

# Australasian Health Facility Guidelines

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## Part B - Health Facility Briefing and Planning 490 - HOSPITAL MORTUARY / AUTOPSY UNIT

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## INTRODUCTION

### Preamble

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**490.001.000** This Health Planning Unit (HPU) has been developed for use by design teams, project managers and end users to facilitate the process of planning and design.  
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The Hospital Morgue/ Autopsy Unit HPU was originally developed for NSW Health and issued for Australasian use in 2006. This revision has been informed by an extensive consultation process that began in 2012 and was completed in 2013. During this latest revision, the name was changed to Hospital Mortuary/ Autopsy Unit to better reflect the role and function of the service.

### Introduction

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**490.002.000** This HPU outlines the specific requirements for the planning and design of Hospital Mortuaries and Autopsy Units.  
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As this document provides guidance on all levels of facilities, some aspects may not be appropriate to all hospitals. For example, a small hospital is unlikely to have an autopsy room unless it is located in a rural / remote area where it may act as the Coronial Mortuary for a township. The provision of an Autopsy Unit must be therefore be justified and approved by the relevant authorities and in accordance with the agreed service plan for the region.

This document should be read in conjunction with the AusHFG generic requirements and Standard Components described in:

- Part A: Introduction and Instructions for Use;
- Part B: Section 80: General Requirements;
- Part B: Section 90: Standard Components, Room Data and Room Layout Sheets;
- Part C: Design for Access, Mobility, OHS and Security;
- Part D: Infection Prevention and Control; and
- Part E: Building Services and Environmental Design.

**490.002.010** The National Pathology Accreditation Advisory Council (NPAAC) publishes Requirements for the Facilities and Operation of Mortuaries. These requirements, extensively referenced in this HPU, can be found in the publication National Pathology Accreditation Advisory Council, 2013, [Requirements for the Facilities and Operation of Mortuaries \(Third Edition 2011\)](#).  
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### Policy Framework

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**490.003.000** The policies and guidelines below provide a wide range of information on Hospital Mortuary / Autopsy Units and project staff are encouraged to familiarise themselves with the information contained therein. Further jurisdictional specific information is listed in the Further Reading section. Service requirements for health jurisdictions may be further influenced by local policies and procedures.  
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Please note that the Requirements for the Facilities and Operation of Mortuaries document is under revision as at November 2013.

Relevant policies and guidelines include:

- ACHS, 2013, [The Australian Council on Healthcare Standards \(ACHS\)](#);

- Australian Health Ministers' Advisory Council (AHMAC), 2002, [The National Code of Ethical Autopsy Practice](#);
- National Pathology Accreditation Advisory Council, 2013, [Requirements for the Facilities and Operation of Mortuaries \(Third Edition 2011\)](#); and
- WHO Regional Office for the Eastern Mediterranean, 1999, [Ethical Practice in Laboratory Medicine and Forensic Pathology](#).

## Description of the Unit

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### 490.004.000 DESCRIPTION OF HEALTH PLANNING UNIT (HPU)

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#### ***Mortuary***

A facility, one or more rooms or a building, which is used for the storage of bodies, including a refrigerated body storage facility and may include body viewing area, body preparation room and an Autopsy Unit.

#### ***Autopsy Unit***

A facility, attached to a Mortuary, which is used to investigate the cause of death. It comprises an autopsy room, change room and observation area.

Definitions for mortuary and autopsy facilities are provided by National Pathology Accreditation Advisory Council.

The Hospital Mortuary/ Autopsy Unit fulfils three main functions which, so far as possible, should be kept physically separate. These functions are:

- the viewing and/or identification of a body;
- the temporary storage of bodies; and
- investigation into the cause of death (autopsy) if an Autopsy Unit is included.

These functions must be able to be carried out simultaneously in safety and privacy.

Additional Autopsy functions may be provided at large tertiary facilities and include the demonstration of post-mortem findings in cases of clinical interest. In some jurisdictions, additional services may be provided that require specialised facilities (e.g. high-risk autopsies that might be conducted in selected tertiary hospitals rather in centralised statewide facilities).

The function of the Autopsy Unit must be determined (i.e. hospital autopsies only or a coronial autopsy function). In selected regional hospitals, the design of the Autopsy Unit may be required to facilitate both hospital and coronial functions within the same facility.

It will need to be determined whether the Unit will be used to accept and hold bodies pronounced 'dead on arrival' (DOAs) at the hospital.

It is not intended that funeral directors use hospital facilities to prepare a body for interment. However, in remote rural areas where there is no local funeral director and there is an agreement between the funeral director and health service, the occasional use of hospital facilities may be approved where it would save the provider from a lengthy trip (exceeding two hours where the body could deteriorate due to increased temperatures). In such cases, the hospital facilities must comply with the requirements of *Schedule 2 of the Local Government (General) Regulation, 2005*, and the *Public Health (Disposal of Bodies) Regulation, 2012*.

The number of cabinets/ body storage spaces must be justified in the Services Plan. The gross death rate for the health facility, the case mix of patients, population projections (in age groups) and autopsy rates for the next five to 10 years, as well as the level of involvement in coronial autopsies will need to be considered when planning this Unit. As a

general rule, space for four bodies per 100 beds is workable, excluding isolation storage.

For the purposes of this HPU, a nine body hold capacity facility has been adopted, including an Autopsy Unit.

Relevant regulations and guidelines include:

- National Pathology Accreditation Advisory Council, 2013, [Requirements for the Facilities and Operation of Mortuaries \(Third Edition 2011\)](#);
- NSW Government, 2012, [Public Health Regulation 2012 Disposal of Bodies](#); and
- NSW Government, 2013, [Local Government \(General\) Regulation 2005](#).

#### **490.004.005 AUTOPSIES**

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Autopsies can be classified as “Hospital” or “Coronial”.

A Hospital Autopsy, or non-coronial autopsy, is an examination performed with the consent of the deceased's relatives / next-of-kin for the purpose of:

- confirming, investigating and examining the cause of death; providing correlation of clinical diagnosis and clinical symptoms;
- determining the effectiveness of therapy; studying the natural course of disease processes; and
- educating students and clinical staff.

This procedure is controlled by relevant state and territory Acts that control post-mortem (after death) examinations, the use of human tissues for transplantation, and some aspects of deceased bodies being used for scientific, therapeutic and teaching purposes.

A coronial autopsy is an examination performed under the law and ordered by a state or territory Coroner for the purpose of:

- determining the cause, manner or mode (mechanism) and time of death;
- recovering, identifying and preserving evidentiary material;
- providing interpretation and correlation of facts and circumstances relating to the death;
- providing a factual, objective medical report for law enforcement, prosecution and defence authorities; and
- separating death due to disease from death due to external causes.

