Australian Medical Council Graduate Outcome Statements

Domain 1: Science and Scholarship: the medical graduate as scientist and scholar

On entry to professional practice, Australian and New Zealand graduates are able to:

1.1 Demonstrate an understanding of established and evolving biological, clinical, epidemiological, social, and behavioural sciences.
1.2 Apply core medical and scientific knowledge to individual patients, populations and health systems.
1.3 Describe the aetiology, pathology, clinical features, natural history and prognosis of common and important presentations at all stages of life.
1.4 Access, critically appraise, interpret and apply evidence from the medical and scientific literature.
1.5 Apply knowledge of common scientific methods to formulate relevant research questions and select applicable study designs.
1.6 Demonstrate a commitment to excellence, evidence based practice and the generation of new scientific knowledge.

Domain 2: Clinical Practice: the medical graduate as practitioner

On entry to professional practice, Australian and New Zealand graduates are able to:

2.1 Demonstrate by listening, sharing and responding, the ability to communicate clearly, sensitively and effectively with patients, their family/carers, doctors and other health professionals.
2.2 Elicit an accurate, organised and problem-focussed medical history, including family and social occupational and lifestyle features, from the patient, and other sources.
2.3 Perform a full and accurate physical examination, including a mental state examination, or a problem-focused examination as indicated.
2.4 Integrate and interpret findings from the history and examination, to arrive at an initial assessment including a relevant differential diagnosis. Discriminate between possible differential diagnoses, justify the decisions taken and describe the processes for evaluating these.
2.5 Select and justify common investigations, with regard to the pathological basis of disease, utility, safety and cost effectiveness, and interpret their results.
2.6 Select and perform safely a range of common procedural skills.
2.7 Make clinical judgements and decisions based on the available evidence. Identify and justify relevant management options alone or in conjunction with colleagues, according to level of training and experience.
2.8 Elicit patients' questions and their views, concerns and preferences, promote rapport, and ensure patients' full understanding of their problem(s). Involve patients in decision making and planning their treatment, including communicating risk and benefits of management options.
2.9 Provide information to patients, and family/carers where relevant, to enable them to make a fully informed choice among various diagnostic, therapeutic and management options.
2.10 Integrate prevention, early detection, health maintenance and chronic condition management where relevant into clinical practice.
2.11 Prescribe medications safely, effectively and economically using objective evidence. Safely administer other therapeutic agents including fluid, electrolytes, blood products and selected inhalational agents.

2.12 Recognise and assess deteriorating and critically unwell patients who require immediate care. Perform common emergency and life support procedures, including caring for the unconscious patient and performing CPR.

2.13 Describe the principles of care for patients at the end of their lives, avoiding unnecessary investigations or treatment, and ensuring physical comfort including pain relief, psychosocial support and other components of palliative care.

2.14 Place the needs and safety of patients at the centre of the care process. Demonstrate safety skills including infection control, graded assertiveness, adverse event reporting and effective clinical handover.

2.15 Retrieve, interpret and record information effectively in clinical data systems (both paper and electronic).

Domain 3: Health and Society: the medical graduate as a health advocate

On entry to professional practice, Australian and New Zealand graduates are able to:

3.1 Accept responsibility to protect and advance the health and wellbeing of individuals, communities and populations.

3.2 Explain factors that contribute to the health, illness, disease and success of treatment of populations, including issues relating to health inequities and inequalities, diversity of cultural, spiritual and community values, and socio-economic and physical environment factors.

3.3 Communicate effectively in wider roles including health advocacy, teaching, assessing and appraising.

3.4 Understand and describe the factors that contribute to the health and wellbeing of Aboriginal and Torres Strait Islander peoples and/or Māori, including history, spirituality and relationship to land, diversity of cultures and communities, epidemiology, social and political determinants of health and health experiences. Demonstrate effective and culturally competent communication and care for Aboriginal and Torres Strait Islander peoples and/or Māori.

3.5 Explain and evaluate common population health screening and prevention approaches, including the use of technology for surveillance and monitoring of the health status of populations. Explain environmental and lifestyle health risks and advocate for healthy lifestyle choices.

3.6 Describe a systems approach to improving the quality and safety of health care.

3.7 Understand and describe the roles and relationships between health agencies and services, and explain the principles of efficient and equitable allocation of finite resources, to meet individual, community and national health needs.

3.8 Describe the attributes of the national systems of health care including those that pertain to the health care of Aboriginal and Torres Strait Islander peoples and/or Maori.

3.9 Demonstrate an understanding of global health issues and determinants of health and disease including their relevance to health care delivery in Australia and New Zealand and the broader Western Pacific region.

Domain 4: Professionalism and Leadership: the medical graduate as a professional and leader

On entry to professional practice, Australian and New Zealand graduates are able to:

4.1 Provide care to all patients according to “Good Medical Practice: A Code of Conduct for Doctors in Australia” and “Good Medical Practice: A Guide for Doctors” in New Zealand.

4.2 Demonstrate professional values including commitment to high quality clinical standards, compassion, empathy and respect for all patients. Demonstrate the qualities of integrity, honesty, leadership and partnership to patients, the profession and society.

4.3 Describe the principles and practice of professionalism and leadership in health care.

4.4 Explain the main principles of ethical practice and apply these to learning scenarios in clinical practice. Communicate effectively about ethical issues with patients, family and other health care professionals.

4.5 Demonstrate awareness of factors that affect doctors' health and wellbeing, including fatigue, stress management and infection control, to mitigate health risks of professional practice. Recognise their own health needs, when to consult and follow advice of a health professional and identify risks posed to patients by their own health.

4.6 Identify the boundaries that define professional and therapeutic relationships and demonstrate respect for these in clinical practice.

4.7 Demonstrate awareness of and explain the options available when personal values or beliefs may influence patient care, including the obligation to refer to another practitioner.

4.8 Describe and respect the roles and expertise of other health care professionals, and demonstrate ability to learn and work effectively as a member of an inter-professional team or other professional group.

4.9 Self-evaluate their own professional practice; demonstrate lifelong learning behaviours and fundamental skills in educating colleagues. Recognise the limits of their own expertise and involve other professionals as needed to contribute to patient care.

4.10 Describe and apply the fundamental legal responsibilities of health professionals especially those relating to ability to complete relevant certificates and documents, informed consent, duty of care to patients and colleagues, privacy, confidentiality, mandatory reporting and notification. Demonstrate awareness of financial and other conflicts of interest.

Flinders University MD Curriculum (effective 17/01/2019)

On entry to professional practice, Australian and New Zealand graduates are able to:

Anaesthesia	Haematology	Paediatrics
Anatomy and Histology	Immunology	Pathology
Biochemistry and Metabolism	Indigenous and Culture	Pharmacology
Cardiology and Vascular	Infectious Diseases and Microbiology	Physiology
Dermatology	Musculoskeletal	Psychiatry
Ears, Nose and Throat (ENT)	Neurology	Public Health
Emergency	Obstetrics	Radiology
Endocrinology	Occupational Medicine	Rehabilitation
Gastrointestinal	Oncology	Renal/ Urology
General Medicine	Orthopaedics	Reproductive and Sexual Medicine
General Practice	Ophthalmology	Respiratory
Genetics		Rheumatology
Geriatrics		Rural and Remote
Gynaecology		Surgery

