

# DHA Health Facility Guidelines 2019

Part B – Health Facility Briefing & Design

130 – Endoscopy Unit



☎ 800342 (DHA) | 🌐 dha.gov.ae

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## Executive Summary

The Functional Planning Unit (FPU) covers the requirements of a Endoscopy Unit. The Endoscopy Unit is a dedicated unit for Endoscopy procedures, a minimally invasive surgical or medical procedure utilising an instrument called an endoscope which is a long flexible tube that has a lens at one end and a fibre optic camera at the other. Procedures undertaken in an Endoscopy Unit may include gastrointestinal endoscopy (such as gastroscopy, colonoscopy, ERCP (Endoscopic Retrograde Cholangiopancreatography), endoscopic ultrasound, bronchoscopy, cystoscopy or ureteroscopy, duodenoscopy, hysteroscopy or other specialties.

The Functional Zones and Functional Relationship Diagrams indicate the ideal external relationships with other key departments and hospital services. For the Endoscopy Unit located within a hospital campus, a relationship with the Operating Theatre, Day Surgery/ Procedure Unit and Sterile Supply Unit (SSU) should be considered. All of these are also available as FPU's of these Guidelines.

Design Considerations address a range of important issues including Accessibility, Acoustics, Safety and Security, Building Services Requirements and Infection Control. This FPU describes the minimum requirements for support spaces of a typical Endoscopy Unit at Role Delineation Levels 2 to 6.

The typical Schedule of Accommodation is provided using Standard Components (typical room templates) and quantities for quantities for these numbers.

Further reading material is suggested at the end of this FPU but none are mandatory.

Users who wish to propose minor deviations from these guidelines should use the **Non-Compliance Report (Appendix 4 in Part A)** to briefly describe and record their reasoning based on models of care and unique circumstances.

The details of this FPU follow overleaf.



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## 130. Endoscopy Unit

### 1 Introduction

The Endoscopy Unit is a dedicated unit for Endoscopy procedures, a minimally invasive surgical or medical procedure utilising an instrument called an endoscope which is a long flexible tube that has a lens at one end and a fibre optic camera at the other. This allows for the magnification of an image to be projected onto a video screen for viewing and recording. Endoscopy can be used to examine organs or tissue for diagnostic or therapeutic purposes. Endoscopy procedures may involve the taking of biopsies, dilations, retrieval of foreign objects and removal of stones from the bile duct.

Procedures undertaken in an Endoscopy Unit may include gastrointestinal endoscopy (such as gastroscopy, colonoscopy, ERCP (Endoscopic Retrograde Cholangiopancreatography), endoscopic ultrasound, bronchoscopy, cystoscopy or ureteroscopy, duodenoscopy, hysteroscopy or other specialties. Endoscopy procedures are generally performed in a controlled aseptic procedure room environment or in an Operating room, using sedation or short acting anaesthetic medication. Some procedures, such as ERCP may also involve diagnostic imaging equipment. Most endoscopy procedures are performed on a same-day basis.

Endoscopy procedures have advantages for both the facility and the patient including:

- reduced demand on operating rooms
- increased patient throughput as procedures are faster
- procedures are less invasive (the endoscope is inserted through a natural opening) resulting in reduced scarring, quick recovery time and rapid discharge.



## 2 Functional & Planning Considerations

### 2.1 Operational Models

The range of options for an Endoscopy Unit may include:

- a dedicated fully self-contained unit within a hospital
- a Unit collocated with the Operating Unit with shared facilities
- a Unit collocated with a specialist clinical service such as Gastroenterology or Respiratory Medicine, within a hospital
- a stand-alone centre/ Day Surgery centres, fully self-contained
- Rural and Remote endoscopy services.

Patients undergoing endoscopy procedures may be admitted and discharged on the same day or transferred from and to a referring unit. The Endoscopy Unit will generally operate on a long day basis, with admissions from early morning. Procedures undertaken on a sessional basis and discharges / transfers into the evening.

## 3 Unit Planning Models

The configuration of the Endoscopy Unit will be dependent on:

- The procedures performed and the equipment and expertise available
- The patient population the unit will serve
- The location of the Unit – within a hospital, attached to another Unit or stand-alone and the ability to share support services.

The Endoscopy Unit should be located with easy access to and from the entry area for patients, visitors, staff and supplies; a ground floor location is desirable. The location within the complex shall permit free access for outpatients and for the transport of inpatients by bed, trolley or wheelchair.



The planning of the Unit should create an efficient flow of patients, staff and supplies through the Unit while maintaining separation of procedure and contaminated areas. Where the endoscopy unit is not located within the main hospital complex, consideration of the provision for enclosed transfer of patients is advisable.

### **3.1 Functional Zones**

The Endoscopy Unit will consist of the following Functional Zones:

- Entry/ Reception including Waiting area for patients and relatives and access for admission of patients
- Assessment/ Preparation area which may include consultation, interview, toilet facilities, patient changing and preparation rooms for pre-procedure treatments
- Procedure area
- Recovery areas including first and second stage recovery
- Discharge lounge with interview space for consultation and access to toilet facilities
- Reprocessing area including Clean-up/ Decontamination, Sterilising and scope storage and bulk storage areas
- Staff and support areas; including Equipment (mobile II or X-ray machines) and linen bays; in stand-alone Units this will include supply areas and waste holding.

#### **3.1.1 Entry/ Reception Areas**

A covered entrance for patient drop-off and collection after surgery shall be provided. The Entry may be a shared facility providing:

- a reception/ information counter or desk
- waiting areas that allow for the separation of paediatric and female patients as appropriate



- convenient access to wheelchair storage, public toilets and amenities including public telephones.

The reception desk should be located to have a view of the entry and must provide for privacy of patient information and records.

Waiting areas should be sized according to the expected numbers of patients and support persons and provide for family waiting and patients in wheelchairs or with limited mobility. If paediatric patients are treated in the Unit, play areas should be included.

### **3.1.2 Assessment/ Preparation Areas**

Interview and Consultation rooms are required, located with convenient access to the entry and waiting areas to provide for private discussion with patients, review with medical practitioners and anaesthetic consultation prior to endoscopy procedures as required.

A patient holding area is required with access to patient changing and toilet facilities. Patients are generally ambulant and may await procedures on a bed or in chairs.

Holding areas must provide for male and female separation and patient privacy; screen curtains to bed and chairs spaces is recommended. Storage will be required for patient clothing and valuables.

Lockers may be provided or patient clothing and personal items may travel with the patient through each stage of the procedure, recovery and discharge in sealed containers according to the Unit

Operational Policy and procedures. A Staff Station should be located to provide close supervision of the holding and Preparation areas.

