

Safe Distribution of Ice and Water in Healthcare Facilities

Note: Terms in bold are defined in the **Definitions** section.

If you have any questions or comments contact IPC at ipcsurvstdadmin@ahs.ca.

Best practice recommendations

Purpose

To provide instruction for the safe distribution of ice and water in healthcare facilities.

Application

This recommendation applies to all Alberta Health Services (AHS) staff, medical staff, students and other persons acting on behalf of AHS.

IPC practices

[Routine practices](#) refer to infection prevention and control measures used with all patients to prevent and control transmission of microorganisms.

- [Routine practices](#) include [hand hygiene](#) and safe use, cleaning and handling of equipment and supplies.
- Hand hygiene is the single most important step in preventing infections.

Recommendations

1. Distribution of ice or water

Contaminated ice and water has been linked to disease outbreaks. Follow [routine practices](#) to avoid contamination during ice and water distribution (handling supplies, dispensing, transportation, and storage).

- 1.1 Perform hand hygiene before distribution and if hands become contaminated (touching anything other than clean supplies).
- 1.2 Use **no-touch ice dispensing machines** if possible.
- 1.3 Dispense into a clean, intact container (e.g., cup, pitcher, ice bucket, ice cube tray).
 - Use clean supplies when dispensing (including cup cover lids and straws). Do not refill used containers, whether disposable or cleanable, (e.g., cups, pitchers), directly at the dispenser.
 - Avoid touching ice, water, the inside of containers or dispensers.
 - Clean and **sanitize** reusable containers between tasks or if contamination occurs (e.g., one container can be used to fill multiple clean cups or pitchers unless contamination occurs). Once the task is completed, the container is cleaned and sanitized by Nutrition and Food Services.
 - Store clean containers in a manner that protects them from contamination (e.g., clean restricted area, limited to staff).
- 1.4 Single-use containers
 - Discard single-use cups and pitchers after use unless dedicated to a single **patient**.
- 1.5 Containers dedicated to a single patient
 - Label with the patient's name.
 - Replace cups dedicated to a single patient daily or more frequently if soiled.

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- Clean and sanitize water pitchers dedicated to a single patient according to a routine schedule (e.g., weekly in continuing care), when visibly soiled, and when the patient is discharged.
- 1.6 Protect bulk ice supply from contamination. Once ice is dispensed, it is considered used and should not be returned to the bulk supply.
- Use an ice scoop to access ice from bulk ice supply (e.g., **ice chests**, ice bins in refrigerators). Do not use a glass or hands to scoop ice (i.e., avoid touching ice with hands).
 - Grasp the handle of the scoop only and avoid touching the portion that contacts the ice.
 - Store the ice scoop in a clean, uncovered holder that is smooth, non-absorbent and easy to clean.
 - Do not leave the scoop in the bulk ice chest or dispenser.
- 1.7 Ensure chemicals used for cleaning and sanitizing containers are food-safe.
- 1.8 If using a cart to distribute ice or water, carts must be clean. Clean and disinfect carts after each use with AHS-approved surface disinfectants (e.g., hydrogen peroxide, quaternary ammonium, sodium hypochlorite products).
- 1.9 In some situations (e.g., outbreaks) access to nourishment areas may be restricted to staff only. Refer to [Outbreak Manuals](#).

2. Ice machines

Contaminated ice machines have been linked to healthcare associated infection. Sources of contamination include seeding from main water supply, faulty plumbing, irregular cleaning and unclean hands. Cleaning regimens reduce biofilm and scale build-up. Follow these recommendations:

- 2.1 Keep ice intended for human consumption separate from ice intended for other uses (e.g., ice packs, storage of medical solutions, pharmaceuticals and clinical specimens).
- 2.2 Use closed, contained, no-touch ice dispensing machines in areas accessible to patients or visitors.
- 2.3 If ice storage bins (e.g., ice chests, ice bins in refrigerators) are used, limit access to AHS staff. Keep doors closed, except when removing ice.
- Dedicate ice buckets and scoops, and clean daily.
 - Report any signs of mould.
- 2.4 Clean, disinfect, and maintain ice machines on a regular schedule (e.g., exterior weekly, interior monthly and maintenance quarterly), when visibly soiled or if contaminated according to manufacturer's instructions for use.
- Determine who is responsible for routine cleaning and maintenance duties for each ice machine, e.g., cleaning and maintenance duties may be assigned based on ownership and location of the ice machine.
 - If manufacturer's instructions for use are not available or do not provide detailed cleaning and maintenance instructions, refer to [Appendix: General Steps for Cleaning and Maintaining Ice Machines, Dispensers, and Storage Chests](#).
- 2.5 Document cleaning and maintenance activities. [Click here](#) to view a sample Cleaning, **Disinfection**, and Maintenance Documentation Log.
- 2.6 Post the manufacturer's instructions for use, cleaning schedule, and documentation log on or near the ice machine.
- 2.7 Disconnect all ice machines if normal water supply is lost or a boil water advisory is issued. Discard ice. Label ice machines "DO NOT USE" during disruption.

