

4.0 Physical Environment

4.1 Planning

The design of the premises is fundamental to infection control and implementation of 'Standard' and 'Additional' precautions. All new or renovated healthcare facilities should incorporate into their design and layout the physical requirements that are essential for an infection control strategy. Design of the premises should consider the movement of people and equipment in ways that minimize the risk of transmission of infection.

4.2 Air-Conditioning

Hospital air-conditioning systems should be monitored regularly and serviced by accredited service technicians. Maintenance schedules should be documented.

Air-conditioning or ventilation systems in critical areas such as Operating Rooms, Birthing Rooms, Tuberculosis Isolation Rooms, Burns Units, Intensive Care Units, Emergency Units, as well as in special treatment or procedural areas, should provide high quality air at all times. Where the Sterile Supply/Service Unit is attached to Operating Rooms, ventilation should be provided by treated air supply and air-conditioning should comply with Part E of these Guidelines. Air-conditioning in separate Sterile Supply/Service Units should comply with the relevant Standards.

Where there is risk of airborne transmission of pathogenic microorganisms, there should be a sufficient number of single rooms (at least one per 100 Beds) with adequately filtered air-conditioning that should have external exhaust systems. No recirculation of air should be permitted. For Tuberculosis Isolation and Treatment Rooms, negative pressure ventilation should be made available, in accordance with nationally endorsed Guidelines and State and Territory Tuberculosis Guidelines. A minimum of twelve Air Changes per Hour (ACH) are advised, including at least two outside air changes per hour, plus good air circulation within the room.

Air filtration for Isolation Rooms is to be installed according to relevant standards, in particular ISO 14001.

4.3 Instrument Processing/Cleaning Areas

Separate and clearly defined operating and cleaning areas are required to maintain adequate barriers for infection control. Delineation of these areas facilitates easy identification of surfaces that should be cleaned and disinfected between patients. Both areas should have adequate lighting, good ventilation to reduce the risk of cross-infection from aerosols, bins for the disposal of hazardous waste and smooth impervious surfaces without crevices.

The cleaning area should be divided into a contaminated section and a clean section.

The contaminated section shall include:

- Adequate bench space for dismantling and working on equipment
- At least one deep sink or trough (stainless steel) for manual cleaning of instruments and other equipment
- Cleaning and disinfecting materials
- Cleaning and disinfecting equipment, including brushes
- Mechanical disinfector/washer.

Cleaning sinks must be located separately to clinical handwashing basins to avoid risk of contamination and must be used only for decontamination of equipment and instruments. Where filters are fitted to taps in place of anti-splash devices, they should be cleaned regularly. In office practices where there are no surgical or dental procedures being carried out, e.g. acupuncture clinics, a stainless steel or smooth hard plastic bowl dedicated to use in the cleaning and decontamination of instruments and devices may be used as an alternative to a sink for cleaning.

The processing area should be carefully defined and protected from all vapors, splashing or aerosols produced during operating, handwashing, equipment washing, disinfection and ultrasonic cleaning. The area should have adequate storage space and be used only for the storage of effectively covered or packaged cleaned, disinfected and/or sterilized instruments and equipment.

4.4 Work Flows

Staff eating and recreation areas must be separate from work areas and patient treatment areas.