

Recommendations for Physical Space for Decontamination Areas

These recommendations are excerpt from [Best Practices for Cleaning, Disinfection and Sterilization of Medical Equipment/Devices](#). They outline physical space requirements that should be in place to support reprocessing best practices for decontamination. For more information, please visit www.publichealthontario.ca or email ipac@oahpp.ca.

Space Recommendations

1. **There must be clear separations between soiled and clean areas¹⁴:**
 - a. decontamination work areas should be physically separated from clean and other work areas by walls or partitions to control traffic flow and to contain contaminants generated during the stages of decontamination;
 - b. soiled work areas must be physically separated from all other areas of the space;
 - c. walls or partitions should be constructed of materials capable of withstanding frequent cleaning with the cleaning and disinfecting products used in the health care setting;
 - d. doors to all work areas should be kept closed at all times; self-closing doors are recommended to restrict access and optimize ventilation control; and
 - e. in healthcare facilities, doors should be pass-through, to ensure one-way movement by staff from contaminated areas to clean areas.
2. **There must be adequate space provided for decontamination equipment and materials used for cleaning and reprocessing¹⁴:**
 - a. work surfaces and surrounding areas should be designed to minimize crowding of work space;
 - b. work surfaces shall be flat, cut-resistant, seamless and composed of a non-porous material so they can be cleaned, disinfected and dried; stainless steel surfaces are recommended;
 - c. counter tops should be waterproof and have a backsplash;
 - d. there should be at least two adjacent decontamination sinks; if only one or two sinks are available, precautions should be taken to avoid re-contaminating equipment/devices;
 - e. decontamination sinks should:
 - i. be at a height that allows staff to use them without bending or straining;

- ii. be deep enough to immerse items to be cleaned;
- iii. be large enough to accommodate trays or baskets of instruments;
- iv. not have an overflow; and
- v. be equipped with water ports for the flushing of instruments with lumens, if appropriate.

3. There must be an area for donning or removing Personal Protective Equipment (PPE):

If staff interchange is required between clean and contaminated areas, PPE shall be carefully removed and hands thoroughly washed.

4. There must be easy access to hand hygiene facilities¹⁴:

- a. dedicated hand washing sinks must be provided;
- b. hand washing sinks should be conveniently located in or near all decontamination and preparation areas and at all entrances to and exits from the decontamination area;
- c. hand washing facilities should also be located in all personnel support areas (e.g., change rooms);
- d. “hands-free” operating sinks are recommended;
- e. hand washing sinks must not be used for other purposes; and
- f. accessible, adequately supplied and properly functioning soap dispensers, towel dispensers and alcohol-based hand rub, shall be made available.

5. There must be easy access to emergency supplies¹⁴:

- a. eye-wash stations, deluge showers and spill equipment should be provided as necessary;
- b. consult jurisdictional occupational health and safety statutes/regulations.

6. The reprocessing area is regularly and adequately cleaned^{9,14}:

- a. there is an area for storage of dedicated housekeeping equipment and supplies;
- b. wet-vacuuming or hand-mopping with a clean mop head and clean, fresh water should be done at least daily;
- c. spills are cleaned up immediately; and
- d. there is an area for waste.

Medical equipment/device reprocessing areas require a ‘Hospital Clean’ regimen that includes:

- a. in sterile processing areas:
 - i. clean and disinfect all countertops, work areas, sinks and equipment surfaces at least daily;

- ii. clean and disinfect sinks each shift at a minimum and more frequently as necessary;
- iii. clean floors at least daily;
- iv. clean shelves daily in sterilization areas, preparation and packing areas and decontamination areas;
- v. clean shelves every three months in sterile storage areas;
- vi. clean case carts after every use;
- vii. clean walls every six months; and
- viii. clean light fixtures, sprinkler heads and other fixtures every six months.

b. in user units, clinics, endoscopy suites and other sterile storage areas:

- i. clean and disinfect countertops, work areas and equipment surfaces at least daily;
- ii. clean and disinfect sinks between each use;
- iii. clean floors daily;
- iv. clean shelves monthly;
- v. clean walls every six months; and
- vi. clean light fixtures, sprinkler heads and other fixtures every six months.

For more information about 'Hospital Clean', see PIDAC's Best Practices for Environmental Cleaning in All Health Care Settings.⁹

7. There is adequate storage space:

- a. there is an area for transportation equipment (e.g., carts, trolleys); and
- b. clean supplies and PPE must be stored in a separate area from soiled items and cleaning processes.