Core Skills	Research	Social/Legal/Ethical

ANAESTHESIA

1.1 Biological, clinical, epidemiological, social, and behavioural sciences 1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	**Physiology and Anatomy** • Anatomy of the airway • Control of ventilation and gas exchange • Fluid balance • Acid base balance **Pathophysiology** • The pharmacology of general and local anaesthetics, muscle relaxants and analgesics **Common and Important Presentations** • Able to describe the major differences between general anaesthesia, spinal anaesthesia, epidural anaesthesia, local infiltration and regional or nerve block • Understand operating theatre procedures (from preoperative workup through to postoperative problems) • Identify risk factors for adverse outcomes in anaesthesia and surgery and their ASA classification **Common and Important Conditions** • Preoperative fasting and appropriate regimens • Give examples of methods of anaesthesia that are suitable for common operations • Understand the effect of common co-existing diseases on anaesthesia and surgery including obesity, diabetes, asthma, ischaemic heart disease, rheumatoid disease, epilepsy • Understanding of risks of potential anaesthetic complications including aspiration, deep vein thromboses, and pressure injuries • Pre-op assessment and preparation, and assessment and mitigation of risks • Expected and complicated postoperative course of events • Transfusion of blood products
2.2 Medical history taking	• Undertake an appropriate history in a patient undergoing anaesthesia • Understand the important elements of anaesthetic history taking
2.3 Physical examination	• Undertake an appropriate physical examination in a patient undergoing anaesthesia including airway assessment, patient positioning, neck stability/movement • Describes the basis for clinical signs and the relevance of positive and negative physical signs
2.4 Differential diagnosis	• The differential diagnosis of airway obstruction • The differential diagnosis of shock
2.5 Common investigations	• Understand the indications for investigations in a patient undergoing anaesthesia
2.6 Common procedures	• Recognise an obstructed airway and secure and maintain a clear airway using basic life support (BLS) measures and Guedel airway • Recognise inadequate breathing and effectively artificially ventilate an unconscious patient using a self-inflating resuscitator (e.g. Laerdal bag) • Insert a laryngeal mask airway (LMA) for artificial ventilation • Understand the indications and steps in endotracheal intubation

	• Establish a peripheral intravenous infusion in a safe manner including disposal of the needle • Understand the procedures of safe central venous and arterial line insertion • Collect a blood sample for "cross-matching", including labelling of patient and sample and safe handling and disposal of the needle • Observe consent for anaesthesia
2.7 Management options	• Recognise bradycardia, asystole, ventricular fibrillation and broad and narrow-complex tachycardias and be able to follow the appropriate advanced cardiac life support protocols or Australian Resuscitation Council (ARC) guidelines. Able to assemble a "MINIject" system to administer adrenaline, atropine, etc, and to use any defibrillator safely and effectively • Assess and manage acute pain after major and ambulatory surgery, including administration of opioids by intravenous, subcutaneous and intramuscular injection and intravenous patient-controlled analgesia (PCA) • Able to outline to patients the major differences between general anaesthesia, spinal anaesthesia, epidural anaesthesia, local infiltration and regional or nerve block • Understand local anaesthesia, sedation • Manage the recovery of patients from general anaesthesia • Understand the types of monitoring and the appropriate frequency of observations required for patients having undergone different types of surgery • Effectively use equipment commonly found on wards for bedside diagnosis and treatment, including pulse oximeters, NIBP, oral and aural temperature, infusion pumps • Identify and manage serious complications seen after anaesthesia and surgery, including unrelieved pain, opioid-induced respiratory depression or sedation, hypotension, oliguria, confusion or delirium, nausea or vomiting (PONV), and breathlessness • Explain to patients what is needed in preparation for anaesthesia including fasting and which medications for co-existing illnesses should be continued or 'held' • The management of fluid and electrolytes during and after surgery • Management of common co-existing diseases, in particular the perioperative plan for the patient with diabetes
2.11 Prescribe	• Able to safely prescribe analgesic medications after surgery • Describe the indications and complications of different analgesics • Prescribe and administer oxygen effectively in common emergency and postoperative situations • Indications for prescription of anxiolytic/sedative pre-medication • Prescribe appropriate agents to reduce the risk of regurgitation and aspiration
2.12 Recognise critically unwell patients and perform CPR	• Demonstrates the ability to recognise and respond early a deteriorating situation by careful monitoring, in particular the recognition of an obstructed airway, impaired conscious level and life-threatening cardiac rhythms • Understand the use of critical care and its commonly used monitoring, investigations and treatments
2.14 Place the needs and safety of patients at the centre of care	• Understand the potential complications of surgery and anaesthesia. • Aware of operating safety checklists.

2.15 Retrieve, interpret and record information in clinical data systems	• Understanding of observations during surgery and anaesthesia
	• Interprets clinical laboratory data including:
	  ○ Haematology such as report of Hb, WBC, haematocrit etc.
	  ○ Biochemistry such as ABG, urea and electrolytes, LFTS, BGL, TFTs

3.7 Relationship between health agencies and equitable allocation of resources.	• Awareness of availability of anaesthesia and surgery globally
4.4 Principles of ethical practice	• The principles of consent to care, assessment of capacity, and the medical, surgical, ethical, and social considerations • Appreciation of risk in patients undergoing surgery and anaesthesia • Appreciation of the ethical and legal issues with regards to not-for-resuscitation
4.8 Roles and expertise of other health care professionals	• The importance of multi-disciplinary team in management of patients undergoing surgery and anaesthesia

ANATOMY & HISTOLOGY

1.Science & Scholarship	AN UNDERSTANDING OF ANATOMICAL TERMS Able to define and demonstrate the following basic terms relative to the anatomical terms: • medial, median, lateral, proximal, distal, superior, inferior, deep, superficial, palmar, plantar, anterior/ventral, posterior/dorsal, cephalic/cranial, rostral, caudal, and • anatomical planes-axial/transverse/horizontal, sagittal and coronal Define and demonstrate the basic terms used to describe movement: • flexion, extension, lateral flexion, pronation, supination, abduction, adduction • (radial/ulnar/deviation), medial/internal and lateral/external rotation, inversion, • eversion, plantar flexion, dorsiflexion, protraction, retraction and circumduction Able to describe the key anatomical differences between a neonate, child and adult HEAD AND NECK • Able to demonstrate the position of the palpable and imaging landmarks of the major bones of the skull, including the frontal, parietal, temporal, occipital, maxilla, mandible, nasal, sphenoid, zygoma and ethmoid bones. • Demonstrate the palpable position of the hyoid bone, thyroid and cricoid cartilages, lateral mass of the atlas and the spine of C7. Demonstrate the major sutural joints of the skull and describe the fontanelles of the fetal skull. • Describe the boundaries, walls and floors of the cranial fossae. • Describe the relationships between the structures of the brain and the anterior, middle and posterior cranial fossae. • Identify the major foramina of the skull, both internally and externally, and the structure(s) that each transmits. • Describe the arrangement of the pia, arachnoid and dura mater within the cranial cavity and in relation to the brain. • Demonstrate the origin, course and major branches of the common, internal and external carotid arteries and locate the carotid pulse • Explain the entrance of cerebral veins into the superior sagittal sinus in relation to subdural haemorrhage. • Explain how connections between sinuses and extracranial veins may permit intracranial infection. • Describe the anatomy of the individual layers of the scalp. • Describe the significance of its blood supply, particularly in relation to laceration injuries. • Describe the main muscles of the face and summarise their nerve supply and the consequences of injury to their nerve supply. • Describe the anatomy of the eyelid, conjunctiva and lacrimal gland. • Explain their importance for the maintenance of corneal integrity. • Describe the boundaries of the orbit, the globe of the eye and the location, actions and nerve supply of the intrinsic and extraocular muscles. • Explain the consequences of injury to the eyes, their nerve supply and the orbits. • Describe the bones of the nasal cavity, in particular the major features of the lateral wall of the nasal cavity. • Describe the arteries that supply the lateral wall and nasal septum in relation to epistaxis. • Name the paranasal sinuses.