These deaths are known as ‘reportable deaths’ and becomes a ‘Coroner's Case’.

#### **490.004.015 FAMILY NEEDS**

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Respect for the deceased and their relatives is an essential component of a Hospital Mortuary/ Autopsy service. This will include recognition and respect for cultural and religious customs and practices.

## PLANNING

### Operational Models

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#### 490.005.000 MODEL OF CARE - BODY HOLDING

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##### **MODELS OF SERVICE DELIVERY**

The following information will assist in the consideration of models to be adopted for body storage and extended roles in terms of examination.

##### **Body holding**

There are two options including:

- a walk-in Cool Room for individual trolleys with/ without racking; and
- a bank of refrigerated cabinets.

Where only a few bodies are expected to be stored, a bank of cabinets may be the most viable option. Whichever option is selected, consideration should be given to the:

- security of bodies;
- whole-of-life implications of the two options including capital and operating costs;
- flexibility for expansion in a disaster situation;
- isolation and bariatric needs;
- the implications for body holding should the system fail; and
- expected length of retention of bodies to determine if freezing capacity is required.

In Hospital Mortuaries, cold chambers with positive temperatures (+2/+4°C) are generally used. This cold chamber is used for keeping bodies for a few days or weeks and decomposition continues at a reduced rate.

In selected cases, long-term body storage may be required using specialised cold chambers.

##### **Visual examinations**

Selected health services may not carry out autopsies but still collect selected information for the purposes of documenting injuries and drawing blood samples etc. This examination is external and/or minimally invasive and does not involve examination of cavities as is generally undertaken in an autopsy.

The type of information collected in this examination includes photographs, images and percutaneous needle sampling. This type of examination will not require an Autopsy Unit.

### Operational Policies

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#### 490.006.000 GENERAL

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Operational policies have a major impact on the design requirements and capital and recurrent costs of health facilities and must be established at the earliest stage possible. Refer to Part B Section 80 of these Guidelines for a list of general operational policies that may apply.

The following clauses outline examples of policies that may be specific to a Hospital Mortuary/ Autopsy Unit. Details of the conduct of autopsies are described in detail in this HPU.

Information for this Section has been drawn extensively from:

- AHIA, 2010, [AusHFG Part B: Section 80 General Requirements](#); and
- National Pathology Accreditation Advisory Council, 2013, [Requirements for the Facilities and Operation of Mortuaries \(Third Edition 2011\)](#).

**490.006.005 HOURS OF OPERATION**

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It is assumed that core working hours will be between 8.00am and 5.00pm, Monday to Friday but larger Hospital Mortuaries may have extended hours and/or additional shifts.

The Hospital Mortuary will also be accessible to authorised personnel (such as hospital staff, police and funeral directors) at all other times.

**490.006.005 AUTOPSY CONSENT**

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The process for obtaining agreement from next-of-kin for an autopsy to take place in non-coronial autopsies must be in accordance with current legislation and local policy requirements. Provision for storage of related documentation (e.g. special requests made by family members) will need to be considered.

**490.006.010 BARIATRIC PATIENTS**

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The management of severely obese (bariatric) patients is becoming a major safety concern across all areas of health care facilities including Hospital Mortuaries.

The NSW Health Guideline *Occupational Health Safety Issues Associated with Management of Bariatric (Severely Obese) Patients*, outlines issues that need to be considered when a patient dies (Section 11.2). Considerations include:

- the use of equipment such as lifters, special trolleys, suitably sized body bags that has capacity to include the patients weight and mechanical assistance to move trolleys;
- body storage; and
- practical issues associated with body handling and performing an autopsy. For example, the patients will be higher on the table and may traverse the width of the table and the associated requirements for larger turning circles and doorways.

Full details can be found in Employee Relations, NSW Health, 2005, [Occupational Health & Safety Issues Associated with Management Bariatric \(Severely Obese\) Patients](#).

**490.006.015 BODY RECEPTION AND RELEASE**

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Bodies received into the Hospital Mortuary either from within the health service or from outside will be registered and tagged and recorded electronically, where available, in the Mortuary register. Lockable storage will be required to keep safe the personal effects of the deceased.

Bodies may only be released from the Mortuary in accordance with local policies. Funeral directors will need some means of announcing their arrival, particularly if no Mortuary staff are in attendance. They may also need access to the main hospital entrance to collect death certificates.

Funeral directors should have their access to the Mortuary screened in such a way as to prevent body transfer being seen by the public or hospital patients.

**490.006.020 INFANTS AND CHILDREN**

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In general, infant and child deaths will be handled in the Hospital Mortuary in the same way as adults. Special requirements for infant viewing, such as a bassinet, will be available.



The remains of foetuses under 20 weeks of age may also be held in the body holding area of the Hospital Mortuary. No additional or specialised body holding cabinets will be required.

For information regarding stillbirths, refer to local policies.

**490.006.025 INFECTIOUS BODIES**

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Depending on the known or suspected infectious status of the body, additional precautions may also be required and should be maintained until the body is completed enclosed in a body bag of approved construction for transport.

Where specialised facilities are required for high-risk autopsies, the Autopsy Unit ventilation for microbiological safety and containment should comply with Australian Standards and local requirements.

**490.006.030 INSTRUMENT CLEANING AND PROCESSING**

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Not all reusable instruments used in the Autopsy Unit are required to be “sterile” and an instrument washer/disinfector will be adequate to process these instruments.

Where sterility is required, reusable instruments will be sent to the Sterile Supply Unit in accordance with local protocols.

**490.006.035 ORGAN AND TISSUE RETENTION AND DISPOSAL**

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Disposal of organs and tissue following a hospital autopsy are classified as clinical waste and should be disposed in accordance with the wishes of the next-of-kin and/or hospital policies and relevant statutory guidelines.

The retrieval, retention and disposal of organs and tissues used for diagnosis, research or educational purposes must comply with all Australian Government, jurisdictional and local requirements governing such practices.

Records should be kept of organs and tissues retained for microscopic or other examination after completion of the autopsy. Sufficient storage space with appropriate level of ventilation/extraction systems will be required for storage of formalin-fixed tissues and whole organs.

**490.006.040 PERSONAL PROTECTIVE EQUIPMENT (PPE)**

601566

Before entering the Autopsy Unit all staff should change into protective clothing.

