

Part B – Health Facility Briefing & Design

280 Sterile Supply Unit



iHFG

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280 Sterile Supply Unit

1 Introduction

Description

The Sterile Supply Unit's role is to clean, decontaminate and store re-usable equipment and medical devices to ensure patient safety, compliance, efficiency and economy.

Where viable, centralised Units minimize duplication and facilitate effective auditing while delivering a one way flow of items between soiled and clean areas.

Service planning models will determine the size of each department. Where a full service is unavailable, external suppliers will be relied upon to maintain stock levels.

2 Functional and Planning Considerations

Operational Models

The size and role of the sterile goods supply service shall be clearly defined in the Operational Policy Statement. Operational policies will be drafted on project specific basis by users and staff of the Sterile Supply Unit, the Operating unit and all other relevant staff associated with this service.

Hours of Operation

The typical Sterile Supply Unit will operate up to 10 hours per day 5 days per week, to maximise unit efficiency.

If the service model permits a 24 hour service is desirable. If unavailable, authorised access and/or a pass through cupboard permits a distribution point both after hours and when required in emergency use.

Functional Areas

The Sterile Supply Unit will include the following functional areas or zones:

- Receiving area with:
 - Trolley holding for returned trolleys with instruments or case carts
 - Goods Receipt – Non-Sterile Store for consumable stock used in processing and packing
 - Loan Equipment Store for deliveries of loan sets from surgical suppliers
- Decontamination area including:
 - Trolley stripping area for dismantling of trolleys
 - Cleaning / Decontamination area where all instruments are sorted, rinsed, ultrasonically cleaned or mechanically washed then dried
 - Trolley wash area for cleaning of trolleys; this may include manual washing or automated trolley washing equipment
- Sorting and Packing area comprising:
 - Airlock entry to maintain air pressurization within the clean zone
 - Sorting, Assembly and Packing area; this is a Clean Workroom where clean instruments, equipment and other articles are sorted, counted and packaged for sterilizing at packing workstations
- Sterilising and Cooling area with:
 - High temperature sterilisers including loading and unloading space
 - Low temperature sterilisers for items requiring this method of sterilising
 - Plant area for access to sterilisers
 - Cooling area for trolleys unloaded from sterilisers are held while stock is cooling

- Despatch Area for distribution of sterile stock to Operating Unit or other hospital units; sterile stock may also be collected from this area by hospital units if urgently required
 - An After Hours cupboard may be provided for urgent supplies of sterilized items outside of operating hours
- Support Areas including
 - Handwashing Bays; at entry/ exits to Decontamination and Sorting/ Packing areas
 - Cleaner's rooms
 - Disposal Room
 - Stores for chemicals used in processing instruments, general supplies used in the Unit and sterile stock for Operating Unit and Inpatient Units
- Administrative and Staff Areas including:
 - Offices or Workstations
 - Meeting Room or access to a Meeting room
 - Change Rooms, which may be shared depending on the size of the Unit
 - Staff Room; which may also be shared with Operating Unit if convenient.

Receiving Areas

The Trolley Holding area is a lobby or holding space provided for return of used items & trolleys awaiting stripping and cleaning. Trolley Holding should be located with ready access to Trolley Wash, Decontamination and Disposal Rooms. The receiving area is a wet area where and will include a trolley dismantling area where trolleys are stripped. Dirty linen and waste is despatched to the Disposal Room. Used instruments are delivered to Cleaning/ Decontamination area.

The Non-Sterile Store will require external access for deliveries and internal access for decanting supplies to the point of use. The Non-Sterile Store will hold stock that is 'clean' but not sterile; space will also be required for storing trolleys. General unit stock which is clean but not sterile is to be stored separately from sterile stock.

The Loan Equipment Store provides a holding area for loan instrument sets and supplies from surgical suppliers. Instruments sets are bulky, heavy items, generally received in boxes or crates and will require mechanical lifters to assist in moving the equipment. The Loan store will require external access for deliveries and should be located with ready access to Decontamination areas

Decontamination Areas

The Decontamination area is a wet area where used instruments are sorted and processed.

In the Cleaning/ Decontamination area, instruments are rinsed, ultrasonically cleaned if appropriate, washed/ decontaminated through instrument processing equipment and dried. Special instruments may be hand washed in this area. Instruments may be tracked by using an instrument tracking system.

The Cleaning/ Decontamination area shall contain benches for instrument sorting, sinks and mechanical equipment for cleaning and decontamination of reusable surgical equipment. The Decontamination functions may also be provided in a Clean-up Room in smaller units. There will be a need to provide special types of cleaning equipment, dependent on the level of service such as batch washer/ disinfectors, tunnel washers, ultrasonic cleaners, anaesthetic tubing washers and dryers.

The Decontamination area should be located between the Receiving area and the Sorting/ Packing area. Convenient access to a Disposal Room for disposal of used/ soiled material will be required. The area must include hand-washing facilities.

A trolley/ cart washing area will be required for washing and disinfecting of trolleys and carts prior to re-loading carts with cleaned and sterilised equipment for return. An automated trolley washing equipment may be installed in larger Units.

Endoscope Processing

Endoscope processing may be included in the SSU rather than Day Surgery or Endoscopy Units. If located within SSU, the process should be separate to instrument processing and follow a dirty to clean pathway from cleaning to disinfection then storage.

Endoscopes, both flexible and non-flexible undergo a process of disinfection using chemical cleaning agents by manual washing or automated reprocessing machines. The process requires large sinks and tanks of disinfecting solution or automated machines. Instruments are leak tested, then manually pre-cleaned in an enzyme solution, followed by high level disinfection with an approved disinfectant solution in a fume cabinet or enclosed automated machine. Compressed filtered air is required for the drying process. An ultrasonic machine is required for cleaning of accessory instruments. The process requires monitoring and documentation of quality control measures.