A Preparation room may be required for patients undergoing endoscopy procedures, where patients may change and undergo preparation procedures. If provided, the Preparation room should include:

- handbasin - clinical





- bench and cupboards for setting up of procedures
- adequate space for procedures equipment trolleys
- examination couch and comfortable chair
- desk and a computer terminal for review of test results
- privacy screening.

Patient holding, and Preparation room must have close access to patient toilets. At least one accessible toilet must be provided.

### **3.1.3 Procedure Areas:**

In Procedure rooms a clean to dirty workflow must be maintained. The clean area will include sterile supplies and a write-up space with computer and printer to generate endoscopy reports.

The room may be purpose designed to accommodate the following:

- endoscopy 'stack' and video monitor(s) – this equipment contains the light source and video processor required for the endoscopes to produce images
- endoscope cabinet with clean endoscopes and accessory equipment such as endoscopy biopsy forceps, snares, injectors
- monitoring equipment to allow continuous monitoring of patient condition during procedures
- anaesthetic equipment and medication used to provide procedural sedation or short acting anaesthetics
- diathermy and/or Argon plasma coagulation equipment
- imaging equipment such as Image Intensifier or C-arm X-ray screening unit depending on procedures to be performed; imaging equipment may be portable or installed in the room.



Procedure rooms may be sized to accommodate the equipment required; the minimum room area recommended for basic endoscopy is 36 m<sup>2</sup>. Rooms to accommodate ERCP or video equipment will require a larger space for sterile set-up, general anaesthesia and fluoroscopy equipment; a minimum of 42m<sup>2</sup> is recommended.

Operating Rooms for Endoscopy shall be fitted out as for a Minor Operating Room, for example, it will be suitable for general anaesthetic with appropriate medical gases, power, lighting, air-conditioning and ventilation. Staff assistance call must be provided. Consideration also needs to be given to the special requirements of imaging and laser equipment if required.

An Endoscopy procedure room has no pressurisation requirement on its own for gastrointestinal endoscopy. For Bronchoscopy procedures, they must be performed in a negatively pressured procedure room with no exception. On the contrary, the procedure room must be positively pressured if ERCP procedures are to take place. Thus, it is recommended to design Endoscopy room as a negatively pressurised space to cover both gastrointestinal endoscopy and bronchoscopy as the most common procedures. Sharing Procedure/ Operating Rooms for both surgery and endoscopy procedures are not permitted.

A clinical scrub up basin shall be provided outside the entrance to the Procedure/ Operating Room/s for Endoscopy.

Procedure/ Operating rooms will require direct access to clean-up and decontamination area for rapid processing of endoscopes and their storage

#### **3.1.4 Recovery Areas**

The Stage 1 Recovery should be located with close access from the Procedure rooms. Recovery beds will be under direct observation of staff and provide for close supervision and observation of patients including monitoring and medical gases for patient resuscitation in emergencies. The



recommended number of Stage 1 Recovery spaces is 2 bed/trolley spaces per Operating/ Procedure room.

A Stage 2 Recovery area will be provided to accommodate patients who have regained consciousness after sedation/ anaesthesia but require further observation.

Patients will remain under staff observation until ready for discharge. Patients in this area may recover in trolleys or recliner chairs; each recovery bay should be able to accommodate either trolley or chair. External windows are to be provided in Stage 2 Recovery. Patients in this area may change into street clothes, and close access to private changing rooms or cubicles is required. Provision should be made in the Stage 2 Recovery area for patient refreshments/ beverage bay and access to toilets. Patients may progress to a lounge area to await discharge as required or be discharged directly from the Stage 2 Recovery.

The recommended number of Stage 2 Recovery spaces is 3 bed/ chair bays to each Operating/ Procedure room.

### **3.1.5 Reprocessing Areas**

The ability to efficiently and safely process endoscopes is critical to the functioning of the Endoscopy Unit. Endoscope and instrument processing is a multi-step procedure involving decontaminating dirty scopes/ instruments, sterilising of scopes and packaging/ storing of clean scopes. Processing of the endoscopes commences as soon as the procedure is complete – the scope is wiped down and placed in a closed container and transported to the clean-up area; if any delay in processing is expected the scopes are soaked in an enzyme detergent solution.

Decontamination includes leak testing, manual pre-cleaning followed by high level disinfection with a disinfectant solution.



Endoscope reprocessing areas should be separate to Procedure/ Operating rooms and a unidirectional dirty to clean workflow must be maintained. A centralised reprocessing area is recommended for efficient handling of endoscopes and appropriate air pressurisation and ventilation. Cleaning and Disinfection areas must be negatively pressured and ventilated to remove vapours of chemicals used in the process.

The Cleaning and Disinfection of equipment area will include:

- sinks for soaking and rinsing sufficiently sized to prevent tight coiling of the endoscope which may damage the fibre-optic cables in the instrument
- ultrasonic cleaner for accessory equipment used in procedures
- Automated endoscope cleaning/ disinfecting machines
- compressed air to aid drying of endoscopic equipment after cleaning
- handwashing basin
- safety eyewash facility
- stainless steel benches with space to accommodate the length of the endoscopes
- storage for disinfected scopes on a bench or shelf.

The Sterilising/Disinfection area will include an autoclave to sterilise accessory instruments if a sterile supply service is not available.

Storage provisions will include adequately sized areas for drugs, sterile stock, consumables, linen, resuscitation trolley and mobile equipment which may include mobile imaging equipment. Storage of sterile items and scopes close to the point of use is recommended. Scope storage areas must be positively pressured and HEPA filtered to prevent contamination of clean endoscopes. Scopes may be stored in properly ventilated and temperature-controlled cabinets, preferably a pass-through



type, located between reprocessing/sterilising/disinfection areas and the Operating/ Procedure room.

Endoscope cabinets should allow for endoscopes to hang without coiling preventing damage to either end of the scope.

### **3.1.6 Staff Amenities**

Staff amenities will include change rooms with showers, toilets and lockers and a staff lounge, providing a respite area for staff away from patient and procedural areas. Staff amenities areas may be shared with adjacent areas if appropriate.

## **4 Functional Relationships**

A Functional Relationship can be defined as the correlation between various areas of activity whose services work together closely to promote the delivery of services that are efficient in terms of management, cost and human resources.

### **4.1 External Relationships**

The Endoscope Unit will have a close functional relationship with the following:

- Car parking areas
- Critical Care services
- Main Entry
- Outpatients Unit
- Transit Lounge

The stand-alone Unit will also require an area for ambulance access for emergency use and ready access to supply services and waste holding areas.