	• Describe their relationship to the nasal cavity and their sites of drainage through its lateral wall. • Explain their innervation in relation to referred pain. • Describe the intracranial and intrapetrous course of the facial nerve and the relationships of its major branches to the middle ear in relation to damage of the nerve within the facial canal. • Summarise the muscles of facial expression supplied by each branch and describe the consequences of injury to each branch. • Describe the anatomy of the temporomandibular joint. • Explain the movements that occur during mastication and describe the muscles involved and their innervation. • Describe the course and major branches of the maxillary artery, including the course and intracranial relations of the middle meningeal artery and its significance in extradural haemorrhage. • Describe the anatomy of the sensory and motor components of the trigeminal nerve, including how their integrity is tested clinically. • Describe the functional anatomy of the auricle, external auditory meatus, tympanic membrane, auditory ossicles and pharyngotympanic tube. • Describe the anatomy of the parotid, submandibular and sublingual salivary glands, the course of their and sublingual salivary glands, the course of their ducts into the oral cavity and their autonomic secretory innervation. • Describe the anatomy of teeth during childhood and adulthood, their innervation and blood supply. • Describe the boundaries and major features of the oral cavity and summarise its sensory innervation. • Describe the anatomy of the tongue, including its motor and sensory innervation and the role of its extrinsic and intrinsic muscles. Explain the deviation of the tongue on protrusion following hypoglossal nerve injury. • Describe the anatomical arrangement of the lymphoid tissue in the pharyngeal and posterior nasal walls. • Describe the anatomy, function and innervation of the muscles of the pharynx and soft palate. Describe the components of the gag reflex and how they are tested. • Describe the stages of swallowing and the functions of the muscles of the jaw, cheek, lips, tongue, soft palate, pharynx, larynx and oesophagus, during swallowing. • Demonstrate the boundaries of the anterior and posterior triangles of the neck defined by the sternum, clavicle, mandible, mastoid process, trapezius, sternocleidomastoid and the midline. • In the posterior triangle, demonstrate the position of the spinal accessory nerve, the roots and trunks of the brachial plexus, the phrenic nerve, the external jugular vein and subclavian vessels in relation to the penetrating neck trauma. • In the anterior triangle, demonstrate the position of the common, internal and external carotid arteries, the internal jugular vein and vagus nerve, the trachea, thyroid cartilage, larynx, thyroid and parathyroid glands. Explain their clinical significance in relation to carotid insufficiency, central venous line insertion and emergency airway management. • Describe the hyoid bone and cartilages of the larynx. Explain how these are linked together by the intrinsic and extrinsic laryngeal membranes. • Describe the intrinsic and extrinsic laryngeal muscles trolling vocal cord position and tension. Explain how these muscles function during phonation, laryngeal closure, cough/ sneeze reflexes and regulation of intrathoracic pressure. • Describe the origin, course and functions of the motor and sensory nerve supply of the larynx and the functional consequences of their injury. • Describe the stages of swallowing and the functions of the muscles of the jaw, cheek, lips, tongue, soft palate, pharynx, larynx and oesophagus during swallowing.

	• Describe the position and anatomy of the thyroid and parathyroid glands, their blood supply and the significance of the courses of the laryngeal nerves. Demonstrate the origin, course and major branches of the common, internal and external carotid arteries and locate the carotid pulse. • Describe the courses of the accessory, vagus and phrenic nerves in the neck. • Describe the anatomy of the major structures passing between the neck, and the thorax and the upper limb. Describe the courses and important relationships of the subclavian arteries and veins. • Describe the anatomy of the motor and sensory nerves to the head and neck and apply this knowledge to a neurological assessment of the cranial and upper cervical spinal nerves. • Describe the sympathetic innervation of the head and neck including the features and main causes of Horner's syndrome. • Demonstrate the positions of the external and internal jugular veins and the surface landmarks that are used when inserting a central venous line. • Describe the anatomy of the major groups of lymph nodes in the head and neck and the potential routes for the spread of infection and malignant disease. VERTEBRAL COLUMN • Demonstrate the ability to recognise the characteristic features of the vertebral column, including the curvatures of the spine, its bony structures, muscles and innervation. • Sufficient knowledge to be able to perform an examination of the back, understand pathologies, for example, back pain and whiplash injuries and procedures such as lumbar puncture. • Describe the main anatomical features of typical and atypical vertebrae. Identify the atlas, axis, other cervical, thoracic, lumbar, sacral, and coccygeal vertebrae and recognise their characteristic features. • Describe the anatomy of intervertebral joints. • Explain the role of intervertebral discs in weight-bearing, give examples of common disc lesions and how they may compress adjacent neurological structures. • Describe the regions and functions of the vertebral column. Describe the range of movement of the entire vertebral column and its individual regions. • Explain the anatomical bases of common spinal injuries. • Identify the principal muscles, ligaments and surface features of the vertebral column in order to be able to perform an examination of the back. Discuss their functional roles in stability and movement of the vertebral column. • Describe the anatomical relationships of the meninges to the spinal cord and dorsal and ventral nerve roots, particularly in relation to root compression and the placement of epidural and spinal injections. Describe the anatomy relevant to performing a lumbar puncture. • Describe the anatomy of a typical spinal nerve, including its origin from dorsal and ventral spinal roots, its main motor and cutaneous branches and any autonomic component. • Able to interpret relevant clinical images of the vertebral column. THORAX • Able to appreciate the surface landmarks and bony arrangement of the thoracic cavity, the clavicle, sternum and ribs. • Able to identify and describe the contents of the superior, anterior, middle and posterior parts of the mediastinum, the anatomy of the respiratory and cardiovascular system in the thorax (heart, lungs and great vessels) and the structure of the diaphragm.

	Should be able to describe the anatomy of the breasts, and the arterial supply venous and lymphatic drainage and innervation of the thoracic organs and walls of the thoracic cavity. • Describe the anatomy of the joints between the ribs, vertebrae, costal cartilages and sternum their contribution to ventilation. • Describe the anatomy of the intercostal muscles. • Describe an intercostal neurovascular bundle. • Describe the attachments and relations of the diaphragm, the movements of the diaphragm, its motor and sensory innervation, pleural and peritoneal coverings. • Explain the movements involved in ventilation and describe the muscles responsible. • Describe the boundaries of the thoracic inlet and outlet and the structures that pass through them. • Describe the arrangement and contents of the superior, anterior, middle and posterior parts of the mediastinum. Summarise the anatomy of the bronchial tree and bronchopulmonary segments and explain their functional and clinical significance. • Describe the blood supply, innervation and venous and lymphatic drainage of the lungs. • Describe the structures in the hilum of the lung and their relationships to each other and to the mediastinum. • Demonstrate the surface markings of the heart, great vessels, pleura and lobes and fissures of the lungs. Demonstrate the arrangement of the fibrous and serous layers of the pericardium and relate it to conditions such as cardiac tamponade and pericarditis. • Describe the origin, course and main branches of the coronary arteries and the functional consequences of their obstruction in conditions such as ischaemic heart disease. • Identify the major anatomical features of each chamber of the heart and their functional significance. • Describe the structure and position of the cardiac valves and their function in the cardiac cycle. • Describe the anatomical spread of electrical excitation through the chambers of the heart. • Demonstrate the surface markings of the heart and the position and site of auscultation of its four valves. • Describe the course of the ascending aorta, the arch of the aorta and the descending thoracic aorta their major branches and the structures they supply. • Describe the origins, courses and relationships of the brachiocephalic veins, inferior and superior venae cavae and the azygos venous system. • Describe the origin, course and distribution of the vagus and phrenic nerves. • Describe the distribution and function of the sympathetic chains and thoracic splanchnic nerves. • Describe the course, major relations and neurovascular supply of the oesophagus within the thorax. • Describe the course and major relations of the thoracic duct. Explain the lymph drainage within the thorax and its clinical significance. • Describe the anatomy of the breast including its neurovascular supply. Explain the lymphatic drainage of the breast and its clinical relevance to metastatic spread. UPPER LIMB • Able to identify and describe the innervation, arterial supply, venous and lymphatic drainage of the upper limb. • Demonstrate a working knowledge of surface anatomy (including the site of major pulse points dermatomes and peripheral nerve distribution. • Describe the main anatomical landmarks of the clavicle, scapula, humerus, radius and ulna. Identify the bones of the wrist and hand and their relative positions, identify those bones that are commonly injured, for example, scaphoid.