Endoscope processing machines require services including electrical, mechanical ventilation and hydraulics services with filtered water supply and drainage. This equipment should be installed to manufacturer's specifications.

Disinfected endoscopes are stored in endoscope cabinets that are HEPA filtered and ventilated.

Sorting/ Packing

The Sorting/ Packing area is a Clean Room where cleaned and dried instruments are removed from the decontaminating/ drying equipment, sorted, assembled into sets and packaged, ready for sterilising. Instruments in this area may be tracked by using an instrument tracking system

The Sorting/ Packing area will be located between the Cleaning/ Decontamination area and the Sterilising area, with a unidirectional workflow from contaminated to clean areas. The Sorting/ Packing area shall be separate area to instrument Cleaning/ Decontamination.

The Sorting/ Packing area will provide packing tables and equipment for assembly of cleaned and dry instruments into sets which are then wrapped and sealed ready for sterilisation. Consideration should be given to ergonomics aspects of packing tables. Special attention should be given to the height and depth of workbenches to allow staff to work sitting or standing; adjustable height packing tables and equipment are recommended.

Linen folding, where required, shall be carried out in a separate room, preferably the laundry. The air handling system shall be filtered or discharged direct to the outside to prevent lint build-up and related industrial and fire safety problems. High level supply and low level exhaust is the recommended airflow pattern, with localised high level extraction for heat removal only.

Views to the outside are considered highly desirable. A handwashing basin shall be provided at the entry/ exit of the room, located to avoid water contamination of wrapped instrument sets.

Sterilising and Cooling

The Sterilising and Cooling Area provides accommodation for sterilisers and parking space for steriliser and cooling trolleys. Following unloading of the steriliser, packs should not be handled until cool. Specialised low temperature sterilisers including peracetic acid models, hydrogen peroxide gas plasma or ethylene oxide require installation and accommodation according to manufacturer's recommendations. The size of the area will be dependent on the number and type of sterilisers installed. Special provisions are required for handling ethylene oxide which is a toxic gas and installation should follow approved international standards

The Sterilising and Cooling area should be located between the Sorting/ Packing area and the Despatch area. Special consideration shall be given to the location of the sterilisers. External access to the steriliser plant is highly desirable so that repairs or routine maintenance do not interfere with the activities within the work space. A duct enclosure can also minimise heat build-up within the area. An exhaust over the front of the steriliser(s) shall also be considered, to extract both heat (cabinet) and steam (opening door).

Despatch Area

The Despatch area will coordinate the distribution of sterile stock to the required hospital units. It will include a counter or desk and trolley holding space for packed trolleys awaiting delivery. The Despatch area will require external access for hospital units to collect urgent stock with restricted access to the internal departmental areas.

An After Hours cupboard may be provided in this area for staff to collect urgent supplies, preferably a pass-through cabinet with internal access for re-stocking.

Support Areas

Support areas include Cleaner's rooms, Disposal rooms and store rooms for chemicals and sterile stock.

Cleaner's rooms should be provided separately in clean and dirty areas of the unit. The Disposal room should be located with access to an external corridor for ease of waste removal, without accessing the Unit.

Sterile Stock stores for Operating Unit and other hospital units should be provided separately. The Sterile Stock rooms will require positive pressure, filtered air with humidity and temperature control to ensure stock is maintained in a sterile condition. The level of filtration provided should equal or exceed that of Operating Rooms.

The chemical store will hold chemicals used in the washing/ decontaminating process and may be reticulated to the washing equipment. An external access is recommended for delivery of chemical supplies.

Administrative and Staff Areas

Change areas for staff will include toilets, showers, handbasins and lockers with facilities for clean linen holding. All staff working in this Unit must wear personal protective equipment and clothing, including eye and ear protection due to equipment noise in decontamination areas and hospital attire in clean areas.

The Change rooms should be located with external access and convenient and separate internal access to clean and dirty operational areas. There should be no cross flows for staff accessing clean and dirty areas of the Unit. Change rooms will include storage for used clothing which will require collection and removal to the Disposal room. Change rooms may be shared with an adjacent Operating Unit if located conveniently.

Offices or workstations will be required for routine clerical/ administrative procedures, located in the staff accessed areas. Offices for the Manager/ Supervisor and should have oversight of the operational areas within the Unit. The provision of offices will depend upon the size of the Unit. An area for storage of stationery and files should be provided.

Access to a Meeting Room will be required for staff meetings and training purposes, which may be shared with an adjacent Unit.

Functional Relationships

External

The Sterile Supply Unit (SSU) should be located with direct or close access to the Operating Unit and Day Surgery Units. This may be achieved with the use of lifts.

The SSU should have ready access to:

- Service units of the hospital including Supply Unit, Linen Handling Unit and the Loading Dock for delivery of supplies
- Hospital units requiring return and delivery of sterilised items including critical care units and inpatient units.

Access to the SSU should be restricted to authorised personnel only.

These relationships are demonstrated in the Functional Relationships Diagrams below. Three Functional Relationships diagrams are provided for small, medium and large units.

The diagram demonstrates the flow of goods, staff as well as desirable relationships between external and internal zones.

The diagrams demonstrate good functional external relationships which include:

- A direct link to/ from the Operating Unit, Day Surgery and Endoscopy for goods returned and supplied; this may be by lift
- Access from hospital units to the SSU directly from a circulation corridor
- Controlled access to the Unit from circulation corridor.

Endoscope processing may be included within the SSU or located as a separate discreet function located within or adjacent to Day Surgery or Endoscopy Units. The hospital's Operational Policies will determine the inclusion of endoscope processing within the SSU.