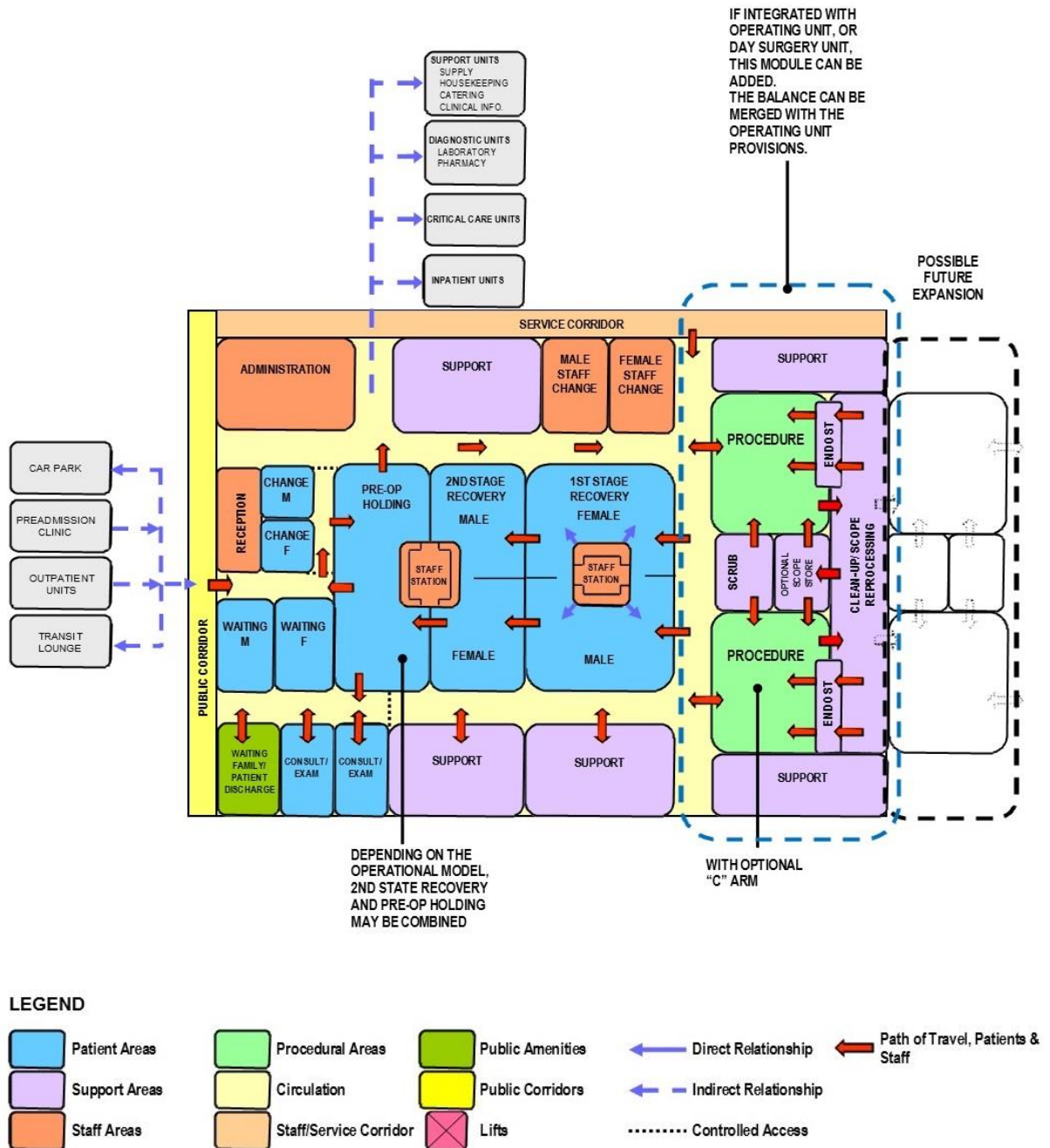
## 4.2 Internal Relationships

Within the Unit, key functional relationships will include:

- Unidirectional patient flow from arrival at Reception, through Holding, Procedure Rooms, Recovery rooms, then to the Lounge areas and discharge to home or transfer to other Units
- Separation of clean and dirty traffic flows particularly in Procedures rooms and disinfection/sterilising areas
- Visibility of patient areas by staff for patient supervision and safety.

## 4.3 Functional Relationship Diagrams

The functional relationships of a typical Endoscopy Unit either within a hospital or as a Stand- alone Unit are demonstrated in the diagram below.



## 5 Design Considerations

### 5.1 Patient Treatment Areas

The Endoscopy Unit should be designed to accommodate all types of patients using the Unit as determined by the endorsed clinical service plan; this may include paediatric patients. Provision should also be made for the management of disabled patients and bariatric patients.



The design should also be able to accommodate changes in equipment technology as well as changing workload and variability to throughputs. Use of modular components and standard rooms sizes are recommended to provide flexibility of design. Future trends in advanced endoscopy include:

- highly specialised and more invasive procedures that may require facilities similar to an operating suite
- access to overnight inpatient beds or extended stay wards
- education and training of medical personnel using simulators that may require space provision or camera and video transmittal from the procedure rooms linked to a remote meeting/ tutorial room

## 5.2 Environmental Considerations

### 5.2.1 Acoustics

The Endoscopy Unit should be designed to minimize the intrusive ambient noise level within the unit and transmission of sound between patient areas, staff areas and public

Acoustic treatment will be required in the following areas:

- Consultation/ Interview rooms where confidential patient information will be discussed
- Preparation rooms where patient pre-treatments may be undertaken
- Procedure/ Operating rooms

### 5.2.2 Natural Light

The design of the unit should incorporate external views and natural light as far as possible, particularly to Waiting Areas, pre-operative Holding and Recovery areas. It is recommended that





external views and natural light are provided in staff areas such as Staff Rooms, Offices and areas where staff are confined to one location e.g. Reception and Clean-up Rooms.

When external views and natural light are provided in patient areas, care must be taken to minimise glare and ensure privacy is not compromised. Sun penetration should be controlled to exclude glare and heat gain or loss.

In Procedure Rooms, provision of controlled level of lighting during procedures should be considered.

### **5.2.3 Privacy**

The design of the Endoscopy Unit needs to consider the contradictory requirement for staff visibility of patients while maintaining patient privacy. Unit design and location of staff stations will offer varying degrees of visibility and privacy. The patient acuity including high dependency, elderly or intermediate care will be a major influence.

Each bed shall be provided with bed screens to ensure privacy of patients under treatment in both private and shared inpatient rooms.

The following features shall be integrated to the design of the Unit:

- Doors and windows to be located appropriately to ensure patient privacy and not compromise staff security
- Discreet spaces to enable confidentiality of discussions related to a patient and storage of patients' medical records
- Privacy screening to bed and chair bays
- Consultation, Interview and Preparation rooms should not be visible from public or waiting areas; examination couches should not face the door



- Location of patient change areas to provide direct access to waiting areas to prevent patients in gowns travelling through public areas when changed before and after procedures
- Separation of male, female and paediatric changing rooms and waiting areas

### 5.3 Accessibility

#### 5.3.1 External

The Unit will require a weatherproof vehicle drop-off area with easy access for less- mobile and wheelchair bound patients. Drop off areas may be shared in Units located within a hospital. Access to other units in the facility should be convenient, covered and not through public thoroughfares.