	• Describe the neurovascular structures lying in close relation to the bones and joints of the upper limb which are at risk of injury following fracture or dislocation. Predict what the functional effects of such injury might be. • Describe the origin, course and distribution of the major arteries and their branches that supply the shoulder, arm, forearm and hand in relation to common sites of injury. • Demonstrate the sites at which pulses of the brachial, radial and ulnar arteries may be located. • Describe the course of the main veins of the upper limb and contrast the functions of the deep and superficial veins. Identify the common sites of venous access and describe their key anatomical relations. • Describe the anatomy of the brachial plexus from its origin in the neck to its terminal branches. • Recognise brachial plexus injuries and explain their clinical presentation. • Describe the origin, course and function of the axillary, radial, musculocutaneous, median and ulnar nerves in the upper limb. • Name the major muscles and muscle groups that the axillary, radial, musculocutaneous, median and ulnar nerves supply, together with their sensory distribution. Predict the consequences of injury to these nerves and describe how to test their functional integrity. • Describe the anatomy of the pectoral girdle, explain the movements of the pectoral girdle; identify the muscles and joints responsible for these movements. Name the main attachments and nerve supply of these muscles. • Describe the factors that contribute to the movement and stability of the gleno-humeral joint and explain the functional and clinical consequences of its dislocation. • Describe the boundaries and contents of the axilla, including the major vessels and relevant parts of the brachial plexus. • Describe the anatomy of the axillary lymph nodes and explain their importance in the lymphatic drainage of the breast and skin of the trunk and upper limb and in the spread of tumours. • Describe the anatomy of the elbow joint. Demonstrate the movements of flexion and extension. Identify the muscles responsible for these movements. Name the main attachments and nerve supply of these muscles. • Describe the anatomy of the radio-ulnar joints. Explain the movements of supination and pronation; identify the muscles responsible for these movements, name the main attachments and describe the nerve supply of these muscles. • Describe the anatomy of the wrist. Describe and demonstrate movements at the wrist joints and name and identify the muscle groups responsible for the movements. Describe the relative positions of the tendons, vessels and nerves in the region of the wrist in relation to injuries. • Name and demonstrate the movements of the fingers and thumb. Describe the position, function and nerve supply of the muscles and tendons involved in these movements, differentiating between those in the forearm and those intrinsic to the hand. • Describe the main types of grip (power, precision and hook) and the role of the muscles and nerves involved in executing them. • Describe the position and function of the retinacula of the wrist and the tendon sheaths of the wrist and hand in order to explain carpal tunnel syndrome and the spread of infection in tendon sheaths. • Describe the anatomical basis of assessment of: cutaneous sensation in the dermatomes of the upper limb, motor function, tendon reflexes, and muscle power in the upper limb. • Describe the fascial compartments enclosing the major muscle groups of the upper limb; explain the functional and clinical importance of those compartments and their contents. ABDOMEN • Understand the function and musculature of the abdominal walls and the structure of the inguinal canal. • Able to explain the three-dimensional arrangement of the viscera within the abdominal and the pelvic cavities.

	• Able to understand the arrangement of the peritoneum, the greater and lesser sacs and the mesenteries. • Familiar with the anatomy of the gastrointestinal tract (stomach, duodenum, jejunum, ileum, caecum and colon) and the hepatobiliary system (liver, gallbladder), endocrine system (suprarenal glands and the endocrine components of the pancreas) and the urinary system (kidneys and ureters) and haematopoietic organs (spleen). • Able to describe the arterial supply, venous and lymphatic drainage and innervation of the abdominal viscera and the abdominal wall. • Demonstrate the bony and cartilaginous landmarks visible or palpable on abdominal examination and explain their clinical significance. • Demonstrate the surface projections of the abdominal organs onto the four quadrants and nine descriptive regions of the abdomen. • Describe the anatomy, innervation and functions of the muscles of the anterior, lateral and posterior abdominal walls. Discuss their functional relationship with the thoracic and pelvic diaphragms and their roles in posture, ventilation and voiding of abdominal/pelvic/thoracic contents. • Describe the anatomy of the inguinal ligament and inguinal canal in the male and female. • Explain the contents of the canal and how inguinal hernias develop, including the anatomy and clinical presentation of such hernias. • Describe the relationship between the femoral canal and the inguinal ligament and the anatomy of femoral hernias. • Demonstrate the surface projections of the liver, duodenum, jejunum, ileum. Describe the caecum, appendix, ascending, transverse, descending and sigmoid parts of the colon. • Describe the organisation and clinical significance of the parietal and visceral peritoneum, the greater and lesser sacs, mesenteries and peritoneal ‘ligaments’. • Explain the nerve supply of the parietal and visceral peritoneum and the role of the visceral peritoneum in referred pain • Explain the significance of the attachments of the ascending and descending colon to the posterior abdominal wall. • Describe the functional anatomy of the small and large bowel mesenteries; their structure, location and their vascular, lymphatic and neural contents. • Explain the nerve supply of the parietal and visceral peritoneum and the role of the visceral peritoneum in referred pain. • Describe the position and functional anatomy of the stomach, its position, parts, sphincters, vascular, lymphatic and nerve supply and key relations to other abdominal organs. • Describe the duodenum, its parts, position, secondary retroperitoneal attachment; vascular, lymphatic and nerve supply and key relations to other abdominal organs. • Describe the regions and positions of the small and large intestine and their vascular, lymphatic and nerve supply. Describe the anatomical variations in the position of the appendix and explain their significance in relation to appendicitis. • Describe the position and functional anatomy of the liver, its lobes, segments and their key anatomical relations. Explain the peritoneal reflections of the liver and its movement during ventilation. Summarise the functional anatomy of the portal vein, the portal venous system, porto-systemic anastomoses and their significance in portal hypertension. • Describe the position, functional anatomy and vasculature of the gall bladder and biliary tree; explain their relations in the abdomen and the clinical significance of inflammation of the biliary system and biliary (gall) stones. Describe the position and form of the pancreas and its relations to other abdominal organs and significance of these relations to pancreatitis and biliary stone disease.

	• Describe the position and functional anatomy of the kidneys and ureters. Demonstrate their relations to other abdominal and pelvic structures. Discuss the clinical significance of renal and ureteric anatomy in relation to urinary stones. • Describe the position and relations of the suprarenal (adrenal) glands and their functional anatomy. • Describe the anatomy of the spleen, including its position, blood supply, surface markings, relations and peritoneal attachments. Explain the significance of these relations in trauma, chronic infection and haematopoietic disorders. • Describe the origins, courses and major branches of the abdominal aorta, coeliac axis, superior and inferior mesenteric, renal and gonadal arteries. • Describe the clinical significance of the blood supply to the abdomen for example in relation to abdominal aneurysm repair. • Describe the origin and course of the inferior vena cava and its major tributaries. • Describe the anatomy of the lymph nodes draining the abdominal viscera and their significance in relation to metastatic spread. PELVIS AND PERINEUM • The three-dimensional arrangement of the pelvic cavity, its continuity with the abdominal cavity and its peritoneal relationships. • The anatomy of the urinary and gastrointestinal system in the pelvis (ureters, bladder, urethra, rectum and anal canal) and the reproductive system in males (scrotum, testis, vas deferens, seminal vesicles, ejaculatory ducts, prostate, and penis) and females (ovaries, uterine tubes, uterus, cervix, vagina, labia, and clitoris). • The arterial supply, venous and lymphatic drainage and innervation of the pelvic organs and perineum. • Describe the skeletal and ligamentous components of the pelvis, the anatomy of the pelvic inlet and outlet and recognise their normal orientation. • Explain sexual differences in pelvic skeletal anatomy. • Demonstrate the palpable anatomical landmarks of the ilium, ischium and pubis. • Describe the anatomy and functional importance of the pelvic diaphragm, its midline raphe, perineal body, attachment points and the structures passing through it in males and females. • Describe the clinical significance of the pelvic diaphragm, e.g. in relation to continence, prolapse and episiotomy. • Describe the anatomy of the bladder, its base and ureteric openings and its relationship to the overlying peritoneum. • Explain how the position of the bladder changes with filling and during pregnancy. • Describe the anatomy of the urethra; explain the anatomy of its different parts in males and females in relation to continence and catheterisation. • Describe the innervation of the bladder, its sphincters and the mechanism of micturition. • Describe the anatomy of the scrotum, testis and epididymis and their normal features on clinical examination. • Explain the significance of the vascular supply of the testis in relation to torsion and varicocele and the lymphatic drainage in relation to tumour spread. • Describe the structure and course of the spermatic cord and ductus (vas) deferens. • Describe the anatomy and relations of the prostate gland and seminal vesicles. • Describe the normal prostate when examined per rectum and how this changes in relation to hypertrophy and malignancy. • Describe the anatomy and relations of the ovary, uterine tubes, uterus, cervix and vagina, including their peritoneal coverings. • Describe the changes that occur in the uterus and cervix with pregnancy. • Describe the origin, course and relations of the ovarian, uterine, vaginal and testicular arteries. • Describe the anatomy and neurovascular supply of the penis, scrotum, the clitoris, vulva and vagina.