Internal

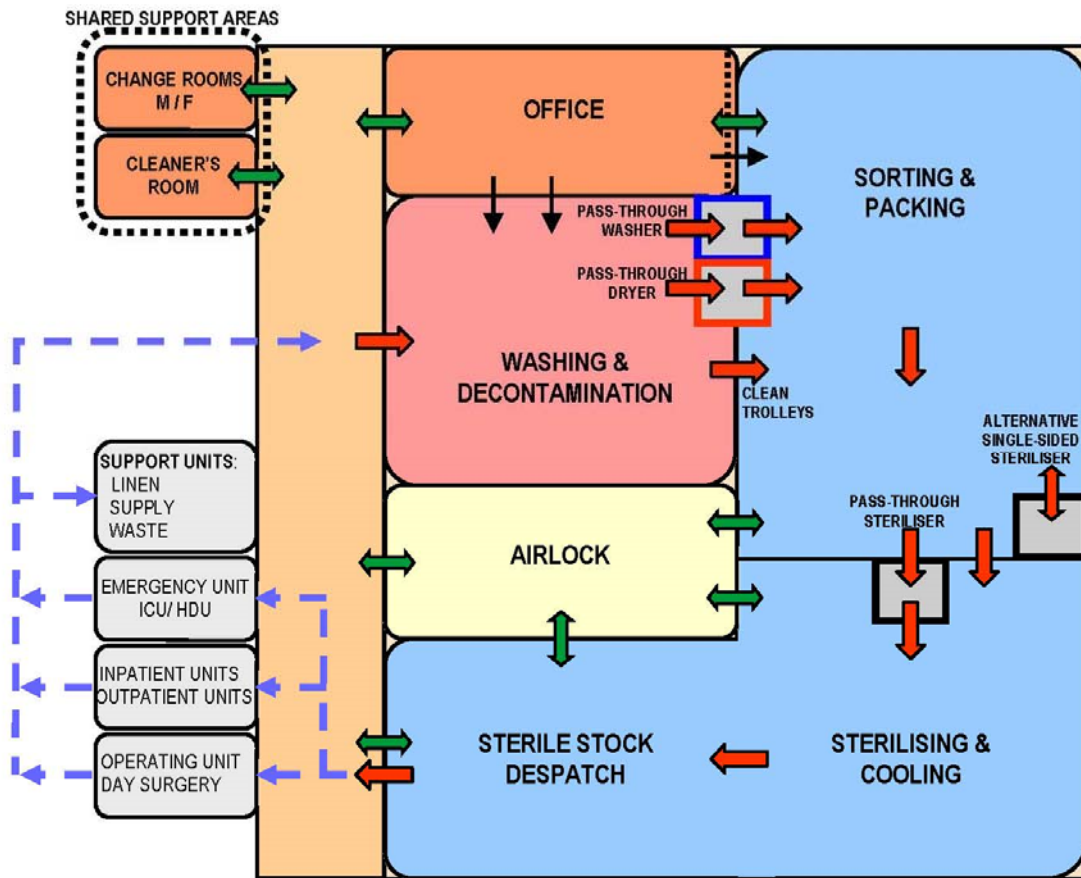
A unidirectional flow for instrument processing from contaminated or dirty areas to clean and sterile areas is critical to the functioning of the Unit.

The following represents correct relationships in the processing from dirty to clean:

- Goods arrive from clinical areas to the Cleaning/ Decontamination Area - dirty zone via lifts or service corridors to a holding area
- Instruments are processed through the cleaning/ decontamination area and move to the Sorting/ Packing area – a clean zone
- Trolleys are cleaned in the Cleaning/ Decontamination zone or a dedicated trolley wash and transferred to Sterile Stock/ despatch area for loading and return to inpatient or operating units
- There is a separation between dirty and clean areas with controlled entries and no back-flow; airlocks may be required to maintain the air pressurisation of the separate zones
- Goods then flow from clean packing areas to the sterile areas and then delivered to clinical units
- Sterile stock is located adjacent to Sterilising & Cooling, with direct access to Despatch or clean lift for delivery to Units.
- Incoming clean goods are taken directly to a neutral or clean zone including non-sterile supplies and loan equipment
- There is a separate entry for staff who may only enter clean areas through a controlled entry
- Staff access through a separate entry via Change Rooms and enter the dirty zone or the clean zone; Staff leaving the dirty zone re-enter via change rooms.