#### 5.3.2 Internal

All patient areas should be wheelchair accessible and designed to comply with relevant accessibility standards as per **Part C - Access, Mobility, OH&S** of these Guidelines. Reception desks and Staff stations should provide wheelchair accessible counters.

### 5.4 Doors

All entry points, doors or openings requiring bed/trolley access including Endoscopy Units are recommended to be a minimum of 1400mm wide, unobstructed. Larger openings may be required for special equipment, as determined by the Operational Policy, to allow the manoeuvring of equipment without manual handling risks and risk of damage.

Also refer to **Part C – Access, Mobility, OH&S** of these Guidelines.

### 5.5 Ergonomics/ OH&S

Design of clinical spaces including Endoscopy Operating and Procedure rooms must consider Ergonomics and OH&S issues for patient and staff safety and welfare. Particular attention should be given to storage of stock and equipment, to minimise manual handling and provide minimum distances between shelving aisles.



Refer to **Part C – Access, Mobility, OH&S** of these Guidelines for more information.

### 5.6 Size of the Unit

The number of endoscopy rooms required in the Unit can be calculated using the workload per annum (number of procedures per year according to local population data) divided by the workload per Endoscopy room (the average number of cases per working day). Generally, larger endoscopy units should contain one procedure room per 1000 to 1500 procedures performed annually.

### 5.7 Safety and Security

Internal spaces and zones should offer a high standard of security through grouping functions, controlling access and egress from the Unit and providing optimum observation for staff. Patient holding, procedural and recovery areas will require restricted access to prevent unauthorised entry by visitors or others.

Protective clothing and safety equipment including an emergency eye wash station must be available for staff undertaking cleaning/ disinfection due to the use of chemicals in the disinfection process.

### 5.8 Finishes

Finishes including fabrics, floor, wall and ceiling finishes, should be inviting and non- institutional as far as possible. The following additional factors should be considered in the selection of finishes:

- acoustic properties
- durability
- ease of cleaning
- infection control
- fire safety
- movement of equipment.



In areas where clinical observation is critical such as Endoscopy Operating/ Procedure rooms, bed bays and recovery areas, lighting and colours selected must not impede the accurate assessment of skin tones. Walls shall be painted with lead free paint.

The floor finishes in all patient care and treatment areas should have a seamless, non-slip surface and be impermeable to water and body fluids.

Refer also to **Part C - Access, Mobility, OH&S** and **Part D - Infection Control** of these Guidelines.

### 5.9 Curtains and Blinds

Windows that require screening within the procedural area shall be double glazed with internal horizontal blinds. Surface mounted blinds are not recommended in the Endoscopy Unit due to difficulty in cleaning and maintaining a dust free environment

Privacy bed screens must be provided to each bed bay in Holding and Recovery areas. Privacy bed screens must be washable, fireproof and cleanly maintained at all times.

Disposable bed screens may also be considered.

### 5.10 Fittings, Fixtures & Equipment

The Unit should have sufficient endoscopes and accessory equipment to allow for proper cleaning, disinfection and sterilising to be performed. The quantities of equipment and instruments should also allow for some equipment to be unavailable when awaiting repair or replacement. It is recommended that only fully immersible endoscopes are used.

Automated endoscopic cleaning/ disinfection equipment will require consideration regarding optimum location and services requirements such as water, power and drainage; equipment will be installed according to manufacturers' specifications.

Refer also to Standard Components Room Data Sheets and Room Layout Sheets for Furniture, Fittings Fixtures and Equipment requirements.



## **5.11 Building Services Requirements**

This section identifies unit specific services briefing requirements only and must be read in conjunction with **Part E - Engineering Services** for the detailed parameters and standards applicable.

### **5.11.1 Information and Communication Technology**

The Endoscopy Unit will require special consideration of the following IT/ Communications items in the design of the Unit:

- Appointment systems
- Patient Administration System (PAS) including clinical records, pathology results, PACS
- Scheduling systems to manage Procedure or operating room sessions
- Endoscopy procedure recording and printing of reports within the Procedure room
- Materials management including bar coding for supplies, x-rays and records
- Management and statistical information required for administration and quality assurance.
- Education and training utilisation of video and camera equipment

### **5.11.2 Staff Call**

Patient, Staff Assist and Emergency Call facilities shall be provided in all patient areas (e.g. Anaesthetic Rooms, Holding bays, Recovery bays, Lounges, Change Rooms and Toilets) in order for patients and staff to request for urgent assistance. Staff Assist and Emergency call facilities are required in each Procedure room.

All calls are to be registered at the Staff Stations, in circulation corridors and must be audible within the service areas of the Unit including stores, Clean Utilities and Dirty Utilities. If calls are not



answered the call system should escalate the alert accordingly. The call system may also use mobile paging systems or SMS to notify staff of a call.

### **5.11.3 Patient Entertainment Systems**

Patients may be provided with the following entertainment/ communications systems according to the Operational Policy of the facility

- Television
- Telephone
- Radio
- Internet (through Wi-Fi)

### **5.11.4 Heating Ventilation and Air-conditioning (HVAC)**

The Procedure Rooms will require special air-conditioning with positive pressure and filtration, temperature, humidity and air changes per hour to comply with relevant standards and guidelines.

Individual Operating/Procedure Room temperatures should be controllable by staff from within the room.

Ventilation and exhaust is required to extract toxic vapours in Clean-up/ disinfection areas.

Hazardous chemicals such as gluteraldehyde, OPA or paracetic acid should be used in a closed system with air extraction such as a fume cabinet.

All HVAC units and systems are to comply with services identified in Standard Components and

**Part E – Engineering Services** in these Guidelines.

### **5.11.5 Medical Gases**

Medical gas is that which is intended for administration to a patient in anaesthesia, therapy, or diagnosis. Medical gases shall be installed and readily available in each patient bay.



The Endoscopy Unit shall provide medical gases and quantities of outlets identified in Standard Components Room Data Sheets and Room Layout Sheets to Operating/ Procedures rooms, Recovery and bed bays.

Each space routinely used for administration of inhalation anaesthesia or analgesia shall include a gas scavenging system to vent waste.

Medical Gases must be dedicated to each patient. Gas outlets may not be shared between two patients in bed/chair bays.

Refer to **Part E - Engineering Services** in these Guidelines for medical gases technical requirements.

#### **5.11.6 Hydraulics**

All areas accessed by patients within the Endoscopy Unit must be provided with warm water. Staff areas may be provided with hot water for cleaning purposes. This requirement includes all staff handwash basins and sinks located within patient accessible areas.

