a rotating schedule. Vacuum at least weekly. Do more deep cleaning at least once or twice a year or more often as necessary.

• During outbreaks, it will be necessary to increase cleaning and disinfection throughout the facility.

Toys

• Mouth toys such as harmonicas, flutes and whistles should not be available for common use due to the challenges of properly cleaning these items

• Items used by younger children (who have a tendency to put things in their mouth) should be made of washable material. These may be wiped with a safe disinfectant or cleaned in a dishwasher if the toy can tolerate the high heat. Alternatively, use a sink to clean washable toys after use by a child. If using a dishwashing machine, do not place any dishes in the machine while toys are being washed.

• Non washable toys (puzzles, puppets) may be used by older children who should be instructed to wash their hands before and after using toys

• For other toys, activity counters and toy shelves, clean and disinfect at least weekly, more often in an outbreak

• Soft cuddly toys should be washable. These should be washed weekly or as necessary.
Dress up clothes should be laundered weekly. These items should be laundered and put away during an outbreak of head lice or scabies, until the outbreak has stopped.

**Personal belongings**

Many insect infestations such as scabies and bedbugs can travel on the belongings of individuals. One way to prevent the spread of such organisms is through the plastic bagging of personal belongings. Also discourage as much as possible, the sharing of personal items such as hats, scarves, coats, combs and brushes.

**Diaper tables**

Separate designated tables should be provided for diaper changes of babies and young children. These tables should ONLY be used for this function and should be cleaned with a disinfecting solution after every use. Provide a lined step can for disposal of diapers. Encourage hand hygiene of caregiver and child following diaper change.

**Examination tables, treatment chairs and counters**

If facility has a nurse’s room, first aid room or any area where clients/residents are examined or given medical treatment, surfaces must be cleaned and disinfected regularly or immediately when visibly soiled. Uncovered examination tables must be cleaned and disinfected between clients/residents. Table covers, linen, paper, plastic etc should be changed between clients/residents. If there is a body fluid spill, clean and disinfect the table after removing the cover (see Procedure for cleaning up of body fluids – Chapter 2-15). Other “high touch” surfaces and areas, such as treatment chairs, counters, door knobs etc should be cleaned and disinfected daily or when soiled.

**Multi use tubs/showers**

Multi use tubs and showers should be cleaned and disinfected between client/resident uses. Tub interiors, shower floors and walls including soap dish, faucets and shower heads should be scrubbed as required to remove soap scum. Soap should be rinsed off and disinfectant applied to surfaces, ensuring sufficient contact time (as per manufacturer’s instructions – usually about 10 minutes) before rinsing. Showers curtains should be inspected and replaced monthly and as required. Areas such as grout should be inspected for mould and cracks/damages regularly.

Additional notes:

- Surfaces such as light switches, chrome wall attachments, door handles and frames are considered “high touch” surfaces and should be wiped down often
- Soap dispensers, paper towel and toilet paper holders should be checked regularly and replenished
- Garbage receptacles should be emptied as necessary
- Soiled linen/towels should be removed from area promptly
If using a brush to scrub tubs, showers etc, it should also be disinfected (can be placed in tub during disinfection) for the recommended contact time and then hung to dry

**Baby bath tubs**

Where possible, baby bath tubs should be dedicated to one family for the duration of their stay. The caregiver should be instructed to wash the bath with hot soapy water and dry after each use.

If the tub is shared/given to another individual to use, if must be cleaned and disinfected before use. Follow these steps:

a) Inspect all surfaces of the baby bath tub for scratches, cracks or any marks compromising the integrity of the surface
b) Wash with detergent/soap and water. Scrub with a brush if there is a build up of soap scum or visible soil. Rinse with clean water and dry.
c) Disinfect using a disinfectant wipe or bleach and water solution. Allow the surface to remain wet for the contact time recommended by the manufacturer. The best disinfectants will state “tuberculocidal” on the label.
d) Because a baby’s skin may be sensitive, it is suggested to rinse the bath with fresh clean water prior to next use and after the disinfecting process has been performed.
Outreach health

When involved in outreach activities, access to running water and hygiene supplies may be difficult. The following are special suggestions for people involved in outreach activities.

Hand hygiene

Regular hand hygiene is considered one of the most effective ways to reduce the spread of infection! Hand hygiene includes washing hands at a sink with soap and running water or the use of alcohol-based hand rub.

When running water is not available, advance planning is important. Before you begin any outreach activities, make sure you have the supplies you need and enough of them. The first goal of hand hygiene is to remove dirt or debris from your hands. This can be accomplished through friction. A disposable moist wipe cloth (the type some fast food restaurants carry) can be used to remove dirt and debris.

Follow these key points when using a moist cloth:
- Make sure the cloth is clean
- Generate enough friction to remove dirt/debris, particularly around the nail beds and in between fingers
- Once most of the dirt/debris has been removed, use an additional clean moist cloth to make sure hands are clean

Using a cloth substitute is not as effective as hand washing. This technique should only be used when running water is not available. As well, no matter how clean a hand may look, there will still be germs living on the skin. **If you clean your hands using a moist cloth, make sure you follow this with the use of an alcohol based hand rub.**

Always wash your hands before and after an outreach activity.

Every outreach worker should carry a personal supply of alcohol-based hand rub. They are available at most drug stores and shops that carry personal hygiene supplies. You should always sanitize your hands before and after you have direct contact with an outreach client/resident or their belongings to make sure you are not passing germs to them or catching germs from them. Refer to the section on hand hygiene in chapter 2 for more information. In addition, a poster is available at [www.peelregion.ca](http://www.peelregion.ca) – Clean Your Hands Poster

Outreach kit

The following is a minimum list of supplies that should be carried by every worker during outreach activities:
- two pairs of disposable rubber gloves
- one pair of non-latex gloves
- two surgical masks
- one bottle of personal alcohol-based hand rub
• 10 moist (preferably alcohol-soaked) hand-wipes
• two re-sealable plastic bags for contaminated garbage
• a water-resistant bag to carry supplies, such as a plastic bag

These supplies are compact and can easily be transported in a backpack or carry bag. You will notice that most supplies have expiry dates and care should be taken to make sure expired items are not kept in the kit. Also, temperature extremes (hot or cold) and moisture (water) should be avoided as much as possible. The quality of materials in the kit may be compromised by exposure to moisture.