Functional Relationships Diagrams

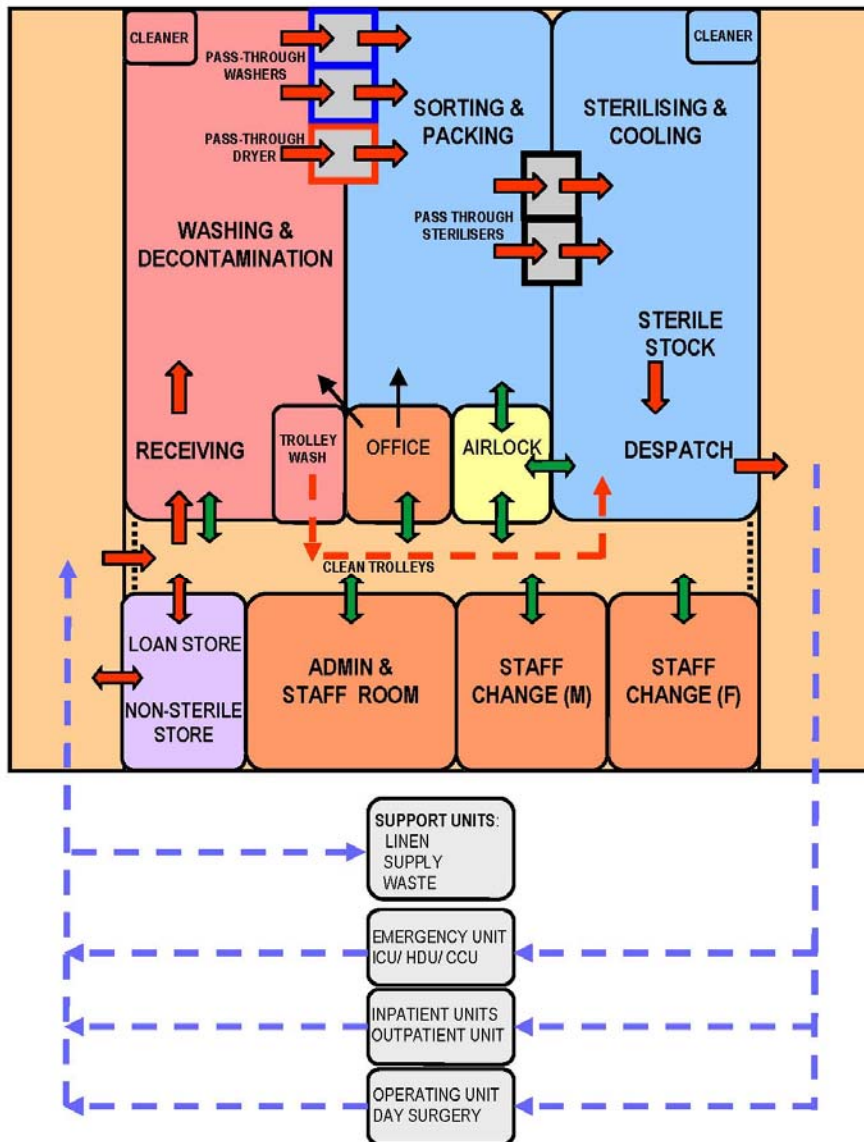
SSU Small - 1 steriliser



LEGEND

- | | | | |
|---------------|------------------------|-----------------------|----------------------|
| Clean Zones | Dirty Zones | Direct Relationship | Path of Processing |
| Support Areas | Circulation | Indirect Relationship | Path of Staff Travel |
| Staff Areas | Staff/Service Corridor | Controlled Access | Line of Sight |

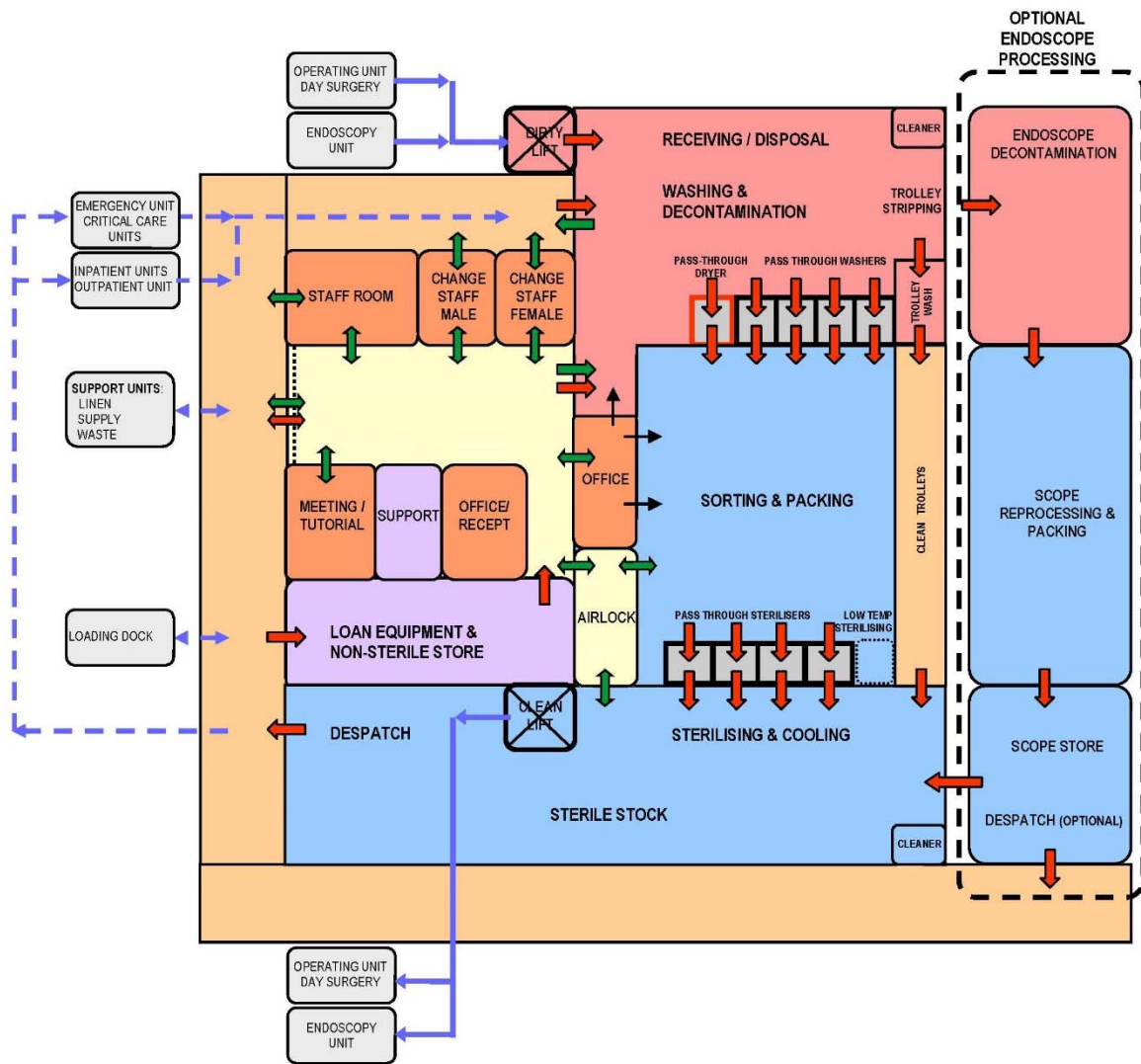
SSU- Medium - 2 sterilisers





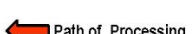



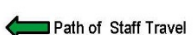

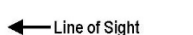
LEGEND

- | | | | |
|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
|  Clean Zones |  Dirty Zones |  Direct Relationship |  Path of Processing |
|  Support Areas |  Circulation |  Indirect Relationship |  Path of Staff Travel |
|  Staff Areas |  Staff/Service Corridor |  Controlled Access |  Line of Sight |