Additionally, water filtration is required for cleaning of endoscopes and to supply automated endoscope cleaning/ disinfection machines. Water with a high mineral content is unsuitable for rinsing flexible endoscopes and accessory equipment due to mineral deposits that may permanently damage the equipment. Provide water filtration to sinks and automated endoscope cleaning machines according to equipment manufacturers' specifications.

For further information refer to **Part E – Engineering Services** in these guidelines.

#### **5.11.7 Radiation Safety and Shielding**

If the Unit is undertaking procedures involving imaging, plans and specifications will require assessment for radiation protection by a certified physicist or other qualified expert as required by



FANR. The radiation protection assessment will specify the type, location and amount of radiation protection required according to the final equipment selections and layout. Radiation protection requirements must be incorporated into the final specifications and building plans.

## **5.12 Infection Control**

Consideration of Infection Control is important in the design of this Unit. Separation of clean and dirty workflows in treatment and clean-up areas and separation of patient care areas and contaminated spaces and equipment is critical to the function of the Unit and to prevent cross infection. Procedure/ Operating rooms will be used for a variety of clients whose infection status may be unknown. Standard precautions must be taken for all clients regardless of their diagnosis or presumed infectious status.

### **5.12.1 Hand Basins**

Handwashing facilities shall be required in the corridors, patient bedrooms and other rooms as specified by the Standard Components.

Hand-washing facilities shall not impact on minimum clear corridor widths.

At least one handwashing bay is to be conveniently accessible to the Staff Station. Hand basins are to comply with Standard Components - Bay - Hand-washing” and **Part D - Infection Control**.

Hand Basins in patient bedrooms should be used solely for infection control purposes and utilised only by staff. Patients should use hand basins provided in bathrooms for personal purposes. Staff may not use the patient ensuite hand wash basin.

### **5.12.2 Antiseptic Hand Rubs**

Antiseptic hand rubs should be located so they are readily available for use at points of care, at the end of patient beds and in high traffic areas.





The placement of antiseptic hand rubs should be consistent and reliable throughout facilities.

Antiseptic hand rubs are to comply with **Part D - Infection Control**, in these guidelines.

Antiseptic Hand Rubs, although very useful and welcome, cannot fully replace Hand Wash Bays.

## 6 Standard Components of the Unit

Standard Components are typical rooms within a health facility, each represented by a Room Data Sheet (RDS) and a Room Layout Sheet (RLS).

The Room Data Sheets are written descriptions representing the minimum briefing requirements of each room type, described under various categories:

- Room Primary Information; includes Briefed Area, Occupancy, Room Description and relationships, and special room requirements)
- Building Fabric and Finishes; identifies the fabric and finish required for the room ceiling, floor, walls, doors, and glazing requirements
- Furniture and Fittings; lists all the fittings and furniture typically located in the room; Furniture and Fittings are identified with a group number indicating who is responsible for providing the item according to a widely accepted description as follows:

Group	Description
1	Provided and installed by the builder
2	Provided by the Client and installed by the builder
3	Provided and installed by the Client

- Fixtures and Equipment; includes all the serviced equipment typically located in the room



along with the services required such as power, data and hydraulics; Fixtures and Equipment are also identified with a group number as above indicating who is responsible for provision

- Building Services; indicates the requirement for communications, power, Heating, Ventilation and Air conditioning (HVAC), medical gases, nurse/ emergency call and lighting along with quantities and types where appropriate. Provision of all services items listed is mandatory

The Room Layout Sheets (RLS's) are indicative plan layouts and elevations illustrating an example of good design. The RLS indicated are deemed to satisfy these Guidelines. Alternative layouts and innovative planning shall be deemed to comply with these Guidelines provided that the following criteria are met:

- Compliance with the text of these Guidelines
- Minimum floor areas as shown in the schedule of accommodation
- Clearances and accessibility around various objects shown or implied
- Inclusion of all mandatory items identified in the RDS

The Endoscopy Unit will contain Standard Components to comply with details in the Standard Components described in these Guidelines. Refer to Standard Components Room Data Sheets and Room Layout Sheets.

## **6.1 Non-Standard Rooms**

Non-standard rooms are rooms are those which have not yet been standardised within these Guidelines. As such there are very few Non-standard Rooms. These are identified in the Schedules of Accommodation as NS and are separately covered below.

### **6.1.1 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.
- Reprocessing equipment.

#### **6.1.2 Gas Bottle Store**

The Gas Bottle Store is a secure room for the storage of full and empty gas bottles following delivery by an external supplier. Gas bottles may be attached to a manifold and a reticulated supply; Empty gas bottle alarms may be required. The Gas Bottle Store should be located with ready access to the Loading Dock area. Full and empty bottles to be stored separately. May be located externally at a secure location.

#### **6.1.3 Waste Compactor/ Recyclables**

Room for a compactor waste unit, waste bins and waste recycling bins. The room will have a secure roller shutter door for removal of the compactor unit.



## 7 Schedule of Accommodation

The Schedule of Accommodation (SOA) provided below represents generic requirements for this Unit. It identifies the rooms required along with the room quantities and the recommended room areas. The sum of the room areas is shown as the Sub Total as the Net Area. The Total area is the Sub Total plus the circulation percentage. The circulation percentage represents the minimum recommended target area for corridors within the Unit in an efficient and appropriate design.

Within the SOA, room sizes are indicated for typical units and are organised into the functional zones. Not all rooms identified are mandatory therefore, optional rooms are indicated in the Remarks. These guidelines do not dictate the size of the facilities, therefore, the SOA provided represents a limited sample based on assumed unit sizes. The actual size of the facilities is determined by Service Planning or Feasibility Studies. Quantities of rooms need to be proportionally adjusted to suit the desired unit size and service needs.

The Schedule of Accommodation are developed for particular levels of services known as Role Delineation Level (RDL) and numbered from 1 to 6. Refer to the full **Role Delineation Framework (Part A - Appendix 6)** in these guidelines for a full description of RDL's.

The table below shows a typical Endoscopy Unit at RDL's 2 to 6. Endoscopy Unit cannot be provided at RDL 1.

Any proposed deviations from the mandatory requirements, justified by innovative and alternative operational models may be proposed and record in the **Non-Compliance Report** (refer to **Part A - Appendix 4**) with any departure from the Guidelines for consideration by the DHA for approval.



