

Storage of Clean and Sterile Supplies in Clinical Areas

Note: This best practice recommendation was developed by the Document Revision Working Group. If you have any questions or comments contact IPC at ipc survstdadmin@ahs.ca.

Best practice recommendations

Purpose

- To prevent contamination of clean and sterile supplies stored in clinical areas using the relevant Canadian Standards Association (CSA) standards as a guide.

Application

This guideline applies to:

- Clinical areas that store clean and sterile supplies.
- Alberta Health Services (AHS) staff, medical staff, volunteers, students and other persons acting on behalf of AHS who access, transport, distribute, store, handle, clean, and maintain clean and sterile supplies stored in clinical areas.

1. General IPC practices

- 1.1 Perform [hand hygiene](#) before accessing clean and sterile supplies. Do not wear gloves when accessing supplies.
- 1.2 Follow storage recommendations and expiry dates on supply labels (if present).
- 1.3 Store clean and sterile supplies in a designated area that is separate from other areas and is clean and dry, protected from dust, moisture (acceptable range 30-60% relative humidity) and temperature extremes (acceptable range 18-23°C).
- 1.4 Do not store clean or sterile supplies:
 - in corridors;
 - on windowsills;
 - on the floor; and
 - under sinks.
- 1.5 Sterility of sterile packages and peel pouches is event related (sterility can be maintained indefinitely, unless the integrity of the package is compromised). Maintain the integrity of clean and sterile packages and products until point of use:
 - Handle, transport and store clean and sterile supplies separate from dirty supplies.
 - Transport clean and sterile supplies to storage areas in labelled, cleanable, enclosed or covered carts, bins, totes or plastic bags.
 - Minimize supplies in patient rooms/care areas and establish quotas and maximums for each care area. See the BPR for Management of Patient Supplies on Discharge or Transfer for more details.
 - Do not store items other than clean and sterile supplies in the area, e.g., clothing, staff personal belongings.
 - Transport and store packaged sterile supplies in a manner to maintain package integrity.

Clean storage area

- 1.6 Hand hygiene facilities [alcohol-based hand rub (ABHR) or a hand hygiene sink with soap and water] are easily accessible, e.g., located at the entrance of the storage area.

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- 1.7 Surfaces in storage areas, including floors, walls, ceilings, shelving and fixtures are made of materials that are smooth, non-porous, non-shedding and easily cleanable.
- 1.8 Storage room access is limited to clinical and support staff, e.g., door(s), signage.
- 1.9 Storage space and storage containers are adequate to prevent crushing or damage to packaging.

2. Storage cart/shelving/cupboards

- 2.1 Shelving units or cart surfaces have cleanable, smooth, and non-porous surfaces tolerant of AHS approved cleaning/disinfecting products, i.e., provided by Environmental Services Zone Management or equivalent.
- 2.2 Medical devices stored on the top shelf are protected from moisture and dust contamination. Consideration is given to solid top shelving, protective covers and placement of items in covered containers on the top shelf.
- 2.3 The bottom shelf is solid without holes to prevent dust contamination.
- 2.4 Shelves used for storage of clean and sterile medical devices are at least:
 - 25 cm (10 inches) off the floor;
 - 45 cm (18 inches) from the ceiling and sprinkler heads; and
 - 5 cm (2 inches) from an outside (exterior) wall.

3. Storage containers

- 3.1 Containers used for clean and sterile storage are:
 - kept clean and free of visible dust or soiling;
 - enclosed or covered during distribution; and
 - clearly and accurately labelled.

4. Clean and sterile supplies

- 4.1 Clean and sterile supplies are easily accessible and kept clean and intact with minimal handling. Supplies are:
 - Removed from external corrugated cardboard and original shipping packages outside of the clean and sterile storage area before storing.
 - External packaging is porous and cannot be cleaned and permits dust and bacteria from collecting in the grooves and are protected from:
 - damage e.g., puncture or crushing, bending, inappropriate stacking, being inadvertently kicked, bumped or touched during room cleaning or upon entry and exit to the storage area;
 - dust, vermin, temperature extremes and moisture contamination;
 - direct airflow from heating, ventilation or air-conditioning. Do not use portable fans, humidifiers or heaters in clean storage areas; and
 - should be handled with care and not thrown, tossed, or dropped.
 - Inspected prior to use for tears, dampness, dried water marks, excessive dust or dirt and that the expiration date has not been reached.
 - If the package fails inspection, e.g., it is wet or damp, has come into direct contact with the floor or the expiry date has been exceeded, it must not be used. Single-use items are discarded, and reusable items reprocessed.
 - A sterile item is considered contaminated if there is any doubt about its sterility.

5. Handling and distribution of clean and sterile supplies

- 5.1 Ideally, sterile supplies are stored separately from clean supplies. If clean and sterile supplies are stored within the same enclosed area, separate one from the other by storing the sterile

items on the upper shelves and the clean items on the lower shelves to prevent lint, dust and other debris from falling on the sterile items.