Gowns, waterproof aprons and boots are minimum standards, and the use of surgical scrubs, masks, wrap-around eye protection and heavy duty gloves are also required. Facilities for cleaning and storing reusable clothing, holding personal clothing, storage of clean protective clothing and the disposal of used items will be required.

For further details of PPE requirements, refer to local health jurisdiction policies and National Pathology Accreditation Advisory Council, 2013, [Requirements for the Facilities and Operation of Mortuaries \(Third Edition 2011\)](#).

**490.006.045 VIEWING**

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An appropriately skilled member of staff should be readily available throughout the viewing process to provide assistance or advice, if needed, but should not intrude into the privacy of the family unless they are responding to a request. Body viewing is an essential part of the mourning process. Sufficient space and amenity will be needed to accommodate the cultural and/or religious needs of family groups which in some cases may include large groups.

**490.006.050 ENVIRONMENTAL SERVICES**

601568

Clinical waste must be bagged in clearly labelled in biohazard bags in accordance with local waste management policies. Waste, including used linen, will be held in the Disposal Room.

A linen bay will be available to store clean linen.

The storage and disposal of formalin and other chemicals should be in accordance with health service guidelines and relevant legislation.

Soiled reusable autopsy clothing and other fabrics should be dealt with in accordance with health services linen policy.

Cleaning of the Hospital Mortuary/ Autopsy Unit will be required and is likely to involve both Mortuary staff (technical areas) and environmental services staff (such as shared areas). Cleaning materials and equipment will be stored in a Cleaner's Room.

**490.006.055 STAFFING ASSUMPTIONS**

601569

The operational policy assumptions for staffing made in this Guideline include:

- the management of autopsy facilities will be the responsibility of the health service;
- the Unit itself will usually be under the 'day to day' supervision of a Mortuary attendant; and
- that staff levels will depend upon and be affected by the facilities operational policies, style or specialty of the Unit, performance and number of autopsies.

Any of these factors may affect the type or quantity of accommodation required.

**490.006.060 LEVELS AND STYLES OF STAFFING**

601570

The staff working in or visiting the Mortuary may include:

- part time or full time Mortuary attendant, technicians and scientists;
- pathologist/s and other clinicians;
- porters;
- social workers;
- students;
- environmental services staff;
- ambulance officers;
- funeral directors;
- researchers;
- relatives, for viewing and identification purposes; and
- police officers conducting coronial enquiries.

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**Planning Models**

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**490.007.000 LOCATION**

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The Hospital Mortuary/ Autopsy Unit is an important part of the health service, with particular needs for security and privacy. The adjacencies with other services needs to be carefully considered during planning and design as some co-locations are unsuitable.

It is desirable that the Unit:

- be located in the same building as the main health facility so that there is no need for additional external traffic weather protection and the movement of bodies is discreet;

- not be located too close to any public area of the Hospital to ensure it is not visible to the general public and avoid sounds and odours travelling to inpatient areas; and
- be located at ground level to allow easy and discrete access for ambulances, police and funeral director vehicles to deliver and/or remove bodies via an exit lobby.

## Functional Areas

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### **490.008.000 FUNCTIONAL ZONES**

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The Hospital Mortuary/ Autopsy Unit may be divided into the following functional zones:

- Entry Lobby / Administration / Exit Lobby;
- Body Holding;
- Waiting / Viewing (accessible by the public);
- Autopsy Unit (where provided); and
- Staff Areas.

### **490.008.005 ENTRY LOBBY / ADMINISTRATION / EXIT LOBBY**

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The Entry and Exit Lobbies form part of a single space with direct access to the Body Holding Area. The area should include a hand wash basin and a workstation for body registration and removal details, and parking space for the transport trolley and the hoist / elevating trolley if a bank of cabinets is the storage method of choice.

### **490.008.010 BODY HOLDING ROOM**

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The Body Holding Area provides refrigerated space for the temporary storage of bodies. There should be separate spaces / cabinets allowed for isolation and consideration will need to be given to storage and handling of a bariatric (obese) body. Consideration should also be given for secure storage of coronial cases in hospital facilities.

Space for scales that are calibrated to weigh the bodies on trolleys and reflect the weight of the deceased only will be required. These scales will be located on the floor so the trolleys can be wheeled directly onto them and should have a digital display at eye level.

Cabinet storage for bodies may be stacked vertically to optimise use of space. If this method is used, provision of suitable lifting equipment and consideration of equipment turning circles is required. This method of storage is not appropriate for bariatric bodies.

To assist in providing flexibility for future growth, a mixture of stacked and trolley storage may be provided. As demand increases, trolley storage areas can be converted to stacked storage areas.

Manoeuvring space will be required in front of refrigerated cabinets to insert and withdraw the trays.

### **490.008.015 WAITING / VIEWING**

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A discrete entrance from the main hospital to the Waiting area for relatives, police and others is required. Relatives will need:

- direct access into the Viewing Room; and
- visibility into the adjoining Viewing Room through a window/partition that it revealed when a curtain is drawn.

There should be no access to other sections of the Mortuary/ Autopsy Unit for the public. To achieve this, the viewing room will have dual access with public access via the waiting area and back-of-house from the body transfer area.

An accessible toilet should be available either within or close-by the Unit.

**490.008.020 AUTOPSY UNIT**

601576

The Autopsy Unit will comprise the Autopsy Room, change room, clean-up room, waste holding and observation area (if provided).

Specific details can be found in *Clause 490.021.000 - Non-Standard Components*.

**490.008.030 STAFF AREAS**

601578

Depending on the size of the Unit, staff areas may comprise of an office, workstations, and amenities.

Office space will be required for use by the pathologist, mortuary staff and police for a variety of administrative tasks and for confidential telephone calls.

Facilities for staff refreshments will generally not be provided in the Unit unless it is large enough to justify its own Staff Room.

Toilet/s, shower and change areas will be provided for the Autopsy Unit.

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**Functional Relationships**

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**490.009.000 EXTERNAL**

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Anatomical Pathology laboratories and relevant clinical areas for transportation of laboratory specimens and deceased persons.

**490.009.005 INTERNAL**

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The Waiting Room and Viewing Room are to be collocated.

The Entry Lobby, Exit Lobby and Administrative Area will form part of a single functional area.

The Autopsy Unit will be accessed via the change room and exited via a clean-up room so the transition from clean to dirty areas can be facilitated.

## DESIGN

### Accessibility

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#### **490.010.000**    **EXTERNAL**

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Direct access is required:

- from the Hospital for authorised staff and the delivery of the body;
- for relatives of the deceased from all relevant areas of the hospital to Mortuary waiting / viewing area. This access will be separated from other access.