	• Explain the anatomy of the urogenital diaphragm and perineal 'pouches'. • Describe the origin, course and distribution of the pudendal nerves and the sites of pudendal nerve block. • Describe the innervation of and mechanisms involved in the erection of cavernous tissue in males and females and in emission and ejaculation in the male. • Describe the anatomy, relations and peritoneal coverings of the sigmoid colon, rectum and anal canal. • Explain the functional anatomy of puborectalis, the anal sphincters and their role in faecal continence. • Describe the blood supply and venous drainage of the distal bowel; the supply from superior rectal (from inferior mesenteric), middle rectal (from internal iliac) and inferior rectal arteries (from internal pudendal to anal canal only), and portosystemic venous anastomoses. • Explain the clinical significance of the blood supply and venous drainage of the distal bowel, e.g. in continence, haemorrhoids and anal fissures. • Describe the anatomy of the ischio-anal fossa and explain its clinical significance, e.g. in relation to abscesses and fissures. • Describe the lymphatic drainage of the pelvic and perineal organs. LOWER LIMB • Be able to describe the innervation, arterial supply, venous and lymphatic drainage of the structures of the lower limb. • Able to interpret relevant standard diagnostic images using a range of modalities, with particular reference to common sites of fractures (neck and shaft of femur, tibia and fibula). • Working knowledge of surface anatomy (including major pulse points e.g. femoral), dermatomes and peripheral nerve distribution, and the functions of major muscle groups and their innervation in order to perform clinical procedures such as a basic neurological examination of the lower limb and intramuscular injections. • Aware of the organisation of the deep fascia of the lower limb and its clinical relevance to compartment syndromes. • Describe the bony structures and surface landmarks of the pelvis, femur, tibia, fibula and foot. • Demonstrate their palpable and imaging landmarks. • Explain how the bones, joints and related structures are vulnerable to damage and what the consequences of such damage could be. • Demonstrate the origin, course and branches of the major arteries that supply the gluteal region, hip, thigh, leg, ankle and foot. • Explain the functional significance of anastomoses between branches of these arteries at the hip and knee. • Demonstrate the locations at which the femoral, popliteal, posterior tibial and dorsalis pedis arterial pulses can be palpated. • Demonstrate the course of the principal veins of the lower limb. Explain the role of the perforator veins between the superficial and deep veins and the function of the 'muscle pump' for venous return to the heart. • Describe the surface landmarks for sites of venous access that can be used for 'cutdown' procedures in emergencies. • Outline the origin of the lumbosacral plexus and the formation of its major branches. • Describe the origin, course and function of the femoral, obturator, sciatic, tibial, common fibular (peroneal), sural and saphenous nerves and summarise the muscles and muscle groups that each supplies, as well as their sensory distribution. • Describe the anatomy of the gluteal region and the course of the sciatic nerve through it. • Explain how to avoid damage to the sciatic nerve when giving intramuscular injections. • Describe the anatomy and movements of the hip joint. Summarise the muscles responsible for these movements, their innervation and attachments.

	• Describe the structures responsible for stability of the hip joint. • Describe the structures at risk from a fracture of the femoral neck or dislocation of the hip and explain the functional consequences of these injuries. • Describe the boundaries and contents of the femoral triangle with particular regard to arterial blood sampling and catheter placement. • Describe the anatomy and movements of the knee joint. Summarise the muscles responsible for these movements, their innervation and main attachments. • Identify the factors responsible for maintaining the stability of the knee joint. Describe the locking mechanism that occurs in full extension. • Explain the anatomical basis of tests that assess the integrity of the cruciate ligaments. • Describe the boundaries and contents of the popliteal fossa. • Describe the close relations of the knee joint, including major bursae and explain which of these structures may be injured by trauma. • Describe the anatomy of the ankle and subtalar joints. Explain the movements of plantar flexion, dorsiflexion, inversion and eversion. Summarise the muscles responsible for these movements, their innervation and their attachments. • Describe the factors responsible for stability of the ankle joint, especially the lateral ligaments, and explain the anatomical basis of 'sprain' injuries. • Describe the arches of the foot and the bony, ligamentous and muscular factors that maintain them. • Describe the fascial compartments enclosing the major muscle groups and explain the functional importance of these compartments and their contents in relation to compartment syndrome. • Describe the anatomical basis (nerve root or peripheral nerve) for loss of movements and reflexes at the knee and ankle resulting from spinal injuries, disc lesions and common peripheral nerve injuries. • Describe the dermatomes of the lower limb and perineum that can be used to assess spinal injuries. • Describe the lymphatic drainage of the lower limb and its relationship to infection and tumour spread. SKIN • Describe the functions and structures of skin, nails and hair. NEUROANATOMY • Describe the basic anatomy of the brain and explain characteristic features of lobes and components of the di-, mes-, met- and myelencephalon. • Define the terms grey and white matter, fasciculus, tract, commissure, pathway, chiasm, decussation, nucleus, ganglion, and cortex. • Identify the major divisions of the brain: the cerebral hemispheres, diencephalon (thalamus, hypothalamus and epithalamus), midbrain, pons, medulla oblongata and cerebellum. • Identify the major sulci and gyri of the cerebral hemispheres (lateral, central and post-calcarine) and summarise the position of the frontal, parietal, occipital and temporal lobes. • Describe the areas of cerebral cortex subserving major special functions; motor (including motor speech); sensory; visual; auditory (including sensory speech); memory and emotion (medial temporal – hippocampus, amygdala); decision making, social behaviour (orbitofrontal). Explain the manifestations of related disorders.

	• Describe the basic anatomy of the spinal cord, its meninges and relation to the vertebral column. • Distinguish major fibre tracts in the spinal cord and relate the tracts to changes in response to injury and demyelinating diseases. • Describe function, origin, course and relations of the cranial nerves. Define the relation of nuclei in the brainstem to individual cranial nerves. • Describe the positions within the spinal cord of the dorsal column, anterolateral (spinothalamic) and trigeminothalamic ascending tracts, the spinocerebellar and the corticospinal and extrapyramidal descending tracts. • Describe the blood supply of brain and spinal cord, branches of the internal carotid artery, sinuses and cerebral veins. • Understand the neurological consequences of blood supply interruption in stroke. • Define the production and resorption of the cerebrospinal fluid, location of ventricles and cisternae. • Describe the location and major nuclei of the thalamus and the connections to the cerebral cortex. • Distinguish major fibre tracts of the cerebrum. • Describe the anatomy of the cerebellum, major fibre tracts in peduncles, cerebellar nuclei, cell types in the cortex and their excitatory or inhibitory function. • Describe the anatomical relationships of the meninges to the spinal cord and dorsal and ventral nerve roots, particularly in relation to root compression and cord compression • Understand the location of lesions in movement disorders. • Appreciate the difference between upper motor and lower motor neurone disorders. • Appreciate the causes and consequences of peripheral nerve, plexus and root lesions. • Understand the consequences of raised intracranial pressure. • Explain the anatomical basis of neurological assessment. HISTOLOGY • Demonstrate working knowledge of the uses and roles of the light- and transmission electron microscope in the elucidation of the structure of normal and pathological cells and tissues. • Understand the difference between resolution and magnification. • Appreciate the importance of microscopy in pathology and diagnostics. • Understand issue preparation (fixation, embedding and sectioning) for light- and electron microscopy. • Appreciate routine and special stains for light microscopy, including affinity probes (immunolabelling and in-situ hybridisation). • Describe cell ultrastructure, including cell membranes, cytoplasmic organelles and the nucleus. Cell division. • Describe cell types, cell specialisation and function. The grouping of cells into connective, nervous, muscle and epithelial tissues. Identify and describe characteristics and specialisations of epithelial cells such as different types of cell-cell contacts, cilia, microvilli and cell polarity. Identify different types of epithelium. Understand the location and function of basement membranes. • Understand the grouping of tissues into organs: cell types in the major organs and their functional roles. CARDIOVASCULAR SYSTEM • Identify epi-, myo- and endocardium and describe characteristic cell types such as cardiomyocytes, endothelial cells or fibroblasts • Identify and describe the function of intercalated discs, adherens- and gap-junctions • Describe the ultrastructural characteristics of cardiomyocytes • Identify Purkinje fibres as examples of the cardiac conduction system