SSU - Large - 4+ sterilisers



LEGEND

- | | | | |
|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
|  Clean Zones |  Dirty Zones |  Direct Relationship |  Path of Processing |
|  Support Areas |  Circulation |  Indirect Relationship |  Path of Staff Travel |
|  Staff Areas |  Staff/Service Corridor |  Controlled Access |  Line of Sight |

3 Design

General

Two classifications of goods are received by the SSU: contaminated items and raw materials. Design solutions must ensure the separation of clean and dirty products, avoiding routes and cross-flows which potentially could re-contaminate processed items or adversely affect the microbiology of raw materials. There must be a unidirectional workflow from contaminated to clean and sterile areas.

Adequate circulating space to accommodate trolleys and containers demanded by the departmental workload is required to ensure effective demarcation of clean and dirty areas.

Environmental Considerations

Acoustics

Provide acoustic treatment for noise generating equipment including washer/ decontaminators, sterilisers and dryers located in Cleaning/ Decontamination and Sterilising areas. Consideration should be given to acoustic privacy in Offices, Staff Rooms and Meeting Rooms.

Natural Light/ Lighting

Natural lighting aids visual inspection and has positive morale on staff. Where natural lighting is not possible, glazed panels should be considered. Windows, where provided, must be non-opening, sealed and flush fitting except in Offices and Staff Rooms.

Task lighting, including magnification inspection lights, is desirable for instrument inspection. Light levels shall not be less than 400 lux at the working surface. Light fittings shall be fully recessed and selected to prevent dust and insects from entering.

Space Standards and Components

Doors

Adequately sized automatic/semi-automatic doors are recommended for ease of passage of collection and distribution trolleys.

Ergonomics/ OH&S

Consideration should be given to ergonomic functionality in the Unit. Benches, sinks and packing workstations should be provided as suitable working heights. Adjustable height equipment is recommended.

The following occupational health and safety issues should be addressed during planning and design for staff safety and welfare:

- Manual handling of heavy instrument that may require lifting equipment
- Chemical agents used in Cleaning/ Decontamination processes may require specific chemical handling requirements (Refer to local regulations)
- Electrical and fire hazards related to equipment in use
- Biological hazards of contaminated equipment undergoing processing, which requires stringent infection control management

Refer to Part C – Access, Mobility and OH&S of these guidelines for further information

Size of the Unit

The size of the SSU will be dependent on:

- The number of Operating Rooms, Procedure Rooms and clinical areas
- The clinical specialties of surgery performed e.g. orthopaedic surgery or microsurgery
- The projected workload according to the operating caseload and the specialty types
- The amount of sterile stock storage required within the Unit or decentralised to clinical Units
- The amount of commercially supplied pre-sterilised stock in use

- The provision of outsourced supplies of linen required for processing
- The number and type of cleaning/ decontamination equipment, sterilisers and dryers, single sided or pass-through models
- The ability to share areas such as Change Rooms and Staff Rooms with an adjacent Operating Unit.

These aspects will be determined by the hospital's service plan and operational policies. A Schedule of Accommodation (SOA) has been provided for 1, 2 and 4 steriliser units but may be amended in accordance with each facility's service plan requirements.

Assuming a work schedule of 5 days per week, for 8 hours per day, the following is a simple indicator of unit size and capacity:

- 1 steriliser can service 2 Operating Rooms
- 2 sterilisers can service 4 Operating Rooms
- 4 sterilisers can service 8 Operating Rooms.

Safety & Security

Controlled access should discourage unauthorised entry and isolate the area from general hospital traffic. Signposting should direct access to the Sterile Supply Unit (SSU) Office/ Reception for general purposes, and visitors to the Unit. Door signs should be installed on restricted access doors.

Finishes

All finishes should withstand frequent cleaning and be tolerant of surface cleaning agents. Joints should be avoided to deter moisture and organism growth. Work surfaces and sinks should have all gaps sealed; if gaps are unavoidable, cleaning access is essential.

Floors

Floor finishes should be hard wearing, non-slip, easy to clean, of a uniform level and suitable for heavy trolley traffic. Structural expansion points should be positioned with care in heavy traffic areas particularly where trolleys turn corners. Structural expansion points are unacceptable in the clean and sterile zones. Flooring should have integrated coved skirting continuous with the floor for ease of cleaning.

Floor scrubbing equipment is not appropriate for SSUs. If vacuum cleaners are used they should be fitted with high efficiency particulate air filters (HEPA).

Walls

Hollow wall constructions are vulnerable to trolley damage and risk pest infestation. Solid, rendered, smooth walls, epoxy coated or spray painted withstand heavy treatment and allow ease of repair.

Ceilings

Ceilings should prohibit ingress of airborne particles or contaminants and be resistant to humidity. Ceiling should be flush, sealed against walls and easily cleaned.

Fixtures, Fittings & Equipment

Shelving systems installed should be constructed of non-porous materials, dust resistant, easily cleaned and avoid inaccessible corners.

Equipment installed in the Unit including sinks, cleaning/ decontamination equipment, sterilisers, dryers, trolley washing equipment and will require mechanical, hydraulics, or electrical services in accordance with manufacturers recommendations and local regulations.

Building Service Requirements

Communications

Voice and telephone communications should be installed within the Cleaning/ Decontamination area, the Sorting/ Packing, Sterile areas and Offices to allow contact with outside personnel and departments, without breaching contaminated and clean areas.