Other access is required for:

- funeral directors for vehicle parking and discrete, weather protected, facilities for the collection and delivery of bodies;
- ambulances delivering bodies “dead on arrival” if required;
- police vehicles; and
- the Medical Imaging Unit if mobile units are not available.

In addition, a dedicated external access may be considered for:

- the Autopsy Unit via change rooms; and
- the Autopsy/ Viewing Area if provided.

Access for people with disabilities will be required to the Waiting and Viewing Areas.

External way finding will require signage. The strategy should consider the sensitive nature of this service.

#### **490.010.005**    **INTERNAL**

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The Body Holding room will have direct access to/from the:

- hospital corridor for use by Mortuary attendants, transport orderlies etc;
- Autopsy Room;
- Viewing Room; and
- Body Holding to funeral director vehicles and ambulance parking bays.

Access for staff to the Autopsy Unit (e.g. pathologist, attendants and technicians) needs to resemble that of an procedure room with the transition zone between Autopsy Room providing change, toilet and shower facilities, and a strict demarcation area between “clean” and “dirty” working areas. There should be no unauthorised access at any time because of risks of exposure to infection.

### Disaster Planning

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#### **490.012.000**

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Consideration may be given to the use of an “open plan” cool room for body trolleys. This could provide more flexibility for additional bodies in a disaster situation.

Consideration should also be given in the design to the placement of refrigerated containers with three phase power outlets to provide surge capacity (e.g. pandemic planning or natural disasters with multiple fatalities).

For further information refer to:

- AHIA, 2010, [AusHFG Part C: Design for Access, Mobility, OHS and Security, Space Standards and Dimensions](#); and
- AHIA, 2010, [AusHFG Part B: Section 80 General Requirements](#).

## Infection Control

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### 490.013.000 GENERAL

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Post mortem practices will minimise the risk of exposure for healthcare workers. When handling the body of a deceased person, or when undertaking post mortem examinations, standard precautions will be used. Depending on the known or suspected infectious status of the body, additional precautions may also be needed.

All bodies that are removed from the Hospital Mortuary will be secured in an approved body bag that prevents leakage of body exudate or other substance.

Autopsies presenting possible or known high-risk hazards should only be performed in hospitals with the appropriate facilities. This facility is not normally provided in Autopsy Units located in hospitals.

A small wash-down / disposal / booting area between the clean change area and the Autopsy Unit may be provided to prevent the spread of contaminated fluids. Wet floor surfaces will be impervious, easy to clean, sealed with coved edges and have adequate drainage.

It is essential the Unit design contributes to the control of infection by way of:

- separation of clean and dirty flows throughout the unit with clear transition zones;
- a ventilation system for the Autopsy Suite that minimises the spread of airborne pathogens and is isolated from other ventilation systems;
- impervious and easy to clean surfaces and materials;
- availability of suitable PPE and body storage bags;
- monitoring of all body storage facilities to ensure they are operating within normal limits;
- separation of clinical and office areas; and
- provision of suitable waste receptacles to contain waste as per local policies.

The following references are recommended (in particular Sections 4, 5 and 8 of the publication *Requirements for the Facilities and Operation of Mortuaries, 2009*):

- AHIA, 2010, [AusHFG Part D: Infection Prevention and Control](#); and
- National Pathology Accreditation Advisory Council, 2013, [Requirements for the Facilities and Operation of Mortuaries \(Third Edition 2011\)](#).

### 490.013.005 CLEANING

601586

Particular consideration needs to be given to the cleaning of the Autopsy Unit. This area has unique requirements and work areas and floors will be hosed down following an autopsy. In addition, procedures for disinfection and the cleaning of instruments and equipment will be needed.

Layouts, fittings, furnishings, floor coverings and detailing can have a significant impact on the ease of cleaning and maintenance.

Luminaires will need physical cleaning and possible disinfecting to prevent the spread of microbes. The external surfaces of lighting should be smooth and free from apertures and crevices which are difficult to clean.

## Environmental Considerations

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### 490.014.000 GENERAL

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The staff will need to be provided with sufficient space, working surfaces and equipment to safely carry out their duties.

### 490.014.005 ACOUSTICS

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The Hospital Mortuary/ Autopsy Unit environment can create acoustic issues including:

- the separation of the Autopsy Room and the Observation Room makes communication between the pathology staff and students problematic;
- pathologists normally dictate findings during an autopsy and as many “hard” surfaces are used, the environment can interfere with voice clarity and create an echo effect; and
- noise generated through the autopsy should not be heard in the Waiting/Viewing Areas.

### 490.014.010 INTERIOR DECOR

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The interior decor considerations of the Unit will be determined largely by the strict regulations regarding:

- the control of infection; and
- the needs for cooling and ventilation.

The environment will provide a suitable workplace for staff while providing a serene environment for the bereaved.

## Space Standards and Components

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### 490.015.000 HUMAN ENGINEERING

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Human engineering describes those aspects of design that permit effective, appropriate, safe and dignified use by all people, including those with disabilities. It includes occupational ergonomics, which aims to fit the work practices, furniture, fittings and equipment (FF&E) and work environment to the physical and cognitive capabilities of all persons using the building.

As the requirements of occupational health and safety (OHS) and antidiscrimination legislation will apply, this section needs to be read in conjunction with:

- AHIA, 2010, [AusHFG Part C: Design for Access, Mobility, OHS and Security, Space Standards and Dimensions](#); and
- National Pathology Accreditation Advisory Council, 2013, [Requirements for the Facilities and Operation of Mortuaries \(Third Edition 2011\)](#).

### 490.015.005 ERGONOMICS

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Mortuaries should be designed and built in such a way that patients, staff, visitors and maintenance personnel are not exposed to injury. Examples include:

- the layout of rooms, such as the Autopsy Room, ensures that equipment is in easy reach;
- containers for sharps are located to facilitate their disposal at the point of generation; and
- providing equipment to reduce the risk associated with manual handling that may include a ceiling mounted body lifter with capacity to manage bariatric patients.

For more details also refer to AHIA, 2010, [AusHFG Part C: Section 730, Human Engineering](#).

**490.015.010 ACCESS AND MOBILITY**

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Where necessary, design must comply with Standards Australia, 2010, [AS 1428 \(Set\) 2010 Design for access and mobility Set \(SAI Global\)](#).

**490.015.015 BUILDING ELEMENTS**

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Building elements include walls, floors, ceilings, doors, windows and corridors and are addressed in detail in Part C of these Guidelines.

Doorways must be sufficiently wide and high to permit the manoeuvring of trolleys, wheelchairs and equipment without risk of damage or manual handling risks.

