

## 31.0 Pathology Unit

### 31.1 Introduction

#### 31.1.1 General

The Pathology Unit provides facilities and equipment for the examination of body tissues and fluids, involving receipt of patient specimens, testing and issue of reports.

Pathology may be divided into specialist disciplines including (but not limited to):

- General Pathology - involves a mixture of anatomical and clinical pathology specialties in the one Unit
- Anatomical Pathology – involves the diagnosis of disease based on the microscopic, chemical, immunologic and molecular examination of organs, tissues, and whole bodies (autopsy); Anatomical pathology is itself divided in subspecialties including Surgical Pathology, Cytopathology and Forensic Pathology.
- Clinical/ Chemical Pathology involves diagnosis of disease through the laboratory analysis of blood and bodily fluids and/or tissues using the tools of Chemistry, Microbiology, Haematology and Molecular Pathology;
  - Haematology is concerned with diseases that affect the blood and the management of blood transfusion services;
  - Microbiology is concerned with diseases caused by organisms such as bacteria, viruses, fungi and parasites; clinical aspects involve control of infectious diseases and infections caused by antibiotic-resistant bacteria;
- Genetics/ Clinical Cytogenetics - a branch of genetics concerned with studying the structure and function of the cell, particularly the microscopic analysis of chromosomal abnormalities; molecular genetics uses DNA technology to analyse genetic mutations
- Immunology - a broad discipline that deals with the physiological functioning of the immune system and malfunctions of the immune system such as autoimmune diseases, hypersensitivities, immune deficiency and transplant rejection

### 31.2 Planning

#### 31.2.1 Functional Areas

The Pathology Unit will consist of the following Functional Areas:

- Entry/ Reception area with patient waiting
- Specimen collection area including patient toilets ( this area may also be located remotely in Ambulatory Care areas); the collection area shall have a workbench, space for patient seating and hand washing facilities
- Specimen Reception registration and sorting area
- Laboratories, which may include specialists laboratories
- Support areas, including Clean-up, Sterilisation area, Storage areas for reagents, appropriate storage for flammable liquids, general supplies, refrigerated storage for slides and reagents, disposal facilities for contaminated waste
- Refrigerated blood storage
- Staff Areas including Offices, Meeting Rooms, Staff Room, Lockers and Toilets

#### SPECIMEN RECEPTION

The Specimen Reception area is where specimens for analysis are received, sorted and held temporarily before despatch into laboratory areas. The area will require specimen registration facilities which may include computerised/ barcode systems, sorting benches and a holding area for specimens including refrigerated holding if required. Following registration, specimens are transported to the relevant laboratory or area for processing and reporting.

#### LABORATORIES

Laboratories will be provided according to the Role Delineation and Operational Policy and will require the following considerations:



- Laboratories must be secure with restricted access for dedicated staff only
- Laboratory workbenches with space for equipment such as microscopes, appropriate chemical analysers, incubator/s and centrifuge/s
- Access to vacuum, gas and electrical services at the workbench
- Sinks with hot and cold water; may be used for the disposal of non-toxic fluids
- Hand basin with paper towel and soap fittings for staff hand-washing
- Emergency shower and eye flushing devices; drainage to a separate holding area

Note: The size of the laboratory shall be appropriate to the function and provide a safe working environment.

### 31.2.2 *Operational Models*

Pathology Services may be provided according to the following models and will be dependent on the Role Delineation and the Operational Policy of the facility:

- On-site laboratory providing a comprehensive range of tests and services
- On-site provision limited to a stat laboratory for a limited range of urgent tests
- Off -site laboratory with services provided by an external laboratory on a contracted or other basis; the external laboratory may be a separate private business unit
- Networking of hospital laboratories across an area or region with varying arrangements for specialisation between laboratories

### 31.2.3 *Functional Relationships*

The Pathology Unit, if in-house, is best located adjacent to the areas that utilise the service the most such as the Operating and Obstetric Units. Collection areas may be located with close access to the Outpatients facilities.