Management Information Systems (MIS) require adequate data points and electrical points for the tracking and tracing of products and quality assurance records passing through the decontamination process including wet areas, packing areas and sterilising areas.

Heating, Ventilation & Airconditioning

The Sterile Supply Unit is a controlled environment and ventilation shall be provided by a treated air supply, with compliant air-conditioning systems and HEPA filters. Positive air pressure differential should be maintained above that of the surrounding areas in Clean and sterile zones. Negative pressure should be maintained in Cleaning/ Decontamination areas. Indicators and alarms systems to alert staff of ventilation system failure should be provided.

Humidification will be required to avoid dehydration and subsequent processing problems associated with absorbent materials.

Washers-disinfectors, sterilizers emit considerable heat and humidity affecting electronic controls. Fully insulated pipework and machinery backed up by extract ventilation is essential to ensure tolerable working conditions, conserve energy and minimise operating costs. Heat recovery from ventilation systems should be incorporated where appropriate.

Services

Maintenance access to steriliser plant should be outside 'clean' areas and avoid disruption to the SSU and staff work areas wherever possible. Easy direct access to the front of the sterilisers in the loading/ unloading area and the discharge side for double door machines must be allowed.

Mechanical service points e.g. drainage manholes, fire hose reels etc. should be designed out of the SSU area. Sterile Stock areas should not include floor waste outlets.

Emergency power should be provided to all essential cleaning/ decontaminating and sterilising equipment.

Steam may be provided by local plant generating equipment or sterilising equipment may have integral steam generation. If steam generating plant equipment is to be installed, location to avoid excessive distance from sterilisers will require careful consideration.

Water quality will require investigation for efficient functioning of cleaning/ decontamination and sterilising equipment. Water filtration may be required to specific washer/ decontaminators.

Infection Control

Handwashing facilities should be provided at the following locations:

- Entry and exit of cleaning/ decontamination areas
- Entry/ exit of clean and sterile areas.

Handbasins should be located to avoid water splashing on clean and sterile goods.

Disaster Planning

The SSU should be capable of continued operation during and after a natural disaster, except in instances where a facility sustains primary impact. Special design consideration is needed to protect essential services such as emergency power generation, heating and/or cooling systems, water supply etc.

4 Components of the Unit

Standard Components

The Sterile Supply Unit Schedule of Accommodation includes a number of Standard Components to comply with Standard Components Room Data Sheets and Room Layout Sheets.

Non Standard Components

Non Standard Components are identified in the Schedule of Accommodation as NS and are detailed below:

Receiving Area

This area will receive and hold trolleys and used instruments awaiting processing to cleaning areas. Trolleys and instruments will be sorted initially and waste removed.

The Receiving areas will be located with direct access to a circulation corridor or dirty lift from the Operating Unit. There should be controlled or automatic entry door access.

The Receiving Area will require:

- Benches and sinks with parking space for trolleys
- Hot and cold water outlets to sinks
- Smooth, impervious and easily cleanable surfaces to walls and ceiling
- Impervious and wet area non-slip finishes to the floor
- Staff handwashing basin.

Decontamination Area

The Decontamination area is a dirty zone and includes cleaning/ decontamination processing and trolley washing.

The Decontamination area should be located between the Receiving areas and Sorting/ Packing areas.

The Decontamination area will require the following finishes:

- Walls and ceiling that are smooth, impervious, and easily cleanable
- Impervious and wet area non-slip finishes to the floor.

Fittings, fixtures and equipment located in this area will include the following:

- Stainless steel benches and deep bowl sinks with air and suction outlets for tube cleaning and additional water outlets for water pistols
- Instrument and tubing washers/ decontaminators, according to service requirements; these may be single sided, pass through or index tunnel washers
- Ultrasonic cleaner, built-in, with consideration to the working height of instrument baskets
- Instrument and tubing dryers, as required by the service plan
- Staff handwashing basin

Exhaust air extraction will be required over sinks and heat/ moisture generating equipment.

The trolley washing area will require hot and cold water outlets for manual washing. An automated trolley wash unit may be used

Endoscope Decontamination

The Endoscope Decontamination area is a dirty zone for receiving and manual cleaning of endoscopes. The area will include stainless steel benches and sinks with sufficient space for laying flexible endoscopes without kinking delicate equipment. Staff will require access to a handwashing basin. Sinks should be large enough to hold coiled endoscopes without damage. The area will require appropriate ventilation and exhaust for chemicals used in the cleaning process.

Sorting & Packing

This area is a clean zone and will include a number of sorting/ packing workstations with areas for parking trolleys, heat sealing devices, examination and testing of instruments.

The Sorting/ Packing area will be located between the Cleaning/ Decontamination area and Sterilising/ Cooling area in a one-way flow. Controlled access will be required for staff.

The Sorting/ Packing area will require the following finishes:

- Walls and ceiling that are smooth, impervious, and easily cleanable
- Impervious, non-slip finishes to the floor.

Requirements in this area will include the following:

- Packing tables complete with wrapping materials, tracking systems, ergonomically designed to avoid staff fatigue; adjustable height stations are recommended
- Sealing equipment
- Trolleys for holding wrapped sets ready for sterilising
- Staff handwashing basin at the entry/ exit, located to avoid water splashing on clean, wrapped sets
- Positive pressure HEPA filtered air conditioning with filtration for lint.

Endoscope Reprocessing

Endoscope Reprocessing is a clean zone for processing flexible endoscopes in automated processors. Automated processing units will be installed to manufacturer's specifications and will require appropriate hydraulic and electrical services. The area will require appropriate ventilation and exhaust for chemicals used in processing. The Endoscope Reprocessing area will include:

- Stainless steel bench and sinks for manual disinfection
- A clean area for reassembly of disinfected scopes
- A staff handwashing basin.