The following guidelines address the requirements of most of the relevant building elements:

- AHIA, 2010, [AusHFG Part C: Section 710, Space Standards and Dimensions](#); and
- National Pathology Accreditation Advisory Council, 2011, [Building Design \(section 4\) Requirements for the Facilities and Operation of Mortuaries \(Third Edition\)](#).

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## Safety and Security

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**490.016.000 SAFETY**

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Consider:

- choice of floor covering, using non-slip flooring;
- adequate drainage with appropriately filtered traps;
- protrusions or sharp edges;
- height adjustable equipment (e.g. autopsy tables and workstations);
- work areas of sufficient size to allow staff to work in an uncrowded environment; and
- fittings located well above floor level and/or are waterproof.

**490.016.005 MANUAL HANDLING**

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It is essential that the size and configuration of space and equipment in the Mortuary/ Autopsy Unit allows room for manoeuvring trolleys and safe body handling.

Particular consideration should be given to the increasing proportion of bariatric cases and the need for suitable equipment to manage these bodies.

**490.016.010 STANDARD AND CODES**

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Australian Standards applicable to safety and security are:

- Standards Australia, 2010, [AS/NZS 2243.3: 2010 Safety in laboratories \(SAI GLOBAL\)](#); and
- Standards Australia, 2006, [AS 1940-2004/ Amendment 2-2006 The storage and handling of flammable and combustible liquids](#).

**490.016.015 SECURITY**

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Security issues specific to the Hospital Mortuary/ Autopsy Unit include:

- ensuring there is controlled access to the Unit and to staff only areas such as the Autopsy Unit and body holding. The use of intercoms and CCTV may be required;
- a means of recording which staff has had access to the unit. Access control may be used to control access and also collecting this information;



- safe storage for the belongings of the deceased;
- processes to manage specimens removed during autopsy (for toxicology, microscopy etc);
- a need for fixed and/or mobile duress alarms in interview and body viewing rooms;
- additional security requirements should the Unit be used for coronial cases.
- lockers for staff so they can secure their valuables while working in the Unit; and
- access and egress, particularly how staff arrive at and leave from the Mortuary/ Autopsy Unit at night and after hours.

In some jurisdictions, a dedicated and independent IT connection to off-site servers and resources may be required by Police for confidential data transfer.

#### **490.016.020 BODY IDENTIFICATION**

601597

Bodies to be stored in the Hospital Mortuary should have some form of indelible label securely affixed which records the full name of the deceased and at least one other identifier (date of birth, unit record number). This will enable identification of the deceased with certainty. Secure identification information should also be fixed to the exterior of the body bag or shroud enclosing the deceased.

Body receiving and despatch will be recorded.

### **Finishes**

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#### **490.017.000 CEILING FINISHES**

601598

All ceilings must be washable, impermeable and non-porous. Also refer to AHIA, 2010, [AusHFG Part C: Section 710, Space Standards and Dimensions](#).

#### **490.017.005 FLOOR FINISHES**

601599

Non-slip flooring is essential for all wet areas. An industrial-grade non-slip two part epoxy surface is recommended. This floor surface should be applied in one application creating an unbroken waterproof seal.

The floor surface should be impervious, resistant damage from chemicals and corrosives, be easy to clean, sealed with coving at the edges to the height of benches and have adequate drainage. Floors should have drains with appropriately filtered traps which allow for the entire unit to be hosed down when necessary, and the floor able to withstand copious amounts of water and drain it away quickly.

Carpeting may be used in the Waiting Rooms.

Regarding general and performance requirements of floor finishes refer to AHIA, 2010, [AusHFG Part C: Section 710, Space Standards and Dimensions](#).

#### **490.017.010 WALL PROTECTION**

601600

The wall surfaces in the autopsy and body holding areas should be washable and/or scrubable. Wall protection is recommended as the area is subject to damage from trolleys.

Pressurised water sprays should not be used in the Autopsy Room because of the dangers of aerosol contamination, but as most surfaces are frequently hosed-down it is important that all surfaces are impervious to water and stains. Also refer to AHIA, 2010, [AusHFG Part C: Section 710, Space Standards and Dimensions](#).

## Fixtures, Fittings and Equipment

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**490.018.000** The Room Data and Room Layout Sheets in the AusHFG contain many of the standard rooms as described in the HPU, including details relating to fittings, fixtures and equipment.  
601601

For more detailed information refer to the Room Data Sheets (RDS) and Room Layout Sheets (RLS) and AHIA, 2010, [AusHFG Part C: Section 710, Space Standards and Dimensions](#).

**490.018.005 EQUIPMENT - GENERAL**

601602

All items of equipment will need to be itemised and larger items measured during the design phase to ensure:

- it can be suitably accommodated to provide for its operation and maintenance;
- equipment requiring services such as water and special power are understood and included in project documentation;
- doors are sized to allow passage of equipment;
- heat loads are estimated and catered for; and
- weight loads are estimated and checked structurally.

The autopsy table may be a fixed or mobile unit. Some units use the same storage trolley used in the body hold area others use affixed air extraction table complete with drains, spray hose and air hose. This is an important to understand as the mobile unit needs to slide and lock into the sinks and cutting and examination areas behind the head of the body. Power/air over head end of trolley suspended from the ceiling may be needed to operate essential equipment.

For further information refer to AHIA, 2010, [AusHFG Part C: Design for Access, Mobility, OHS and Security, Space Standards and Dimensions](#).

**490.018.010 LABORATORY FURNITURE**

601603

Where necessary, design must comply with Standards Australia, 2010, [AS/NZS 2982:2010 Laboratory design and construction \(SAI GLOBAL\)](#).

**490.018.015 SAFETY SHOWERS AND EYE WASHES**

601604

Safety shower and eye wash equipment must be readily accessible and should be supplied with potable water.

Eye wash equipment should permit a constant flow of water with hands-free taps available.

For details regarding location and other requirements also refer to Standards Australia, 2010, [AS/NZS 2982:2010 Laboratory design and construction \(SAI GLOBAL\)](#).

## Building Service Requirements

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**490.019.000 GENERAL**

601606

Advice regarding general building requirements can be sourced from:

- AHIA, 2010, [AusHFG Part E: Building Services and Environmental Design](#);
- Department of Health, NSW, 2013, [Technical Series TS11 - Engineering Services and Sustainable Development Guidelines](#); and

- National Pathology Accreditation Advisory Council, 2013, [Requirements for the Facilities and Operation of Mortuaries \(Third Edition 2011\)](#).