### 7.1 Endoscopy Unit with 2, 4 & 6 Procedure Rooms

ROOM/ SPACE	Standard Component Room Codes				RDL 2-6 Qty x m <sup>2</sup>	RDL 2-6 Qty x m <sup>2</sup>	RDL 2-6 Qty x m <sup>2</sup>	Remarks
Entry/ Reception					2 Rooms	4 Rooms	6 Rooms	
Reception/ Clerical	recl-10-d similar recl-15-d similar				1 x 9	1 x 15	1 x 20	
Waiting	wait-10-d wait-15-d wait-20-d similar				1 x 10	1 x 15	1 x 25	Divided into male/female areas
Waiting - Family	wait-10-d wait-15-d wait-20-d similar				1 x 10	1 x 15	1 x 25	
Play Area	plap-10-d similar				1 x 8	1 x 10	1 x 10	Optional; if Paediatric patients included
Bay - Wheelchair Park	bwc-d				1 x 4	1 x 4	1 x 4	May share with Main facility if located close
Office - Single Person	off-s9-d				1 x 9	1 x 9	1 x 9	Manager; Note 1
Interview Room - Family/ Large	intf-d				1 x 12	1 x 12	1 x 12	May be co-located with Assessment area
Parenting Room	par-d				1 x 6	1 x 6	1 x 6	May share with Main facility if located close
Store - Files	stfs-10-d similar				1 x 8	1 x 10	1 x 10	For stationery/ clinical records, fax, photocopier
Toilet - Accessible	wcac-d				1 x 6	1 x 6	1 x 6	May share with Main facility if located close
Toilet - Public	wcpu-3-d				2 x 3	2 x 3	2 x 3	May share with Main facility if located close
Assessment/ Preparation Areas								
Consult/ Exam Room	cons-d				1 x 13	2 x 13	3 x 13	Combined Consult/ Examination Room
Meeting Room - Small	meet-9-d				1 x 9	1 x 9	2 x 9	Optional Interviews, private discussions
Treatment/ Preparation Room	trmt-14-d				1 x 14	2 x 14	2 x 14	Optional; locate near Patient Ensuite
Property Bay - Patient	prop-3-d similar				1 x 2	2 x 2	2 x 2	Separate male/female areas
Patient Bay - Holding	pbtr-h-10-d				2 x 10	2 x 10	4 x 10	Recovery Stage 2 maybe combined with Patient Bay Holding back to back
Waiting - Changed Patients (Male/ Female)	wait-sub-d wait-10-d wait-15-d				2 x 5	2 x 10	2 x 15	Comfortable seating
Bay - Handwashing, PPE	bhws-ppe-d similar				1 x 1.5	1 x 1.5	1 x 1.5	
Bay - Linen	blin-d				1 x 2	1 x 2	1 x 2	
Dirty Utility - Sub	dtur-s-d				1 x 8	1 x 8	1 x 8	
Ensuite - Standard	ens-st-d				1 x 5	1 x 5	1 x 5	Locate adjacent to Treatment/ Preparation
Staff Station/ Clean Utility	sscu-d				1 x 9	1 x 9	1 x 9	To oversight holding and changed waiting areas; review size if Clean Utility is shared



Endoscopy Unit

ROOM/ SPACE	Standard Component Room Codes				RDL 2-6 Qty x m <sup>2</sup>	RDL 2-6 Qty x m <sup>2</sup>	RDL 2-6 Qty x m <sup>2</sup>	Remarks
Store - General	stgn-8-d similar				1 x 6	1 x 6	1 x 8	
Toilet - Accessible	wcac-d				2 x 6	2 x 6	2 x 6	Patient (M/F)
<b>Procedure Areas</b>								
Endoscopy Procedure Room	endp-d				2 x 36	4 x 36	6 x 36	
Clean-Up Room	clup-7-d similar				1 x 15	2 x 15	3 x 15	Shared between rooms, for immediate post procedure
Scrub Up/ Gowning	scrub-6-d				2 x 6	4 x 6	6 x 6	May be shared between Operating Rooms
Bay - Linen	blin-d				1 x 2	1 x 2	1 x 2	
Bay - Mobile Equipment	bmeq-4-d similar				2 x 2.5	4 x 2.5	6 x 2.5	Also for imaging equipment
Store - Sterile Stock	stss-12-d				1 x 12	2 x 12	3 x 12	
Store - Equipment	steq-10-d similar				1 x 6	1 x 10	2 x 10	Additional specialist equipment
<b>Recovery Areas</b>								
Patient Bay - Recovery Stage 1	pbtr-rs1-12-d				4 x 12	8 x 12	12 x 12	2 Beds per Procedure/ OR; Separate M/ F as required
Patient Bay - Recovery Stage 2	pbtr-h-10-d similar				6 x 10	12 x 10	18 x 10	3 Beds/Chairs per Procedure/OR; Separate M/ F as required. Minimum is 2:1, Recovery Stage 2 maybe combined with Recovery Stage 1 back to back.
Lounge - Recovery Stage 2	lnpt-rs2-d				4 x 6	6 x 6	8 x 6	Optional; according to service plan
Bay - Beverage	bbev-op-d bbev-enc-d				1 x 5	1 x 5	1 x 5	
Bay - Handwashing, PPE	bhws-ppe-d				3 x 1.5	7 x 1.5	10 x 1.5	
Bay - Linen	blin-d				1 x 2	2 x 2	2 x 2	
Bay - Resuscitation Trolley	bres-d				1 x 1.5	1 x 1.5	1 x 1.5	
Clean Utility	clur-8-d clur-12-d					1 x 8	1 x 12	
Dirty Utility	dtur-s-d dtur-12-d similar				1 x 8	1 x 8	1 x 10	
Staff Station	sstn-14-d similar					1 x 10	1 x 14	
Staff Station/ Clean Utility	sscu-d				1 x 9			
Store - General	stgn-8-d similar				1 x 6	1 x 8	1 x 8	
Store - Equipment	steq-10-d steq-16-d				1 x 10	1 x 10	1 x 16	With power for equipment recharging
Toilet - Accessible	wcac-d				1 x 6	1 x 6	2 x 6	
Toilet - Patient (M/F)	wcpt-d				2 x 4	2 x 4	2 x 4	
<b>Reprocessing Areas</b>								