Sterilising/ Cooling

This is a sterile area and includes high and low temperature sterilisers with space for loading/ unloading and a cooling area for packed trolleys removed from sterilisers. Sterilising/ Cooling is located between Sorting/ Packing and Sterile Stock stores with a one-way flow

The Sterilising/ Cooling area will require the following finishes:

- Walls and ceiling that are smooth, impervious, and easily cleanable
- Impervious, non-slip finishes to the floor.

High temperature sterilisers may be single sided or pass-through. Steriliser plant equipment should ideally have external access for maintenance to avoid access to the Unit
A workstation may be located in this area for quality assurance documentation and instrument tracking.

The air handling requirements of this area include:

- Positive pressure with HEPA filtration
- Efficient exhaust for heat/ steam generating equipment
- Filtration for lint.

Low temperature sterilisers will require specialised services and should be installed to manufacturer's specifications.

Endoscope Store

Cupboards for endoscope storage may hold endoscopes horizontally on shelves or hanging vertically. The cupboards should be constructed of moisture resistant material that is easily cleaned. The cupboards should be well ventilated with a filtered air supply to keep endoscopes

dry and an alarm system if the air supply or filtration fails. Proprietary endoscope cupboards are recommended.

Despatch

Despatch will include a staff station or counter for coordination of deliveries and space for holding packed trolleys awaiting delivery via a circulation corridor or by clean lift to Operating Unit. A double sided after-hours cupboard may be provided for urgent collections out of operating hours.

The Despatch should be located between Sterile Stock Stores and an external circulation corridor. There should be controlled access to Despatch with a doorbell or intercom point to alert staff.

The Despatch area will require the following finishes:

- Walls and ceiling that are smooth, impervious, and easily cleanable
- Impervious, non-slip finishes to the floor.

Instrument tracking facilities including computers, power and data outlets will be required in this area.

After Hours Cupboard

The After Hours cupboard will be located in a staff accessible corridor. The cupboard will be lockable and provide a dust free, clean and dry environment for storage of sterile packs and items.

5 Schedule of Accommodation

Sterile Supply Unit for 1, 2 and 4 sterilisers

ROOM/ SPACE	Standard Component Room Codes						1 Steriliser Qty x m2			2 Sterilisers Qty x m2			4+ Sterilisers Qty x m ²	Remarks
Receiving Area														
Reception/ Office	off-s9-i												1 x 9	
Trolley Holding	NS									1 x 5			1 x 10	Increase area for case cart system
Trolley Stripping	NS									1 x 5			1 x 10	
Receiving Area - Used Instruments	NS									1 x 15			1 x 20	May include Dirty return lift
Goods Receipt – Non Sterile Stock	stgn-20-i stgn-30-i similar									1 x 20			1 x 25	
Loan Equipment Store	steq-20-i steq-30-i									1 x 20			1 x 30	Size dependent on service plan
Decontamination Area														
Cleaning/ Decontamination	NS						1 x 15			1 x 20			1 x 50	
Trolley Wash	NS									1 x 10			1 x 10	May be automated trolley wash
Sorting & Packing														
Airlock	airl-6-i									1 x 5			1 x 5	To maintain air pressurisation
Instrument Sorting, Assembly & Packing	NS						1 x 25			1 x 50			1 x 100	2, 4, 8 packing tables respectively
Sterilising & Cooling Area														
Sterilising – High Temperature	NS						1 x 5			1 x 15			1 x 40	With area for loading sterilisers
Sterilising – Low temperature	NS									1 x 5			1 x 10	Optional
Steriliser Plant	NS									1 x 5			1 x 15	Optional, depends on equipment selected
Cooling	NS						1 x 3			1 x 10			1 x 20	With area for unloading sterilisers
Despatch Area														
After Hours Cupboard	NS									1 x 4			1 x 4	Access from inside & outside the Unit
Despatch	NS						1 x 5			1 x 10			1 x 15	Collection and sterile stock despatch
Support Areas														
Bay – Handwashing, Type B	bhws-b-i						2 x 1			2 x 1			2 x 1	At entry/ exit to Decontamination & Packing areas
Cleaner's Room	clrm-6-i						2 x 2			2 x 6			2 x 6	Separate Cleaners room or closet in Clean areas
Disposal Room	disp-5-i disp-8-l									1 x 5			1 x 8	
Store - Chemical	stcm-i									1 x 5			1 x 6	Chemicals used in decontamination

ROOM/ SPACE	Standard Component Room Codes					1 Steriliser Qty x m2	2 Sterilisers Qty x m2	4+ Sterilisers Qty x m2	Remarks
Store - General	stgn-10-i stgn-20-i						2 x 10	2 x 20	Clean materials & sterile materials
Store - Sterile Stock	stss-20-i similar						1 x 20	1 x 50	For supplying hospital units & Operating Units, OR component may be within OR Unit
Administration & Staff Areas									
Change - Staff (Male/ Female)	chst-14-i chst-20-i					shared	2 x 14	2 x 20	Shower, Toilet, Lockers, Change area
Meeting Room	meet-l-15-i							1 x 15	May be shared with adjacent Unit
Office - Single Person, 9m2	off-s9-i						1 x 9	1 x 9	Manager
Staff Room	srm-15-i similar, srm-20-i					shared	1 x 12	1 x 20	May be shared with an adjacent unit
Store - Photocopy/ Stationery	stps-8-i							1 x 8	Optional
Sub Total						59.0	312.0	583.0	
Circulation %						25	25	25	
Area Total						73.8	390.0	728.8	

Please note the following:

This SOA assumes linen is provided from external sources ready for use, and linen sorting, examination and folding areas are not required

Also Note:

- Areas noted in Schedules of Accommodation take precedence over all other areas noted in the FPU.
- Rooms indicated in the schedule reflect the typical arrangement according to the Role Delineation.
- Exact requirements for room quantities and sizes will reflect Key Planning Units identified in the Service Plan and the Operational Policies of the Unit.
- Room sizes indicated should be viewed as a minimum requirement; variations are acceptable to reflect the needs of individual Unit.
- Office areas are to be provided according to the Unit role delineation and number of endorsed full time positions in the unit.
- Staff and support rooms may be shared between Functional Planning Units dependent on location and accessibility to each unit and may provide scope to reduce duplication of facilities.