**490.019.005 AIR-CONDITIONING, HEATING AND VENTILATION - GENERAL**

601607

The temperature of the Autopsy Room should be maintained to suit the activity, noting that staff will be wearing a significant amount of PPE.

The ventilation system for the Hospital Mortuary/ Autopsy Unit should be designed to minimise the spread of odours and airborne pathogens by being isolated from other ventilation systems.

**490.019.010 AIR-CONDITIONING, HEATING AND VENTILATION - AUTOPSY ROOM**

601608

Ventilation and air conditioning requirements for the Autopsy Room can be complex. Consideration should be given to progressive flow of air from edge of room, over the autopsy team, then over the body and scavenged at low level.

Ventilation should be mechanical and designed so that the flow of aerosols, infectious material and airborne contaminants is controlled. A laminar flow air pattern should be considered.

Filters will only be necessary in special cases.

Exhaust air may never be re-circulated or combined with other ventilation.

Details of requirements should be ascertained via discussion with the client, and by reference to clause 490.6.25 (regarding management of infectious bodies) and:

- AHIA, 2010, [AusHFG Part E: Building Services and Environmental Design](#); and
- Standards Australia, 2010, [AS/NZS 2982:2010 Laboratory design and construction \(SAI GLOBAL\)](#).

**490.019.015 ALARMS**

601609

The operating temperatures of all cooled facilities should be continuously monitored and fitted with alarms which are activated when the temperature moves outside predetermined ranges.

**490.019.020 FIRE SAFETY**

601610

All flammable liquids should be stored in accordance with local policies.

**490.019.025 HYDRAULIC SERVICES**

601611

Backflow prevention or a physical discontinuity to the water supply in the Autopsy Unit should be provided. Suction should be provided to remove body fluids will be required.

**490.019.030 LIGHTING**

601612

Adequate lighting should be available in all areas and will need to be of various types dependent on the task.

Surfaces should be glare-free particularly at the height eye level for those working on dissections.

The main lighting requirements in the Autopsy Room are:

- sufficient shadow-free lighting for the critical examination and dissection of the body;
- sufficient light for the correct manipulation of the instruments;
- characteristics of clinical colour rendering;
- even distribution of luminance throughout the non-working areas;

- walls that do not show reflections particularly at eye-height of staff when working; and
- that all light fittings in the Autopsy Room should be splash and dust proof.

**490.019.035 POWER SUPPLY**

601613

Power supply outlets must be protected from wetting by having protective covers. An emergency back-up system for the power supply should be available for refrigeration, high priority equipment and illumination.

As trolleys require recharging, the trolley bay will need power outlets. These trolleys cannot be stored in refrigerated areas.

**490.019.040 TRADE WASTE**

601614

The trade waste plumbing and drainage system must be designed to meet the requirements of the relevant sewerage authority and health jurisdictions.

Information of the quality of chemicals and body fluids to be used/ discharged must be provided by the client to the hydraulics engineer.

## COMPONENTS OF THE UNIT

### Standard Components

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**490.020.000** Rooms / spaces are defined as “Standard” and “Non Standard” Components.

601615

Standard Components (SC) refer to rooms/spaces that are common to a range of Health Planning Units (e.g. Dirty Utility Room) and for which room data sheets, room layout sheets (drawings) and textual description have been developed. Their availability is indicated by “Yes” in the SC column of the Schedule of Accommodation.

Non-Standard Components are generally very unit-specific and are described in further clauses.

Refer to itemised RDSs and RLSs and to AHIA, 2010, [AusHFG Part B: Section 90, Standard Components](#).

### Non-Standard Components

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**490.021.000** RECEPTION, ENTRY AND EXIT LOBBIES

601616

#### *Description and Function*

Provides an area for the reception of the body on a trolley and an area for removal by funeral directors, police etc. A small administration area will be provided with facilities for recording details of the body and receipt, recording and storage of any valuables that may be left on the body such as wedding rings, or of any personal effects in the case of a death on arrival.

#### *Location and Relationships*

Direct access from the Hospital corridor and from the external area for funeral directors etc.

Direct access into the Body Holding area.

#### *Considerations*

Secure storage for personal effects and valuables, including a system to record deceased and removal of property ideally by a video recording.

Space to park the trolley and manoeuvre it either into the cool room or cabinets.

A hand wash basin will be required. This area needs to be sufficiently wide enough to allow transfer from undertakers trolley to morgue trolley placed alongside. Access to a mobile or ceiling mounted hoist will be needed.

A floor recessed weigh station for weighing bodies on trolleys may be located in the Entry Lobby.

**490.021.010** VIEWING ROOM

601618

#### *Description and Function*

A room where bodies can be viewed by relatives and friends. It should be suitable for all religions and denominations, be simply and tastefully decorated and offer a comforting and non-clinical environment.

The body is placed in this room prior to the arrival of relatives for grieving and identification purposes. Family may enter this room and or view from the Waiting Room.

***Location and Relationships***

Direct access from the adjoining Sub-waiting Area and from the Body Holding Area. As not all family will want to view the body, the Sub-Wait provided an area between the Waiting space and Viewing Room so that separation is achieved.

***Considerations***

Acoustic privacy from Mortuary conversations and traffic.

A generous window that connects the waiting areas and the Viewing Room so that the body can be viewed without having to enter the Viewing Room. A door from the waiting areas will provide direct access to the body for families.

The Viewing Room must be constructed incorporating anti-vandalism measures to reduce damage from distressed relatives. The viewing window should be shatterproof.

The clerical area for recording name, age, sex and clinical area of the deceased is in or directly adjacent to this room so that no body is left untagged at any time.

Direct access to/from Entry and Exit Lobbies and to/from the Viewing Room and Autopsy Room.

There is the option to include video facilities in viewing rooms so that bodies can be viewed via CCTV and identified.

**490.021.015 COOL STORE (BODY HOLDING)**

601619

***Description and Function***

The Cool Store provides refrigerated space for the temporary storage of bodies. There should be separated spaces allowed for isolation and special consideration should be given to the transport and handling of bariatric patients.

Bodies may be awaiting collection by a funeral director, autopsy or identification by police and/or relatives.

Bodies are brought to the body holding room on trolleys from the hospital. The clerical area for recording name, age, sex and clinical area of the deceased is in or directly adjacent to this room so that no body is left unidentified at any time.

At times, valuables such as rings will be left on the body, and for this reason, there should be facilities to record the receipt of valuables at the administration area.

This room will contain storage for bodies such as racking or individual cabinets. In addition, space is provided in front of the body storage zone to provide a space to manoeuvre and transfer bodies into storage

Other activities include:

- temporary storage for Mortuary trolley; and
- permanent storage for lifting trolley.