## 31.3 Design

### 31.3.1 *Environmental Considerations*

If radioactive materials are employed, facilities shall be available for long-term storage and disposal of these materials. No special provisions will normally be required for body waste products from most patients receiving low level isotope diagnostic material.

### 31.3.2 *Fixtures & Fittings*

The Operational Policy shall describe the type and location of all special equipment that is to be wired, plumbed, or plugged in, and the utilities required to operate each.

### 31.3.3 *Safety and Security*

Chemical safety provisions including emergency shower, eye-flushing devices, and appropriate storage for flammable liquids shall be made.

## 31.4 Components of the Unit

### 31.4.1 *Introduction*

The Pathology Unit will consist of a combination of Standard Components and Non-Standard Components. Standard Components must comply with details in Standard Components described in these Guidelines. Refer also to Standard Components Room Data Sheets.

### 31.4.2 *Standard Components*

Provide the Standard Components as identified in the Schedule of Accommodation. Provide the Non-Standard Components as identified in this section and in the Schedule of Accommodation, according to the Operational Policy and Functional Brief.



### 31.4.3 *Non-Standard Components*

#### BLOOD STORE

##### Description and function

The Blood Store provides for the secure, temperature controlled storage of blood and other blood products for access by authorised staff only. The Blood Store should be a minimum of six m2.

##### Location and relationships

The Blood Store should be located with ready access to Pathology Unit, Emergency Unit, Operating Unit and Critical Care areas. Consideration shall be given to blood storage location in relation to external after-hours access and security.

##### Considerations

The blood storage refrigerators shall be secured, accessed by authorised staff only, and equipped with temperature monitoring and alarm signals. Alarms and controls should be located to ensure easy staff control. The blood refrigerators / freezers will require an essential power supply.



## 31.5 Schedule of Accommodation

### 31.5.1 Pathology Unit Generic Schedule of Accommodation Schedule of Accommodation for a Pathology Unit for Level 4

#### SPECIMEN COLLECTION

ROOM/ SPACE	Standard Component			Level 4 Qty x m2		Remarks
WAITING	yes			1 x 20		
RECEPTION/CLERICAL	yes			1 x 12		
SPECIMEN COLLECTION BAY				2 x 9		
STORE – PHOTOCOPY/STATIONERY	yes			1 x 8		
STORE – STERILE STOCK	yes			1 x 9		
PATIENT TOILET – ACCESSIBLE	yes			1 x 12		adjacent to specimen collection area
BAY – MOBILE EQUIPMENT	yes			1 x 4		For trolleys
BAY – HANDWASHING TYPE B	yes			1 x 1		

#### LABORATORY AREAS

ROOM/ SPACE	Standard Component			Level 4 Qty x m2		Remarks
SPECIMEN RECEPTION/SORTING/ PREPARATION	yes			1 x 20		Includes storage & dispatch
BLOOD STORE	ye			1 x 2		
PATHOLOGY LABORATORY GENERAL	yes			3 x 25		Haematology, Blood Bank Clinical Chemistry
LABORATORY – MICROBIOLOGY	yes			1 x 25		Separate room; negative pressure
CLEAN-UP/STERILISATION	yes			2 x 12		Sterilisation area may be separate
BAY – EMERGENCY SHOWER	yes			2 x 1		1 in each lab; privacy screened
STORE – FLAMMABLE LIQUIDS	yes			1 x 4		
STORE – EQUIPMENT	yes			1 x 14		
STORE – GENERAL	yes			1 x 9		
CLEANER'S ROOM	yes			1 x 5		
DISPOSAL ROOM	yes			1 x 8		
AFTER HOURS BLOOD STORAGE	yes			1 x 3		Could be located in the Operating Unit