## Endoscopy Unit

ROOM/ SPACE	Standard Component Room Codes				RDL 2-6 Qty x m <sup>2</sup>	RDL 2-6 Qty x m <sup>2</sup>	RDL 2-6 Qty x m <sup>2</sup>	Remarks
Bay - Handwashing	bhws-b-d				1 x 1	1 x 1	1 x 1	
Clean-up/ Decontamination	clup-7-d similar				1 x 15	1 x 30	1 x 30	Endoscopes and instruments
Endoscope Reprocessing	NS				1 x 6	1 x 10	1 x 20	Low temp sterilisers and autoclave as required
Store - Endoscope	stgn-8-d similar				2 x 2	4 x 2	6 x 2	One Endoscope Store or Cupboard (Preferably double sides) with access to the Reprocessing area and the Procedure room.
<b>Staff and Support Areas</b>								
Change - Staff (M/F)	chst-12-d similar chst-20-d				2 x 10	2 x 14	2 x 20	Toilets, Shower and Lockers
Cleaner's Room	clrm-6-d				1 x 6	1 x 6	1 x 6	
Disposal Room	disp-8-d similar				1 x 5	1 x 8	1 x 8	May be shared with adjacent Unit
Meeting Room	meet-9-d meet-l-15-d similar				1 x 9	1 x 12	1 x 15	Optional; may be shared
Office - Single Person	off-s9-d				1 x 9	1 x 9	2 x 9	Note 1; Nursing/ Medical
Office - 2 Person, Shared	off-2p-d					1 x 12	1 x 12	Note 1; Clerical support
Staff Room	srn-15-d srm-25-d similar				1 x 15	1 x 25	1 x 30	May be shared with adjacent Unit
<b>Sub Total</b>					<b>590.5</b>	<b>957.5</b>	<b>1347</b>	
<b>Circulation %</b>					<b>40</b>	<b>40</b>	<b>40</b>	
<b>Grand Total</b>					<b>826.7</b>	<b>1340.5</b>	<b>1885.8</b>	

Note 1: Offices to be provided according to the number of approved full-time positions within the Unit.

Please also note the following:

- Areas noted in Schedules of Accommodation take precedence over all other areas noted in the Standard Components
- Rooms indicated in the schedule reflect the typical arrangement according to the sample procedure room numbers
- All the areas shown in the SOA follow the No-Gap system described elsewhere in these Guidelines
- Exact requirements for room quantities and sizes will reflect Key Planning Units (KPU) identified in the Clinical 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.



## 7.2 Stand-alone Endoscopy Unit with 2, 4 & 6 rooms

ROOM/ SPACE	Standard Component Room Codes				RDL 2-6 Qty x m <sup>2</sup>	RDL 2-6 Qty x m <sup>2</sup>	RDL 2-6 Qty x m <sup>2</sup>	Remarks
Entry/ Reception					2 Rooms	4 Rooms	6 Rooms	
Airlock - Entry	airle-10-d				1 x 10	1 x 10	1 x 10	With covered drop -off area
Reception/ Clerical	recl-10-d recl-15-d similar				1 x 10	1 x 15	1 x 20	
Waiting	wait-10-d wait-15-d wait-20-d similar				1 x 10	1 x 15	1 x 25	Divided into male/female areas
Waiting - Family	wait-10-d wait-15-d wait-20-d similar				1 x 10	1 x 15	1 x 25	
Play Area	plap-10-d similar				1 x 8	1 x 10	1 x 10	Optional; if Paediatric patients included
Bay - Wheelchair Park	bwc-d				1 x 4	1 x 4	1 x 4	
Office - Single Person	off-s9-d				1 x 9	1 x 9	1 x 9	Manager; Note 1
Interview Room - Family/ Large	intf-d				1 x 12	1 x 12	1 x 12	May be co-located with Assessment area
Parenting Room	par-d				1 x 6	1 x 6	1 x 6	
Store - Files	stfs-10-d similar				1 x 8	1 x 10	1 x 10	For stationery/ clinical records, fax, photocopier
Toilet - Accessible	wcac-d				1 x 6	1 x 6	1 x 6	
Toilet - Public	wcpu-3-d				2 x 3	2 x 3	2 x 3	
<b>Assessment/ Preparation Areas</b>								
Consult/ Exam Room	cons-d				1 x 13	2 x 13	3 x 13	Combined Consult/ Examination Room
Meeting Room - Small	meet-9-d				1 x 9	1 x 9	2 x 9	Optional Interviews, private discussions
Treatment/ Preparation Room	trmt-14-d				1 x 14	2 x 14	2 x 14	Optional; locate near Patient Ensuite
Property Bay - Patient	prop-3-d similar				1 x 2	2 x 2	2 x 2	Separate M/F areas
Patient Bay - Holding	pbtr-h-10-d				2 x 10	2 x 10	4 x 10	Recovery Stage 2 maybe combined with Patient Bay Holding back to back
Waiting - Changed Patients (Male/ Female)	wait-sub-d wait-10-d wait-15-d				2 x 5	2 x 10	2 x 15	Comfortable seating
Bay - Handwashing, PPE	bhws-ppe-d similar				1 x 1.5	1 x 1.5	1 x 1.5	
Bay - Linen	blin-d				1 x 2	1 x 2	1 x 2	
Dirty Utility - Sub	dtur-s-d				1 x 8	1 x 8	1 x 8	
Ensuite - Standard	ens-st-d				1 x 5	1 x 5	1 x 5	Locate adjacent to Treatment/ Preparation
Staff Station/ Clean Utility	sscu-d				1 x 9	1 x 9	1 x 9	To oversight holding and changed waiting areas





Endoscopy Unit

ROOM/ SPACE	Standard Component Room Codes				RDL 2-6 Qty x m <sup>2</sup>	RDL 2-6 Qty x m <sup>2</sup>	RDL 2-6 Qty x m <sup>2</sup>	Remarks
Store - General	stgn-8-d similar				1 x 6	1 x 6	1 x 8	
Toilet - Accessible, Patient (M/F)	wcac-d				1 x 6	1 x 6	1 x 6	
Toilet - Patient (M/F)	wcpt-d				1 x 4	1 x 4	1 x 4	May share with Recovery if close
<b>Procedure Areas</b>								
Endoscopy Procedure Room	endp-d				2 x 36	4 x 36	6 x 36	
Clean-up Room	clup-7-d similar				1 x 15	2 x 15	3 x 15	Shared between rooms, for immediate post procedure
Scrub Up/ Gowning	scrub-6-d				2 x 6	4 x 6	6 x 6	May be shared between Operating/ Procedure rooms
Bay - Linen	blin-d				1 x 2	1 x 2	1 x 2	
Bay - Mobile Equipment	bmeq-4-d similar				2 x 2.5	4 x 2.5	6 x 2.5	Also for imaging equipment
Store - Sterile Stock	stss-12-d				1 x 12	2 x 12	3 x 12	
Store - Equipment	steq-10-d similar				1 x 6	1 x 10	2 x 10	Additional specialist equipment
<b>Recovery Areas</b>								
Patient Bay - Recovery Stage 1	pbtr-rs1-12-d				4 x 12	8 x 12	12 x 12	2 Beds per Procedure/ OR; Separate M/ F as required
Patient Bay - Recovery Stage 2	pbtr-h-10-d				6 x 10	12 x 10	18 x 10	3 Beds/Chairs per Procedure/OR; Separate M/ F as required. Minimum is 2:1, Recovery Stage 2 maybe combined with Recovery Stage 1 back to back.
Lounge - Recovery Stage 2	lnpt-rs2-d				4 x 6	6 x 6	8 x 6	Optional; according to service plan; screened bays
Bay - Beverage	bbev-op-d bbev-enc-d				1 x 5	1 x 5	1 x 5	
Bay - Handwashing, PPE	bhws-ppe-d				3 x 1.5	7 x 1.5	10 x 1.5	
Bay - Linen	blin-d				1 x 2	2 x 2	2 x 2	
Bay - Resuscitation Trolley	bres-d				1 x 1.5	1 x 1.5	1 x 1.5	
Clean Utility	clur-8-d clur-12-d					1 x 8	1 x 12	
Dirty Utility	dtur-s-d dtur-12-d				1 x 8	1 x 8	1 x 12	
Staff Station	sstn-14-d similar					1 x 10	1 x 14	
Staff Station/ Clean Utility	sscu-d				1 x 9			Suitable for small procedures areas
Store - General	stgn-8-d similar				1 x 6	1 x 8	1 x 8	
Store - Equipment	steq-10-d steq-16-d similar				1 x 10	1 x 10	1 x 16	With power for equipment recharging
Toilet - Accessible	wcac-d				1 x 6	1 x 6	2 x 6	
Toilet - Patient (M/F)	wcpt-d				1 x 4	2 x 4	2 x 4	