Endoscope Processing for 2 and 4 Decontamination Units (Optional, Collocated with Sterile Supply)

ROOM/ SPACE	Standard Component Room Codes									2 Decon units Qty x m ²	4 Decon units Qty x m ²	Remarks
Receiving/ Decontamination Area												
Endoscope Receiving	NS									1 x 10	1 x 15	
Cleaning/ Decontamination	NS									1 x 20	1 x 50	
Endoscope Reprocessing												
Endoscope Reprocessing	NS									1 x 20	1 x 50	Reprocessing, drying & packing/storing
Endoscope Store												
Endoscope Store	NS									1 x 10	1 x 20	May be located adjacent to Endo Procedure Rooms, storage in ventilated cupboards
Despatch Area												
Despatch	NS									1 x 5	1 x 5	Optional; Collection/despatch of disinfected scopes
Support Areas												
Bay – Handwashing, Type B	bhws-b-i									2 x 1	2 x 1	At entry/ exit to Decontamination & Reprocessing areas
Cleaner's Room	clrm-6-i										1 x 6	May be shared with adjacent Unit
Store - Chemical	stcm-i									1 x 4	1 x 6	Chemicals used in decontamination
Store - General	stgn-6-i stgn-10-i									1 x 6	1 x 10	Supplies used in processing
Administration & Staff Areas												
Change - Staff (Male/ Female)												Shared with adjacent Unit
Meeting Room												Shared with adjacent Unit
Office - Single Person, 9m ²	off-s9-i										1 x 9	Supervisor
Staff Room												Shared with adjacent Unit
Sub Total										77.0	173.0	
Circulation %										25	25	
Area Total										96.3	216.3	

Please refer to Notes on SSU Schedule of Accommodation

6 Future Trends

Future trends affecting Sterile Supply Units include:

- Increasing awareness of storage, ergonomics and OH&S concerns within Sterile Supply Units
- Greater reliance on outsourced sterile supplies by healthcare facilities
- Healthcare facility, consumer and specialist demands for faster instrument turnaround times placing pressure on existing Sterile Supply Units
- WHO and industry demands to ensure facilities enforce validated guidelines for cleaning, sterilization exposure time and use of rigid transport containers
- Technological advancements made in medical instruments such as endoscopes and analysers that demand compatible sterilisers and techniques
- Demands to reduce reliance on immediate-use steam sterilization (flash sterilisation) requiring effective policies and procedures relating to loan instrumentation
- Healthcare facility requirements to ensure Sterile Supply Unit staff have appropriate training, education and resources to follow process monitoring systems according to the manufacturer's instructions
- Continued improvements in low-temperature sterilization systems resulting in reduced processing times and expanded capabilities for instrument reprocessing.
- E-beam radiation and gamma sterilization that are creating new opportunities for advancement in sterilization techniques.

7 Further Reading

- AS/NZS 4187: 2014 – 'Reprocessing of reusable medical devices in health service organizations', Refer to: <http://infostore.saiglobal.com/store/details.aspx?ProductID=1773923>
- Australasian Health Facility Guidelines, Part B Health Facility Briefing and Planning, Rev 5, 2016; refer to website www.healthfacilitydesign.com.au
- Guidelines for Design and Construction of Health Care Facilities; The Facility Guidelines Institute, 2014 Edition refer to website www.fgiguilines.org
HBN 13, 2004, Sterile Services Department, Department of Health UK, Refer to: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/148489/HBN_13.pdf
- ISO Standard 14644-1: 2015 'Cleanrooms and associated controlled environments – Part 1: Classification of Air Cleanliness by Particle Concentration' http://www.iso.org/iso/catalogue_detail?csnumber=53394
- ISO Standard 14937: 2009, Sterilization of health care products -- General requirements for characterization of a sterilizing agent and the development, validation and routine control of a sterilization process for medical devices, Refer to: http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=44954
- Philip M. Schneider New technologies and trends in sterilization and disinfection , American Journal of Infection Control, Vol. 41, Issue 5, S81–S86, Refer to: [http://www.ajicjournal.org/article/S0196-6553\(13\)00017-5/fulltext](http://www.ajicjournal.org/article/S0196-6553(13)00017-5/fulltext)
- Rose Seavey, RN, BS, MBA, CNOR, CRCST, CSPDT Current Sterilization Trends, Challenges and Tools, Refer to: www.beckersasc.com/.../current-sterilization-trends-challenges-and-tools
- Standards for Endoscopic Facilities and Services, Gastrointestinal Society of Australia (GESA) 2011, Refer to: <http://www.gesa.org.au/professional.asp?cid=9&id=131>



The International Health Facility Guidelines recommends the use of HFBS “Health Facility Briefing System” to edit all room data sheet information for your project.

HFBS provides edit access to all iHFG standard rooms, and departments, and more than 100 custom report templates.

HFBS Health Facility Briefing System



Briefing Module

The Health Facility Briefing System (HFBS) has numerous modules available via annual subscription. It suits healthcare Architects, Medical Planners, Equipment Planners Project Managers and Health Authorities.

Use the HFBS Briefing Module to quickly drag in health facility departments or pre-configured room templates from the iHFG standard, edit the room features such as finishes, furniture, fittings, fixtures, medical equipment, engineering services. The system can print or download as PDF more than 100 custom reports including room data sheets, schedules, and more...

To learn more about the HFBS web-based Healthcare Briefing and Design Software and to obtain editable versions of the “Standard Components” including Room Data Sheets (RDS) and Room Layout Sheets (RLS) offered on the iHFG website, signup for HFBS using the link below.

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