Environment Recommendations

1. In healthcare facilities ventilation, temperature and humidity of the Sterile Processing Department meets or exceeds CSA standards^{14,54}:

a. CSA requirements for ventilation:

- i. minimum 8 air changes per hour for soiled areas, 10 air changes per hour for clean areas
- ii. minimum 2 outdoor air changes per hour for soiled areas, three outdoor air changes per hour for clean areas
- iii. soiled areas: negative pressure
- iv. clean areas: positive pressure
- v. exhaust air vented outdoors and not recirculated
- vi. portable fans must not be used in any area of the sterile processing department

b. CSA recommendations for temperature and humidity:

- i. room temperature of all decontamination work areas should be between 18-20°C and between 20-23°C for clean areas

- ii. relative humidity should be maintained between 30-60% (preferably 40-50%) and be monitored daily
- iii. an independent humidity monitor that is calibrated regularly should be used in each sterile storage area
- iv. if humidity increases such that sterile packages become damp or wet (e.g., > 70%), the integrity of the package may be compromised¹:
 - immediately notify facility management and ensure that remedial action is taken
 - remove as much inventory as possible from the affected area; consider moving off-site if feasible
 - if items are visibly damp or damaged, they must be repackaged and reprocessed; if single-use, the item must be discarded
 - if there is no visible effect of moisture, the items may be used
 - if humidity reading after 24 hours is still >70%, a risk assessment must be performed to determine which items can be used, reprocessed or discarded

2. Water used in the processing area should be tested and be free of contaminants:

[Refer to Annex F in the Canadian Standards Association's *'Decontamination of Reusable Medical Devices'* CAN/CSA-Z314.8-08]

Water quality can be a significant factor in the success of decontamination procedures. In addition to issues of mineral content (hardness or softness), piped water supplies can also introduce pathogens and unwanted chemicals to decontamination processes. Manufacturers of medical equipment/devices, decontamination equipment and detergents should be consulted regarding their particular water quality requirements.

Water should appear colourless, clean and without sediment. Limiting values of water contaminants¹⁴:

- pH: 6.5 to 8
- Evaporation residue: ≤15 mg/L
- Conductivity: ≤ 50 µs/cm
- Hardness: ≤ 0.1 mmol/L
- Cadmium: ≤ 0.005 mg/L
- Chloride: ≤ 3 mg/L
- Iron: ≤ 0.2 mg/L
- Lead: ≤ 0.05 mg/L
- Phosphate: ≤ 0.5 mg/L
- Silica: ≤ 2 mg/L
- Other heavy metals: ≤ 0.1 mg/L

Adapted from:

- CSA Group. CAN/CSA-Z314.8-08: Decontamination of reusable medical devices. Toronto, ON: CSA Group; 2012.
- CSAP Group. CAN/CSA Z314.3-09: Effective sterilization in health care facilities by the steam process. Toronto, ON: CSA Group; 2009.
- CSA Group. CAN/CSA Z314.2-10: Special requirements for heating, ventilation, and air conditioning (HVAC) systems in health care facilities. Toronto, ON: CSA Group; 2010.
- American Institute of Architects. Guidelines for design and construction of hospital and health care facilities. 2006 ed. Washington, DC: American Institute of Architects; 2006. Available from: <https://www.fgiguilines.org/wp-content/uploads/2016/07/2006guidelines.pdf>

References

The following references follow the order of original document. For full reference list please refer to [Best Practices for Cleaning, Disinfection and Sterilization of Medical Equipment/Devices](#).

1. CSA Group. CAN/CSA-Z314.3-09: Effective sterilization in health care facilities by the steam process. Toronto, ON: CSA Group; 2009.
9. Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Best practices for environmental cleaning for prevention and control of infections in all health care settings. Toronto, ON: Queen's Printer for Ontario; 2012. Available from: http://www.publichealthontario.ca/en/eRepository/Best_Practices_Environmental_Cleaning_2012.pdf.
14. CSA Group. CAN/CSA Z314.8-08: Decontamination of reusable medical devices. Z314.8-08 CC, editor. Toronto, ON: CSA Group; 2008.
54. CSA Group. CAN/CSA Z317.2-01 (R2008): Special requirements for heating, ventilation, and air conditioning (HVAC) systems in health care facilities. Toronto, ON: CSA Group; 2001.