	• Identify and describe the different layers of blood vessels (Tunica intima, media, adventitia) and define characteristic cell-types and structures in each of the layers (External/interna elastic laminae, lamina propria) • Identify histological differences between arteries and veins • Explain histological differences between muscular and elastic arteries (smooth muscle, elastic laminae) and connect this to functional differences • Explain the involvement of the intima layer in atherosclerosis • Identify capillaries and explain different types of endothelium in different vascular beds (fenestrated, continuous, sinusoidal) • Describe the location and characteristics of lymphatic vessels • Describe the role of the endothelium in the control of vascular diameter and define the role and signalling pathways of nitric oxide, prostaglandins, angiotensin II AIRWAYS • Describe the function of the trachea and relate those to histological characteristics of the trachea • Identify the hyaline cartilage of the trachea, the smooth muscle containing trachealis muscle, submucosal glands and blood vessels, the thick basement membrane and the pseudostratified epithelium • Identify principal cell types in the epithelium of larger airways (basal cells, Club cells, goblet and ciliated columnar epithelial cells), connect submucosal glands with the epithelial mucous layer and define the term mucociliary escalator • Describe the presence of neuroendocrine cells and the relationship to small cell lung cancer • Identify the mesothelium in sections and describe the relationship to mesothelioma • Describe the function of cilia and relate it to the disease Kartagener syndrome • Differentiate at the level of function and cell types between different components of airways such as bronchi, bronchioli and alveoli • Relate the smooth muscle of bronchi and bronchiole to the action of beta2-receptor agonists • Identify on histological sections bronchioli, alveolar ducts, alveolar sacs and alveoli, blood vessels and describe unique features of pulmonary blood vessels • Identify capillaries and cell types in the alveolar wall and describe their function (alveolar epithelial cells type I and II, alveolar macrophages, fibroblasts, capillary endothelial cells) • Describe the barriers of diffusion for oxygen during gas exchange • Describe the cellular source of surfactant in lungs and the origin of heart failure cells UROGENITAL SYSTEM • Describe the overall functions of the kidney and the components of a nephron • Connect the different components of a nephron to cortex and medulla • Describe the unique arrangement of blood vessels in the kidney and name those (arcuate arteries/veins, interlobular arteries/veins, afferent and efferent arterioles, glomerular and peritubular capillaries, vasa recta) • Identify and describe the different cell types of a renal glomerulus • Differentiate between vascular and urinary pole, Bowman's capsule • Identify the macula densa and describe the juxtaglomerular apparatus and explain its function in relation to the renin/angiotensin/aldosterone system and regulation of blood pressure

	• Describe the different components of the tubular system and identify parts based on histological features (proximal and distal tubule, thin limbs of Henle, collecting duct) and relate its function to primary and secondary active transport processes and facilitated diffusion. • Describe the functional consequences of diabetes on glucose transport in the proximal tubule • Describe the basic mechanisms that lead to concentration of urine in the inner medulla • Describe target cells of atrial natriuretic peptide, ADH and aldosterone in the kidney and the cell types that secrete erythropoietin • Identify transitional epithelium (urothelium) in urine transporting structures such as the renal pelvis, ureter, bladder and urethra and describe its function and characteristics • Identify on sections the different layers of ureter and bladder including muscularis, mucosa GASTROINTESTINAL TRACT (GIT) • Identify and describe the layers in the tongue, the papillae and differentiate between epithelium, loose connective tissue and striated muscle • Define the three major salivary glands, the two types of secretory cells and three types of acini. • Describe the basic content and function of human saliva • Explain the general organisation of layers throughout the gastrointestinal tract (mucosa, submucosa, muscularis, serosa/adventitia) • Appreciate the differences in the composition of layers in one organ with the example of the oesophagus and differences in muscle types • Identify and define the type of epithelium, the lamina muscularis mucosae as a characteristic feature of the GIT • Identify the myenteric and submucous nerve plexus in sections of the esophagus and explain the differences in function • Identify the gastroesophageal junction on sections, describe the differences in the types of epithelium and know the impact of gastroesophageal reflux disease and Barrett's esophagus on the histology of this area • Identify the different layers of the GIT in sections of the stomach, in particular the localisation of single columnar epithelium and lamina propria • Identify gastric glands and gastric pits and describe the cell types (location and function) of gastric glands • Identify the gastroduodenal junction on sections, describe the differences in the types of epithelium and glands • Identify on sections of the duodenum villi, crypts, microvilli as parts of enterocytes and Brunner glands. • Identify and describe the characteristic components and cell types of a villus in the duodenum • Identify Paneth cells in crypts and describe their function • Describe the function of hormones released from endocrine cells of the duodenum (CCK, secretin) • Differentiate between duodenum, jejunum and ileum based on histology (eg shape of villi, presence of glands and lymphoid tissue such as Peyer's patches) • Identify the different layers of the GIT in sections of the colon and define the changes in the mucosa • Describe the histological characteristics of the vermiform appendix • Identify secondary follicles (lymphatic nodules) and describe the presence of T-, B-cells, dendritic cells and macrophages • Describe the histological changes in cell types at the recto-anal junction and connect the presence of blood vessels to haemorrhoids

	PANCREAS • Describe the different glands of the pancreas (exocrine and endocrine) • Identify Langerhans islets in section of the pancreas and describe their cellular content and function • Identify acini and ducts in sections of the pancreas and describe the content of zymogen granules LIVER & GALLBLADDER • Describe the components of the portal triad in sections of human and non-human liver and describe the presence and flow of mixed blood in the liver • Identify major structures and cell types in sections of the liver (Sinus, central vein, hepatocytes, cholangiocytes, endothelial cells, Kupffer cells) • Explain the cellular and histological components (hepatocytes, bile canaliculi etc) necessary for the production and transport of bile • Explain the relationship between hepatocytes, space of Disse (perisinusoidal spcace) and stellate hepatic cells (Itoh cells) • Differentiate between hepatic lobule, hepatic acinus and portal lobule • Identify cell types and layers of the gallbladder ENDOCRINE GLANDS Thyroid gland & Parathyroid glands • Describe the development of the thyroid gland in relation to structures such as the thyroglossal duct and ultimobranchial body • Identify characteristic structures of the thyroid gland such as follicles, blood vessels, C-cells on sections • Distinguish between follicular cells and parafollicular C-cells in relation to location and function • Describe the process of synthesis, storage and release of T3 and T4 in the thyroid gland • Explain the presence and function of C-cells and calcitonin • Relate the parathyroid glands to pharyngeal (branchial) pouches • Identify chief cells and oxyphil cells and describe the function of parathyroid hormone Pituitary gland • Define anterior, intermediate and posterior lobe of the gland • Distinguish between the origin and development of anterior and posterior lobe (Rathke's pouch) • Identify cells in the anterior pituitary (adenohypophysis), define the hormones produced from those cells and explain the modes of action for individual hormones • Explain the hypothalamo-hypophyseal system and the difference between releasing/ inhibiting and trophic hormones • Explain the portal system of the pituitary gland • Differentiate between acidophil and basophil cells on H&E sections and describe hormones produced by acidophil versus basophil cells • Identify cells present in the posterior pituitary (neurohypophysis) and explain synthesis,transport and storage (Herring bodies) of ADH and oxytocin • Describe the modes of action of ADH and oxytocin Adrenal gland