Part B: Health Facility Briefing & Design

Endoscopy Unit

ROOM/ SPACE	Standard Component Room Codes				RDL 2-6 Qty x m <sup>2</sup>	RDL 2-6 Qty x m <sup>2</sup>	RDL 2-6 Qty x m <sup>2</sup>	Remarks
Bay - Handwashing	bhws-b-d				1 x 1	1 x 1	1 x 1	
Clean-up/ Decontamination	clup-7-d similar				1 x 15	1 x 30	1 x 30	Endoscopes and instruments
Endoscope Reprocessing	NS				1 x 6	1 x 10	1 x 20	Low temp sterilisers and autoclave as required
Endoscope Store	stgn-8-d similar				2 x 2	4 x 2	6 x 2	One Endoscope Store or Cupboard (Preferably double sides) with access to the Reprocessing area and the Procedure room.
<b>Staff and Support Areas</b>								
Change - Staff (M/F)	chst-12-d chst-20-d similar				2 x 10	2 x 12	2 x 20	Toilets, Shower and Lockers
Communications Room	comm-12-d similar				1 x *	1 x *	1 x *	* Size dependant on IT equipment; area part of Plant
Cleaner's Room	clrm-6-d				1 x 6	1 x 6	1 x 6	
Disposal Room	disp-8-d similar				1 x 5	1 x 8	1 x 8	Includes dirty Linen Holding
Loading Dock	lodk-d				1 x *	1 x *	1 x *	*External Area, May share common facilities if applicable
Linen Holding - Clean	stgn-8-d similar				1 x 8	1 x 10	1 x 10	
Linen Holding - Soiled	disp-8-d similar				1 x 8	1 x 10	1 x 10	
Meeting Room	meet-9-d meet-l-15-d similar				1 x 9	1 x 12	1 x 15	Optional; may be shared
Office - Single Person	off-s9-d				1 x 9	1 x 9	2 x 9	Note 1; Nursing/ Medical
Office - 2 Person, Shared	off-2p-d					1 x 12	1 x 12	Note 1; Clerical support
Staff Room	srm-15-d srm-25-d similar				1 x 15	1 x 25	1 x 30	
Store - Gas Bottles	NS				1 x 8	1 x 10	1 x 10	
Store - Main	stgn-8-d stgn-14-d stgn-20-d				1 x 8	1 x 14	1 x 20	Consumables
Store - Medical Records	stfs-10-d similar				1 x 10	1 x 20	1 x 20	
Waste Holding/ Recyclables	NS				1 x 15	1 x 20	1 x 30	General, Contaminated, Sharps & Recyclables
<b>Sub Total</b>					<b>667.5</b>	<b>1070.5</b>	<b>1487</b>	
<b>Circulation %</b>					<b>40</b>	<b>40</b>	<b>40</b>	
<b>Grand Total</b>					<b>934.5</b>	<b>1498.7</b>	<b>2081.8</b>	

Note 1: Offices to be provided according to the number of approved full-time positions within the Unit.

Please also note the following:



## Part B: Health Facility Briefing & Design

### Endoscopy Unit

- Areas noted in Schedules of Accommodation take precedence over all other areas noted in the Standard Components
- Rooms indicated in the schedule reflect the typical arrangement according to the sample procedure room numbers
- All the areas shown in the SOA follow the No-Gap system described elsewhere in these Guidelines
- Exact requirements for room quantities and sizes will reflect Key Planning Units (KPU) identified in the Clinical 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



## 8 Further Reading

In addition to Sections referenced in this FPU, i.e. **Part C - Access, Mobility, OH&S** and **Part D - Infection Control**, and **Part E - Engineering Services**, readers may find the following helpful:

- International Health Facility Guideline (iHFG) [www.healthdesign.com.au/ihfg](http://www.healthdesign.com.au/ihfg)
- Ministry of Health UAE, Unified Healthcare Professional Qualification Requirements, 2017, refer to website: <https://www.haad.ae/haad/tabid/927/Default.aspx>
- Health Regulation Sector (DHA), Day Surgical Centre Regulation, 2012, refer to website: <https://www.dha.gov.ae/Documents/Regulations/Day%20Surgical%20Center%20Regulation.pdf>
- Design and Management of gastrointestinal endoscopy units, Peter B Cotton, ed, 2012; Gastrohepebook refer to [www.gastrohep.com](http://www.gastrohep.com)
- Digestive Diseases - Endoscopy Service. Design Guide, Department of Veteran Affairs, Office of Construction & Facilities Management, USA, 2011
- Endoscopy, Standards for Endoscopy Facilities and Services, GESA Gastroenterological Society of Australia, 2011
- Endoscopy Unit Design, Infection Prevention & Control Guidelines, Public Health Agency of Canada; [www.phac-aspc.gc.ca](http://www.phac-aspc.gc.ca)
- Guidelines for Design and Construction of Health Care Facilities; The Facility Guidelines Institute, 2010 Edition; [www.fgiguilines.org](http://www.fgiguilines.org)
- DH (Department of Health) (UK) Health Building Note HBN 52 Accommodation for day care Endoscopy unit, 2008, refer to [www.estatesknowledge.dh.gov.uk](http://www.estatesknowledge.dh.gov.uk)
- Nurse/Midwife: Patient Ratios, ANMF, Australian Nursing and Midwifery Federation, 2016;



**refer to:**

[websithttp://www.anmfvic.asn.au/~media/f06f12244fbb4522af619e1d5304d71d.ashx](http://www.anmfvic.asn.au/~media/f06f12244fbb4522af619e1d5304d71d.ashx)