- 5.2 Store liquids on or near the bottom shelf. For example, packaged/canned food supplements can be stored on or near the bottom shelf.
- 5.3 Replace the inner boxes, e.g., glove or syringe boxes, see definition page 5, of single-use medical devices when empty. Do not top up.
- 5.4 Clean and disinfect contaminated containers before using the container to distribute clean or sterile medical devices.
- 5.5 Dividers that are durable and cleanable can be used to keep supplies separated to avoid mixing, e.g., same type of item but different size.
- 5.6 Clean linens are stored in a designated area to prevent contamination from traffic and to reduce the risk of linen falling on the floor.
- 5.7 If supplies such as personal protective equipment (PPE) have been taken off/decanted/removed from the clean storage area and placed in the patient room or on supply carts they must not be returned to the clean storage area.

6. Inventory management

- 6.1 Rotate stock (first in, first out) to control inventory.
- 6.2 Do not over stock.
 - Only remove enough supplies for immediate use, e.g., PPE, as supplies made accessible at point of use, e.g., supply carts, should not be placed back into the storage area.
- 6.3 Store only clean or sterile supplies in the clean storage area.
 - Once supplies are removed from the supply cart, they must not be put back into the clean storage area.
- 6.4 Assess infrequently used packages to determine whether they are still needed and/or if they could be consolidated to reduce their numbers, e.g., by keeping them in a central location.

7. Cleaning of storage areas

- 7.1 Storage areas are kept clean and free of visible soil, including dust.
- 7.2 The department responsible for performing any of the cleaning-related tasks:
 - provides their staff the necessary training, equipment, resources and supervision; and
 - staff completes training (minimum on-hire and annually):
 - Annual Continuing Education Infection Prevention and Control module available on MyLearningLink for AHS staff.
 - Medical Device Reprocessing Video [Section 10](#) - Storage and Transport
 - monitors and documents training; and
 - maintains training records.
- 7.3 Follow written procedures for the cleaning and maintenance of clean and sterile supply areas and ensure that:
 - Covered or concealed sprinkler heads are not exposed to dust and can be routinely cleaned when the ceiling is cleaned.
 - Consult Facilities Maintenance and Engineering (FME) before cleaning open sprinkler heads as sprinklers may be activated during the cleaning process. If FME approves, compressed air in a bottle may be used to clean open sprinkler heads. Supplies must be protected from exposure to dust during the cleaning process.

Definitions

Term	Meaning/Description
Clean	Free from contamination and ready for intended use.
Cleanable	The ability to withstand cleaning and disinfection with AHS approved products without compromising product integrity.
Cleaning	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.
Clinical Area	Clean utility/storage areas where consumables such as medical devices in bins, totes or unsealed boxes are stored for the exclusive use on patients of that area/unit/facility. This excludes storage areas such as stat stores, materials distribution centers, and any other warehousing locations.
Contaminated	The presence of an infectious agent (germs) on hands or on a surface.
Distribution	The process of transporting medical devices within a healthcare facility.
Event related	Means that if items have undergone proper sterile processing, i.e., they have been correctly decontaminated, wrapped, sterilized, stored and handled, sterility can be maintained indefinitely, unless the integrity of the package is compromised. Events that may compromise the sterility of packaging include multiple handling that may lead to seal breakage, moisture penetration, and exposure to airborne contaminants.
Inner box	The clean box removed from the outer, potentially contaminated, corrugated cardboard packing boxes in the distribution or material management area before transport to, or storage on, clinical units.
Point of use	The place where the patient, the healthcare worker and care or treatment occur together
Sterile medical device	A device free from viable micro-organisms.

Additional resources

1. [Power Point Cleaning of Clinical Storage Areas for Clean and Sterile Supplies](#)
2. [Sample Storage Checklist](#)
3. [Storage Area Cleaning Frequency Table](#) (Adapted from CSA)

References

1. Alberta Health Services. 2021. Infection Prevention and Control. [IPC Healthcare Facility Design Requirements](#).
2. Canadian Standards Association (CSA). 2023. Z314-23. Canadian medical device reprocessing.
3. Central Zone Infection Prevention and Control. 2012. Storage of clean and sterile supplies outside of MDR areas.
4. Operating Room Nurses Association of Canada (ORNAC). 2023. 16th Edition. Standards, guidelines and position statements for perioperative registered nursing practice.

This document is:

- Based on a Central Zone Infection Prevention and Control (IPC) Best Practice Recommendation *Storage of Clean and Sterile Supplies Outside of MDR Areas*.
- Developed by an Alberta Health Services IPC working group with representatives from Linen and Environmental Services (LES), Contracting, Procurement & Supply Management (CPSM) and Infection Control Professionals (ICPs) from each Zone and Covenant.
- Reviewed by stakeholders including Alberta Health, Covenant, Diagnostic Imaging (DI), Workplace Health and Safety, Public Health, Continuing Care, Facilities Management and Engineering (FME), IPC Clinical Resource Group and ICPs.