3 Potential Infection Sources

3.1 Wet areas in Sterile Stores

Sinks or handwash basins should NOT be provided in sterile environments, such as sterile stock storage areas. Clinical handwash basins should be located external to such areas to avoid any cross-contamination risk.



Figure 10: no sinks or hand basins in sterile stock storage areas

Sensors for monitoring humidity and temperature in Sterile Store Areas must be provided to ensure they are maintained at an acceptable level. Refer to Part E in these Guidelines for further details.

Sinks or handwash basins, where required in Clean Utility or medication rooms, should be positioned to avoid any risk of contamination of sterile stock that may be stored in the room. The “Type B” handwash basin is recommended for this particular application.

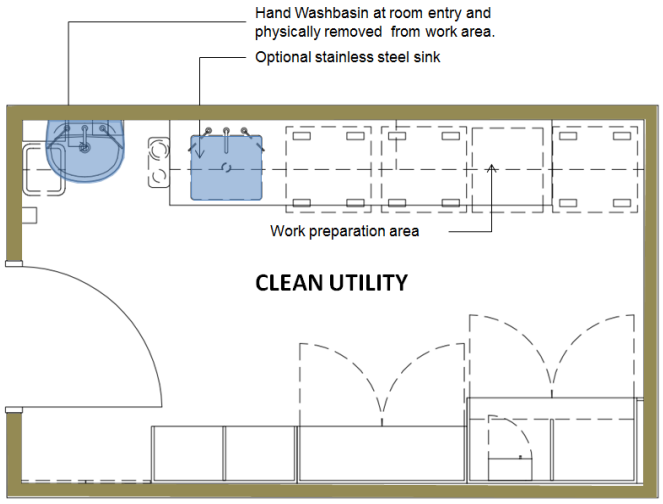


Figure 11: Typical Clean Utility/ Medication Room plan showing preferred location for basin and sink

3.2 Hydrotherapy Pools and Tanks

Infection prevention and control of hydrotherapy pools, birthing baths or tanks can be challenging, as micro-organisms are always present in the water during a treatment procedure.

Warm water temperatures, aeration and agitation of the water, along with the configuration of hydrotherapy tanks or pools create the ideal environment for the proliferation of bacteria. Surface finishes, equipment maintenance, and cleaning or disinfection is therefore paramount.

Potential transferal routes of infection include the accidental ingestion of water, sprays and aerosols, and direct contact with wounds or intact skin.

A written methodology statement describing proposed sanitation procedures and systems should be provided at an early stage of the design process. Based on the proposed strategy, equipment operation and instruction manuals can be produced by the contractor to assist the end user with required operational procedures.

Due to the size of hydrotherapy pools which precludes draining after patient use, stringent management practices are required to maintain constant water conditioning and disinfection. It is therefore recommended that a regular training program with regard to the proper use of the installed equipment is put in place by the facility operator.

Refer to Part E in these Guidelines for further information.



Figure 12: Hydrotherapy pool

3.3 Ice Machines and Ice Production

Micro-organisms may be present in ice, ice storage chests and ice-making machines. The two main sources for micro-organisms are the potable water used for making ice, and the transferal of micro-organisms via the hands.

Microorganisms in ice can also contaminate clinical or medical specimens that require cold temperatures for transporting or holding.

Improper storage and improper handling of ice by staff and/ or patients may result in ice-making machines or ice becoming contaminated. To avoid contamination, it is recommended that:

- The selection and installation of ice making machines is made to ensure a button control dispenses ice directly into a portable container
- Direct hand contact of ice intended for human consumption is avoided or minimised
- Ice scoops used for dispensing ice are made from a durable and impervious material and are regularly sterilised



Figure 13: Benchtop dispensing ice making unit - recommended



Figure14: Bulk/chest ice making unit - not recommended

Frequent cleaning and mild disinfection of portable ice chests and containers is recommended and should be part of operational procedures, while regular ice making machine maintenance is important for appropriate performance. Accordingly, appropriate policies and procedures based on operational and maintenance manuals should be adhered to and verified on a regular basis.

3.4 Materials Management and Chutes

Materials Management

Material Management is a scientific technique of planning, organising and controlling the flow of materials from initial acquisition, usage and ultimate disposal.

Within a healthcare environment, this can include, but is not limited to food distribution, clean and dirty linen distribution, medical product distribution and waste material distribution.

Good waste management practice requires minimising exposure to all types of wastes. Movement of waste materials throughout a healthcare facility should be undertaken to avoid peak activity times such as meal times, visiting hours and change of staff shifts. In addition, any clinical or related waste should not be moved through public areas or general staff corridors.

Future trends will quite likely see the introduction of greater mechanisation to all types of material management, particularly waste materials where potential infection risks to patients and operators can be minimised. A safer solution to all types of waste material handling, whether, hazardous, infectious, or general (non-hazardous) wastes should result. It is therefore anticipated that the use of Automated Guided Vehicles (AGVs) will become more prevalent in coming years.

Automated Guided Vehicles (AGV)

An AGV is a mobile robot that uses vision, magnets or lasers. Alternatively, markers or wires in the floor surface are used to automatically navigate and distribute materials within a healthcare facility environment.

Automated guided vehicles (AGVs) increase the efficiency of waste material handling, reduce the risk of infections and may assist with reducing long term operating costs associated with waste material disposal.

Capital cost outlays, when measured against the ongoing operating costs for the life of a healthcare facility may result in a greater acceptance of the AGV methodology.

Whether for immediate or future incorporation, AGVs should ideally be given consideration at the early planning stages of a healthcare facility and included in the overall IPC strategy.



Figure15: Typical AGV with a supply trolley

Waste Chutes

Chutes are vertical hollow tubes, generally steel lined, that provide for the movement of waste materials from waste generating areas to a centralized collection point.

Chutes to move clinical and related wastes are not permitted because of the risk of spillage and unnecessary exposure to infection.

Soiled linen and general waste chutes are not recommended in healthcare facilities as chutes will increase the risk of transmitting airborne infections. They should only be considered as a last resort when planning a healthcare facility.



Figure 16: Linen and Waste chutes are not recommended