	• Describe the differences between adrenal cortex and medulla on sections • Differentiate between the different zones of the adrenal cortex, describe characteristic hormones, their release mechanisms and their modes of action • Describe the function of ganglion cells and chromaffin cells in the medulla and relate norepinephrine (noradrenalin) and epinephrine (adrenalin) to ultrastructural components such as vesicles Male reproductive system • Identify structural components of the male testis such as septa, tunica albuginea, rete testis and seminiferous tubuli • Identify spermatocytes and spermatids in sections and differentiate between spermatogenesis and spermiogenesis • Identify Sertoli cells and interstitial cells (Leydig cells) and relate their function to hormones LH, FSH and testosterone • Describe components and function of the blood-testis-barrier • Identify myofibroblasts and their association to seminiferous tubuli • Explain the terms spermiation, decapacitation and capacitation • Identify the epididymis and describe characteristics such as the epithelium, the content and function • Identify the muscle layers of the vas deferens and describe the pseudostratified epithelium with stereocilia • Identify the characteristic structure of the layers of the seminal vesicles and identify smooth muscle and connective tissue components • Describe the different zones of the prostate gland • Describe the products secreted from glands of the prostate (eg PSA, PAP, citric acid, prostaglandins) • Identify the prostatic urethra and describe the origin and presence of ejaculatory ducts in the prostate tissue • Connect benign hyperplasia and carcinoma to different zones of the prostate Female reproductive system • Describe different zones (hilum, medulla, cortex) of the ovary and the location of germinal epithelium and tunica albuginea • Describe the process of oogenesis and the characteristics of different follicles plus the characteristics of corpus luteum and corpus albicans • Describe the process of folliculogenesis • Identify on sections primordial, primary and secondary follicles and identify and describe oocytes, zona pellucida, granulosa cells, antrum, theca interna and theca externa • On a Graafian follicle identify oocyte, corona radiate and the location of the different cell types • Explain the function and hormone-dependency of granulosa cells and cells of the theca interna and externa • Understand and explain the term “germinal vesicle arrest” in relation to the prophase of meiosis I • Identify and describe characteristic cell types and function of the corpus luteum • Define layers, function and epithelial cell types of the uterine tube • Differentiate between Endo-, Myo- and Perimetrium in sections of the uterus • Identify the stratum functionale and basale, describe cell types and changes during the menstrual cycle • Describe the characteristic histological changes that accompany the three phases of the menstrual cycle • Describe the difference between uterus and cervix uteri in relation to the mucosa • Describe the layers of the vagina

	Nervous System • Define the term ganglion in relation to the nervous system • Differentiate between cell types restricted to the central and peripheral nervous system • Identify cell bodies in section of dorsal root ganglia and explain the term pseudounipolar • Identify neurons, satellite cells and perineurium • In spinal cord sections, identify grey and white matter, dorsal and ventral horn and anterior, lateral and dorsal funiculi • Identify the central canal and ependymal cells as a type of glia • Identify multipolar motoneurons in the ventral horn and locate neurons in the dorsal horn of the spinal cord • Differentiate between afferent and efferent nerve fibres • Describe epi-, peri- and endoneurium in sections containing nerve fibre bundles • Identify myelinated and unmyelinated nerve fibres and describe Remak bundles • List different types of glia and describe the location of those cells within the central and peripheral nervous system • Identify astrocytes on sections and connect their function to the blood-brain-barrier • Identify and describe the six layers (laminae) of the neocortex • Describe neuronal cell bodies, axons and dendrites in sections of cortex and cerebellum • Identify and describe the three layers of the hippocampus in tissue sections • Describe the arrangement of cells in foliae of the cerebellum and explain the connection of Purkinje cells and cerebellar nuclei
2. Clinical Practice	PHYSICAL EXAMINATION • An appreciation of surface landmarks in relation to clinical examination. • An appreciation of 'normal' variation in anatomical structures. • Understanding of normal anatomy in relation to comprehensive clinical examination. COMMON INVESTIGATIONS • Interpret standard diagnostic images, e.g. plain X-Ray CT, MRI, X-ray and ultrasound of • the head and neck, vertebral column, limbs, thorax, abdomen and pelvis MANAGMENT An appreciation of relevant anatomy in relation to undertaking the following procedures: • Administration of injections: IV, IM, SC • Venepuncture • Insertion of intravenous cannula • Arterial blood gas sampling • Insertion of urinary catheters (male and female) • Insertion of nasogastric tubes • Management of airway obstruction • Undertake a 12 lead ECG • Peak flow meter and bed side spirometry measurement • Endocervical & vaginal swab

	• Urethral swab • Cervical smear • Skin biopsy • Skin suturing, removal of sutures and staples • Local and regional anaesthesia • Abdominal paracentesis • Joint aspiration and injection • Lumbar puncture • Thoracocentesis • Normal vaginal delivery • Spinal and epidural block/anaesthesia • Application of slings: triangular, collar and cuff • Bandaging • Lower limb plastering and splintage • Upper limb plastering and splintage • Incision and drainage of abscesses An appreciation of anatomy in relation to common surgical procedures and conditions including: • Appendicectomy • Cholecystectomy • Peritonitis • Bowel obstruction • Peripheral vascular disease • Aortic aneurysm and dissection • Haemorrhoids • Acute limb ischaemia • Compartment syndrome • Common fractures and dislocations
3.7 Relationship between health agencies and equitable allocation of resources.	The ethical considerations underpinning allocation of transplant organs.
4.4 Principles of ethical practice	An appreciation of the use of cadavers and human tissues in teaching and medical research and medico-legal considerations.

BIOCHEMISTRY & METABOLISM

1.1 Biological, clinical, epidemiological, social, and behavioural sciences	Philosophy and foundation Medical Biochemistry • Medical Biochemistry provides the basis for understanding the molecular mechanisms underpinning normal cellular and bodily functions as well as disease. It describes the structure, properties and chemical reactions of biomolecules that are present in a living system. • Every medical student will require a basic knowledge of medical biochemistry to understand numerous clinical problems
1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	Physiology, anatomy, pathophysiology, pathology and basic medical science *The cellular building blocks* 1. Nucleic acids (DNA, RNA), their structures, functions and synthesis 2. Amino acids, protein structure (primary, secondary, tertiary and quaternary), protein synthesis 3. Protein structure relating to function; enzymes, scaffold proteins, receptors Translation of information from gene to protein (DNA replication, transcription, translation) *Chemical processes required for regulation of cellular function* 1. Oxidation, reduction 2. pH balance (acid/base) 3. ATP production 4. NAD(H), NADPH 5. Enzymes and co-factors • Understand how these cellular building blocks and chemical processes are regulated for normal cellular function. • The basis of cell signalling coordinating biological activities Regulation of energy at the cellular level 1. Glycolysis 2. Anaerobic and Aerobic metabolism 3. Lactate production 4. Mitochondrial metabolism: Oxidative phosphorylation and the electron transport chain, the citric acid cycle (tricarboxylic acid cycle or Krebs cycle) 5. Glycogen metabolism 6. Gluconeogenesis 7. Metabolism of monosaccharides and disaccharides pH regulation 1. Metabolic acidosis 2. Metabolic alkalosis 3. Respiratory acidosis 4. Respiratory alkalosis

	Sources of energy 1. Carbohydrates: digestion, absorption and metabolism 2. Lipids (cholesterol, triacylglycerol): • Dietary lipid metabolism including transport (Chlyomicrons, LDL, HDL), • Fatty acid, ketone body and triacylglycerol metabolism (including fatty acid synthesis/ oxidation, lipolysis), • Structure/function (cellular membranes, steroid hormones, phosopholipid, glycosphospholipd) 3. Amino acids Nitrogen metabolism • Amino acid synthesis, catabolism • Amino acid degradation, ammonia and the Urea cycle • Roles and metabolism of tyrosine, tryptophan, phenylalanine • Conversion of amino acid to specialized products Understand metabolism • Understand metabolism in the fed and fasted state • Understand the impact exercise has on energy demand and metabolism • Haem, bilirubin and porphyrin synthesis and metabolism • Understand the sources, roles and metabolism of vitamins (fat and water soluble) • Hormonal regulation of metabolism: Insulin and glucagon regulation of blood glucose • Understand how perturbation of cellular building block and chemical processes can form the basis of disease Interpret commonly used biochemical investigations: 1. blood glucose, creatinine 2. blood gases 3. liver function tests, enzyme activities, urea 4. electrolyte ion concentration 4. cholesterol Understand biochemistry in common disease mechanisms • Understand how gene mutations can result in expression of a protein with altered function • Malnutrition, causes, varieties and consequences • Obesity • Vitamin deficiencies Common/important presentations • Type 1 and 2 diabetes including complications: diabetic ketoacidosis, diabetic retinopathy, diabetic neuropathy • Polyuria, polyphagia, polydipsia • Hypoglycaemia • Hyperglycaemia