## STAFF AREAS

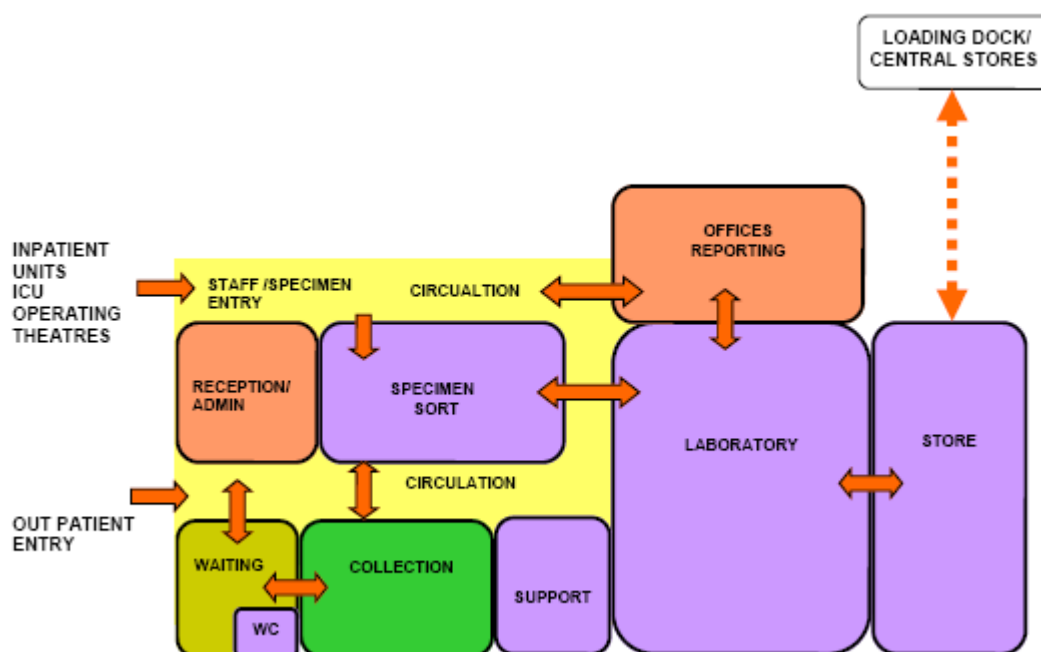
ROOM/ SPACE	Standard Component		Level 4 Qty x m2		Remarks
OFFICE – SINGLE PERSON MANAGER	yes		1 x 12		
OFFICE – 2 PERSON SHARED	yes		1 x 12		For Pathologists; qty will depend on staff establishment
MEETING ROOM, MEDIUM	yes		1 x 15		
ROOM/ SPACE	Standard Component		Level 4 Qty x m2		Remarks
BAY - BEVERAGE	yes		1 x 4		May be located in the meeting room
STAFF PROPERTY	yes		1 x 4		
STAFF SHOWER	yes		2 x 2		
STAFF TOILET	yes		2 x 3		
STAFF ROOM	yes		1 x 30 optional		Includes beverage facilities;
DISCOUNTED CIRCULATION			25%		

Please note the following:

- 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 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 staffing establishment.
- Staff and support rooms may be shared between Functional Planning Units dependant on location and accessibility to each unit and may provide scope to reduce duplication of facilities.

## 31.6 Functional Relationship Diagram

### 31.6.1 Pathology Unit Functional Relationship Diagram



## 31.7 References and Further Reading

- Australasian Health Facility Guidelines. (AusHFG Version 3.0), 2009; refer to website [www.healthfacilitydesign.com.au](http://www.healthfacilitydesign.com.au)
- Guidelines for Design and Construction of Health Care Facilities; The Facility Guidelines Institute, 2010 Edition.
- Design Guidelines for Hospitals and Day Procedure Centres, Department of Human Services Victoria, 2005
- Laboratory Design Guide, 3rd Edition; Brian Griffin, Architectural Press, Elsevier UK, 2005
- Building Type Basics for Research Laboratories, Daniel Watch. New York, NY: John Wiley & Sons, Inc., 2001.
- CRC Handbook of Laboratory Safety, 5th Edition, A. K. Furr. Boca Raton, FL: CRC Press, 2000.



The Indian 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 HFG India standard rooms, departments, and more than 40 report templates.

## HFBS Health Facility Briefing System



### Briefing Module

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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 HFG website, signup for HFBS using the link below.

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