***Location and Relationships***

Direct access to/from Entry and Exit Lobbies and to/from the Viewing Room.

***Considerations***

Space allowance suitable for the manipulation of the mortuary trolley.

Hand washing facilities located nearby for personnel in or near the selected holding facility.

**490.021.020 OBSERVATION AREA**

601620

***Description and Function***

Visitors to the Unit will primarily be students, medical officers and police in coronial cases. A separate observation area with its own entrance and physical separation from the Autopsy Room will enable procedures to be viewed without placing the audience at risk and without contaminating the autopsy.

***Location and Relationships***

- direct oversight of the Autopsy Room; and
- direct access to a staff toilet (in case of physical reaction to the autopsy).

***Considerations***

An intercommunication system would be fitted for the purposes of communication between the two spaces.

Use of non-reflective glass.

Raised floor to enable maximum view of autopsy examination.

**490.021.030 CLEAN UP ROOM**

601622

***Description and Function***

Functions and activities include:

- cleaning and disinfection of instruments;
- temporary storage of specimens before delivery to the Anatomical Pathology Laboratory;
- temporary storage of waste material and goods and soiled linen;
- secure storage of instruments used for dissection and post-mortem examination of bodies;
- secure storage of chemicals;
- preparation of instrument trolleys;
- assembling of equipment items;
- removal of soiled gowns, boots etc; and
- hand washing.

***Location and Relationships***

Direct access from the Autopsy Room and change rooms

***Considerations***

Soiled articles should be returned to this area. A self-flushing cleaning sink should be provided in addition to a separate hand basin.

Mechanical extract ventilation needed to manage fumes and odours.

A washer / disinfectant to clean instruments.

Refrigeration for specimens that require storage at regulated low temperatures.

Storage of disinfectants and tissue fixative – adequate ventilation required for formalin extraction.

**490.021.040 PROCEDURE ROOM**

960092

***Description and Function***

Selected health services may not conduct autopsies but may still collect selected information for the purposes of documenting injuries and drawing blood samples etc. This examination is external only and includes photographs, images and percutaneous needle sampling. Inclusion of this room is optional and dependent on a demonstrated need.

Functions and activities include:

- washing bodies;
- external examination of bodies;
- storage of equipment and consumables associated with examinations; and
- hand washing.

***Location and Relationships***

Direct access from the Body Holding area.

***Considerations***

Mechanical extract ventilation needed to manage fumes and odours.



## APPENDICES

### Schedule of Accommodation

#### 490.022.000 HOSPITAL MORTUARY UNIT

601623

A Schedule of Accommodation is attached for a Level 4 Unit assuming a nine body hold store. It is likely that all hospital sites will require some level of Hospital Mortuary facilities for body holding and viewing. Capacity will be dependent on anticipated throughput.

A vehicle bay will be provided in an external weatherproof area adjacent to the Mortuary which provides waiting space and parking for funeral directors vehicle and other vehicles which is screened from public view.

#### 490.022.010 ENTRY LOBBY/ ADMINISTRATION/ EXIT LOBBY

960093

Note: Provision of a weather protected parking bay for funeral directors vehicles is required.

Room/Space	SC	Qty x Area m <sup>2</sup>	Remarks
Entry Lobby		1 x 7	May contain weigh station in the case of Units with an Autopsy Suite
Office: Single Person	Yes	1 x 9	Space for administration duties plus lockable cupboard for valuables
Bay: Mortuary Trolley Parking		1 x 3	
Exit Lobby	Yes	1 x 7	

#### 490.022.020 BODY HOLDING

960100

Room / Space	SC	Qty x Area m <sup>2</sup>	Remarks
Cool Store (Body Holding)		1 x 25	Assumes 9 bodies on either racks or individual cabinets (3x3 tiers). Space allocation includes manoeuvring/ loading space.
Bay: Hand Wash Type B	Yes	1	
Bay: Mobile Equipment	Yes	1 x 4	Provides store and recharging bay for lifting equipment used in Cool Store.
Procedure Room		20	Optional and provided when an Autopsy Unit is not required yet there is some requirement to collect clinical information. Referred to as visual examinations.
Bay: PPE	Yes	3	Includes storage for PPE and linen.
Store: General	Yes	9	Consumables
Toilet: Staff	Yes	1 x 3	Unisex; only provided where Autopsy Unit is not collocated as additional amenities provided in this circumstance.
Cleaners Room	Yes	1 x 5	Shared with Autopsy Suite if provided.
Disposal Room		1 x 8	Shared with Autopsy Unit if provided

**490.022.030 WAITING / VIEWING**

960101

Room/Space	SC	Qty x Area m <sup>2</sup>	Remarks
Waiting Area – Entry	Yes	1 x 9	Accommodates up to 5 people
Waiting Area – Sub	Yes	1 x 5	Attached to viewing room
Outdoor Area		1 x 15	Optional and not routinely provided
Viewing Room	Yes	1 x 10	
Toilet: Accessible	Yes	1 x 5	Optional. Not included if an alternate located nearby

**490.022.040 MORTUARY - ONE-ROOM AUTOPSY UNIT**

601624

Autopsy Unit inclusion will be dependent on the service model.

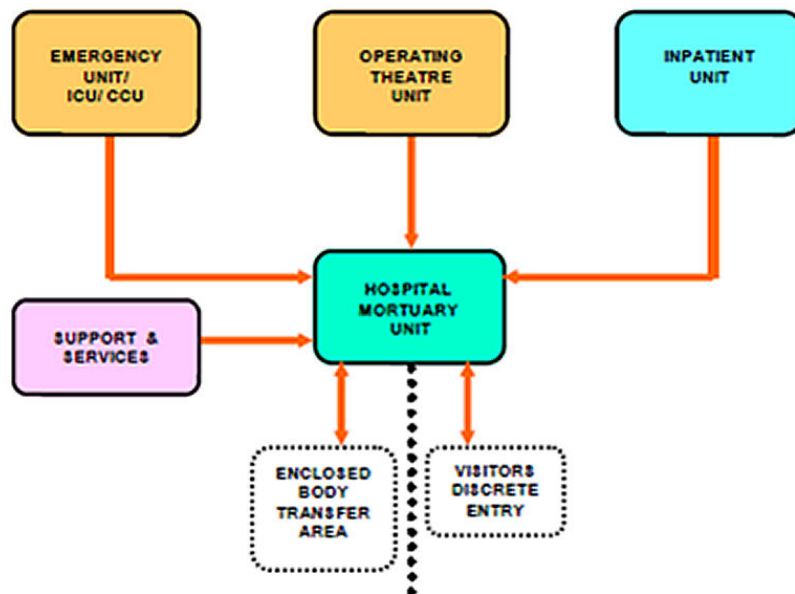
**Notes**

- Type of body storage will influence allocated space.
- Number of autopsy rooms will also determine need for an office, size of change rooms etc.