2.8 Once the water supply is restored:

- Ensure the water supply line has been flushed prior to reconnecting the ice machine.
- Follow manufacturer's instructions for use for detailed instructions on flushing and disinfecting.
- If manufacturer's instructions for use are not available or do not provide detailed cleaning and maintenance instructions, refer to [Appendix: General Steps for Cleaning and Maintaining Ice Machines, Dispensers, and Storage Chests](#).

3. Water coolers

Regularly clean and maintain **water coolers**, according to manufacturer's instructions for use, to reduce the risk of contamination. For more information, refer to [MyHealth.Alberta Drinking Water Safety](#).

Definitions

Contaminated means the presence of microorganisms on inanimate objects (e.g., objects within the vicinity of the patient, patient bedding, medical devices) or microorganisms transported transiently on body surfaces, such as on hands, on fomites, or in substances (e.g., water, food, milk).

Disinfection means the inactivation of disease producing microorganisms. Disinfection does not destroy bacterial spores. Disinfectants are used on inanimate objects; antiseptics are used on living tissue. Disinfection usually involves chemicals, heat or ultraviolet light. Levels of disinfection vary with the type of product used.

Ice chest means an ice machine with a storage compartment. Ice is accessed with a scoop and the compartment may have doors or a lid. Ice chests are not recommended in clinical settings due to the risk of contamination and if used, there should be a plan for replacement.

No-touch ice dispensing machine means a closed delivery system that automatically produces and dispenses ice directly into a container at the touch of a control. If ice machines are being purchased, a no-touch ice dispensing system is recommended.

Patient means an adult or child who receives or has requested healthcare or services from Alberta Health Services and its health care providers or individuals authorized to act on behalf of Alberta Health Services. This term is inclusive of residents, clients and outpatients.

Sanitize means to treat in such a way as to reduce the micro-organism population to a level that does not constitute an unsanitary condition [i.e., according to dishwashing standards that supplement the [Food Regulation Act](#)]. The standards establish minimum requirements for mechanical dishwashers and for manual dishwashing procedures i.e., detailed cleaning requirements, time and temperature for sanitizing.

Water cooler means a device that cools and dispenses water. Water coolers may be bottle-less or bottled. Bottle-less water coolers are plumbed into to a water supply while bottled water coolers require delivery of water in large bottles.

Resources

[Safe Water and Ice Distribution Poster](#)

[Ice Machine Tips Poster](#)

[Sample Cleaning, Disinfection, and Maintenance Documentation Log](#)

References

1. [Appendix](#): General Steps for Cleaning and Maintaining Ice Machines, Dispensers, and Storage Chests.
2. Alberta Health Services. 2016. IPC Community-based Services Resource Manual. Retrieved from <https://www.albertahealthservices.ca/info/Page6854.aspx>.
3. Alberta Health Services. 2006. Dishwashing Requirements. Retrieved from <http://www.albertahealthservices.ca/assets/wf/eph/wf-eh-dishwashing-requirements.pdf>.
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5. Communicable Disease Control (CDC). 2003. Guidelines for Environmental Infection Control in Health-Care Facilities, Box 3. Retrieved from http://www.cdc.gov/hicpac/pdf/guidelines/eic_in_HCF_03.pdf.
6. Public Health Ontario. 2013. Best Practices for Environmental Cleaning for Prevention and Control of Infections in all Health Care Settings - 2nd Edition Provincial Infectious Diseases Advisory Committee (PIDAC). Retrieved from https://www.publichealthontario.ca/en/eRepository/Best_Practices_Environmental_Cleaning_2012.pdf.
7. MyHealth.Alberta. 2015. Drinking Water Safety. Retrieved from <https://myhealth.alberta.ca/Alberta/Pages/water-coolers.aspx>.

Appendix: General Steps for Cleaning and Maintaining Ice Machines, Dispensers, and Storage Chests

Note: These are general recommendations. Use only when manufacturer's instructions for use are not available in print or online.

1. Disconnect unit from power supply.
2. Remove and discard ice from bin or storage chest.
3. Allow unit to warm to room temperature.
4. Disassemble removable parts of machine that make contact with water to make ice.
5. Thoroughly clean and de-scale machine and parts with water and detergent.
6. Dry external surfaces of removable parts before reassembling.
7. Check for any needed repair.
8. Replace feeder lines, as appropriate (e.g., when damaged, old, or difficult to clean).
9. Ensure presence of an air space in tubing leading from water inlet into water distribution system of machine.
10. Inspect for rodent or insect infestations under the unit and treat, as needed.
11. Check door gaskets (open compartment models) for evidence of leakage or dripping into the storage chest.
12. Clean the ice-storage chest or bin with fresh water and detergent; rinse with fresh tap water.
13. Sanitize machine by circulating a 50–100 parts per million (ppm) solution of sodium hypochlorite (i.e., 4–8 mL sodium hypochlorite/gallon of water) through the ice-making and storage systems for 2 hours (100 ppm solution), or 4 hours (50 ppm solution).
14. Drain sodium hypochlorite solutions and flush with fresh tap water.
15. Allow all surfaces of equipment to dry before returning to service.