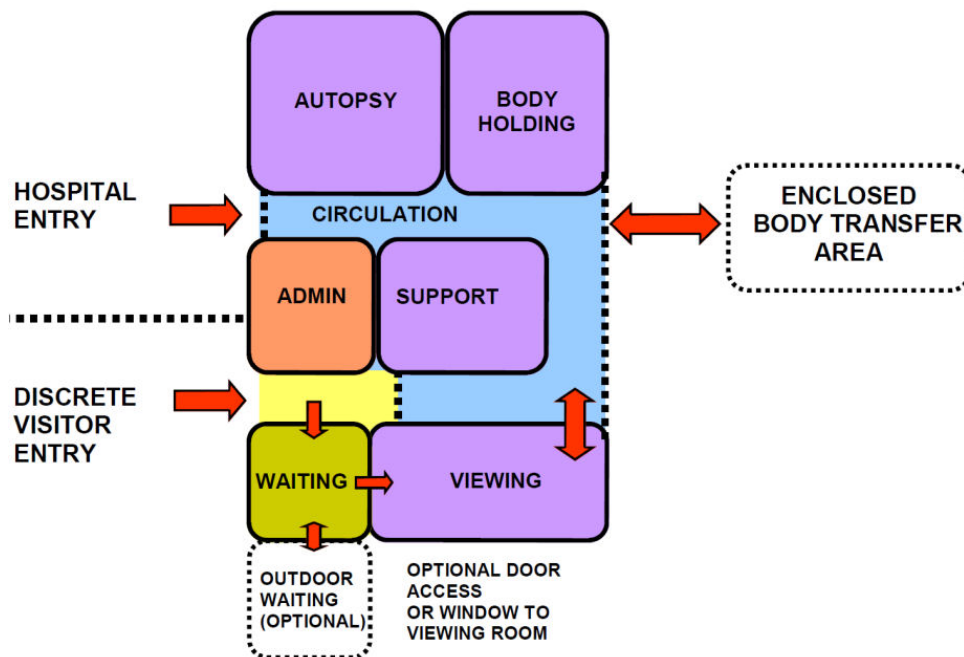
Room/Space	SC	Qty x Area m <sup>2</sup>	Remarks
Autopsy Room		1 x 30	Autopsy bench / trolley, dissection bench, storage for containers
Store: Tissue Samples		1 x 6	Storage of tissue samples etc until they can be disposed of.
Store: Flammable Liquids		1 x 1	Flammable cupboard
Bay: Emergency Shower		1 x 1	
Clean Up Room	Yes	1 x 9	Includes sink, storage and a utensil washer
Observation Area		1 x 10	Seating for 6-7 observers
Change - Staff (Male/ Female)		2 x 8	Male and female (if required) includes property locker (full length lockers and hooks), shower, toilet and bench.

Functional Relationships

490.023.000 EXTERNAL FUNCTIONAL RELATIONSHIPS DIAGRAM  
601626



490.023.010 INTERNAL FUNCTIONAL RELATIONSHIPS DIAGRAM  
960099



## Checklists

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**490.024.000** Refer to the Planning Checklists at the ends of Parts A, B, C and D.  
601627

## Further Reading

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**490.025.000** *New South Wales:*

601628

- NSW Government: Public Health Act 2010;
- NSW Health PD 2012\_Environmental Cleaning Policy, November 2012;
- NSW Health: Deceased Persons In Health Facility Mortuaries; Management of Health Facility Mortuaries; PD2007\_017, February 2007;
- NSW Health: PD2007\_025 Stillbirth – Management and Investigation, April 2007;
- NSW Health: Human Tissue - Use / Retention Including Organ Donation, Post-Mortem Examination and Coronial Mat (sic), PD2005\_341, 27, January 2005;
- NSW Health PD2005\_224 Manual Handling Incidents - NSW Public Health Services - Policy/Best Practice Guidelines Prevention, 27 January, 2005;
- NSW Health: Bodies - Retention for Longer than Permitted in Public Health (Disposal of Bodies) Regulation 2002;
- NSW Health PD2005\_132 - Waste Management Guidelines for Health Care Facilities, August 1998; and
- Workcover NSW: Storage and Handling of Dangerous Goods, No 1354, 2005.

### *Queensland:*

- Queensland Government: Coroners Act 2003;
- Queensland Government: Land Regulation 1995 Schedule 11;
- Queensland Government: Cremations Act 2003;
- Queensland Government: Public Health Act 2005;
- Queensland Government: Transplantation and Anatomy Act 1979;
- Queensland Government: Transplantation and Anatomy Regulations 2004;
- Queensland Government: Environmental Protection (Waste Management): Regulation 2000 & Policy 2000;
- Queensland Health: Queensland Maternity and Neonatal Clinical Guidelines Program: Stillbirth Care, 2011;
- Queensland Health: Occupational Health and Safety Policy (Manual Handling Tasks) QH-IMP-275-5:2012; and
- Queensland Health: Occupational Health and Safety Policy (Security Risk Management and Asset Protection) QH-IMP-275-9:2012.

### *Western Australia*

- WA Health: Human Tissue and Transplant Act 1982 (WA), December 1982;
- WA Health: Non-Coronial Post-Mortem Examinations Code of Practice 2007, September 2007; and
- WA Government: Coroners Act 1996 (WA).

## References

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**490.025.015** The following references are cited in this document:

960118

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- National Pathology Accreditation Advisory Council, 2013, [Requirements for the Facilities and Operation of Mortuaries \(Third Edition 2011\)](#), Australian Government Department of Health and Ageing, Canberra.
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- Standards Australia, 2010, [AS 1428 \(Set\) 2010 Design for access and mobility Set \(SAI Global\)](#), Standards Australia, Sydney, NSW.
- Standards Australia, 2010, [AS/NZS 2243.3: 2010 Safety in laboratories \(SAI GLOBAL\)](#), Standards Australia, Sydney, NSW.
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- Standards Australia, 2010, [AS/NZS 2982:2010 Laboratory design and construction \(SAI GLOBAL\)](#), Standards Australia, Sydney, NSW.
- WHO Regional Office for the Eastern Mediterranean, 1999, [Ethical Practice in Laboratory Medicine and Forensic Pathology](#), World Health Organisation, Alexandria, Egypt.