	• Inborn errors of metabolism (mutations in key enzymes of metabolic pathways) • Liver disease • Jaundice • Cirrhosis • Kidney function • Malnutrition • Anaemia • Atherosclerosis • Carbon monoxide poisoning • Emphysema • Alcohol abuse • Cardiovascular disease • Hyperbilirubinemias • Porphyrias • Myopathies due to enzyme mutations • Phenylketonuria • Mitochondrial storage disorders • Lysosomal storage disorders • Glycogen storage disorders • Urea cycle disorders • Respiratory failure
2.5 Common investigations	Interpretation of routine biochemical testing and common abnormalities Management An appreciation of relevant biochemistry and metabolism in relation to undertaking the following procedures: • Arterial blood gas sampling • Blood glucose testing • Point of care testing An appreciation of biochemistry in relation to common conditions including: • Diabetes mellitus • Diabetic ketoacidosis, hypoglycaemia and hyperosmolarity • Biochemical principles underlying the clinical treatment of Diabetic ketoacidosis • Common conditions of hormonal deficiency or excess • Malnutrition and refeeding syndrome • Common electrolyte disorders • Metabolic and respiratory acid-base disorders • Appreciation of common inherited disorders of metabolism

	• Hypercholesterolaemia and treatment • Biochemical abnormalities in renal and liver failure • Enteral and parenteral nutrition
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	• Appreciation for the economic, social, psychological, and familial implications of metabolic disorders • Provide effective health education to empower patients • Ensure patient's understanding of condition and self-management • Describe organizational and economic aspects of the health care system with regard to metabolic disease • Define populations at risk/prevalence of metabolic disorders, particularly Type 2 Diabetes
3.5 Health screening and prevention	• Integrate evidence-based prevention, early detection and health maintenance activities into practice
3.7 Relationship between health agencies and equitable allocation of resources	• Be aware of the range of resources and referral options available to patients • Engage nutrition and exercise services • Utilize community support services and agencies appropriately

CARDIOLOGY & VASCULAR

1.1 Biological, clinical, epidemiological, social, and behavioural sciences	**Cardiovascular physiology and anatomy** • Structure and function of the heart • Cardiomyocyte structure and metabolism • Cardiac conduction system • Cardiac cycle • Cardiac output • Physiology of the pulmonary circulation • Anatomy and physiology of the coronary circulation • Blood vessels and circulation • Blood pressure control
1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	**Cardiovascular pathophysiology** • Heart failure • Atherosclerosis and thromboses • Myocardial necrosis and apoptosis • Hypertension **Common/important presentations** • Chest Pain • Breathless • Palpitations • Syncope and pre-syncope • Leg swelling • Heart murmurs • Shock • Hypertension • Hyperlipidaemia • Claudication • Leg ulceration **Common/important conditions** • Congestive heart failure and acute pulmonary oedema • Acute coronary syndromes/myocardial infarction / angina • Aortic dissection/aneurysms • Pulmonary embolism and deep vein thrombosis • Pericarditis including cardiac tamponade • Tachyarrhythmias including atrial fibrillation, atrial flutter, SVT, ventricular tachycardias • and ventricular fibrillation • Bradyarrhythmias

	• Valvular heart disease including aortic and mitral valve disease • Rheumatic fever • Pulmonary hypertension • Myocarditis • Cardiomyopathies • Infective endocarditis • Common congenital heart disease • Cardiogenic shock • Essential and secondary hypertension • Peripheral arterial disease • Carotid artery disease, renovascular disease, peripheral vascular disease • Assess patients with cardiovascular disease prior to non-cardiac surgery
2.2 Medical history taking	• Elicit a cardiac history including cardiovascular risk factors
2.3 Physical examination	• Examination of the cardiovascular system • Blood pressure measurement • Signs of left and right sided heart failure • Heart murmurs
2.4 Differential diagnosis	• The differential diagnosis for causes of chest pain • The differential diagnosis for causes of heart failure • the differential diagnosis for causes of secondary hypertension
2.5 Common investigations	• Interpretation of ECG in common cardiac conditions • Interpretation of blood tests including troponin and BNP in the assessment of patients with chest pain and heart failure • Interpret lipid test results • Chest X-ray interpretation in common cardiac conditions • The investigations of a patient with chest pain, palpitations, syncope, valvular heart disease, heart failure, peripheral arterial disease • The indications and basic interpretation of cardiac stress tests • The use of echocardiography, MRI, CT, nuclear scans, angiography in cardiac diseases • Basic understanding of echocardiography report • The indications for coronary artery angiography • The use of ECG (Holter monitor) and 24 hour ambulatory BP monitoring • Describe the indications, limitations, risks, benefit and predictive values for common cardiac investigations • D-Dimer, duplex scans, lung ventilation/perfusion (VQ) scans, CT pulmonary angiography in the investigation of suspected PE • Doppler ultrasound and flow studies, peripheral angiography in the investigation of peripheral vascular disease
2.6 Common procedures	• 12 lead ECG • DC Cardioversion • Observe coronary angiography • Observe pacemaker insertion and function testing
2.7 Management options	• Able to develop a management plan for a patient with stable angina, myocardial infarction, heart failure, common arrhythmias • Observe CPAP treatment for acute pulmonary oedema

	• Understand the indications and different treatment options for anticoagulation • Understand appropriate management for patients with valvular heart disease, rheumatic fever, pericarditis, cardiomyopathies, peripheral arterial disease, pericarditis and congenital heart disease • Assessment and management of cardiovascular risk factors • General principles of thrombolysis, angioplasty, valvular repair, coronary artery bypass grafting • The management of patients with tachyarrhythmias and bradyarrhythmias, including the use of pacemakers, defibrillators, anticoagulation • Blood pressure control targets, pharmacological and non-pharmacological management • Basic knowledge of fitness to drive following cardiac illness
2.11 Prescribe	• To safely prescribe medications commonly used in the management and prevention of coronary heart disease, heart failure, dysrhythmias • Appropriate use of anticoagulation, antiplatelet agents • The mechanisms of action and potential side effects of common antihypertensive drugs • Mechanisms and use of lipid lowering agents • Mechanisms and use of agents used in the treatment of heart failure and dysrhythmias
2.12 Recognise critically unwell patients and perform CPR	• The treatment and management of cardiac arrest • The recognition, treatment and management of patients with life threatening causes of chest pain and shock including acute myocardial infarction, cardiogenic shock, life threatening arrhythmias, aortic dissection, pulmonary embolus
2.14 Place the needs and safety of patients at the centre of care	• An understanding of individual cardiac risk factors and their assessment and modification • To safely prescribe medications for common cardiac conditions • The differing prevalence of important cardiac conditions in indigenous people particularly rheumatic fever, valvular disease and premature coronary disease
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	• The role and importance of lifestyle factors, lipids, activity, obesity, diabetes and blood pressure control in cardiovascular disease • The impact of culture, social determinants of health, education level, risk behaviour and psychological factors on the presentation and history of cardiovascular disease • An understanding of the commoner genetic causes of cardiovascular disease • Cardiovascular risk factors and their modification • The high prevalence of particular cardiovascular diseases in indigenous people
3.5 Health screening and prevention	• An understanding of screening for lipid abnormalities, diabetes, hypertension
3.7 Relationship between health agencies and equitable allocation of resources	• The availability and accessibility of cardiac investigations and treatments • The role of Coronary Care Unit and Chest Pain Assessment Unit
4.8 Roles and expertise of other health care professionals	• The importance of multi-disciplinary team in management of cardiovascular disease and the indications for specialist referral • Assess and manage patients in the ambulatory care (outpatient) setting and the role of cardiac rehabilitation

DERMATOLOGY

1.1 Biological, clinical, epidemiological, social, and behavioural sciences	• Skin physiology and anatomy • Skin structure and function: thermoregulation, protective, sensory, immunological, Vitamin D synthesis, psychosocial

1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	**Common/important presentations**
	• Rash
	• Blisters
	• Lump/nodular skin lesion
	• A changing pigmented lesion
	• Ulcer
	• Abnormal Pigmentation
	• Itch
	• Hair loss
	• Abnormal nails
	• Skin pathophysiology
	• Systemic consequences of skin disease
	• Wound healing
	
	Common/important Conditions
	• Eczema and dermatitis
	• Urticaria
	• Psoriasis
	• Acne and rosacea
	• Blistering diseases
	• Skin infections
	  ○ Bacterial: Cellulitis, Impetigo , erysipelas
	  ○ Viral infections: Herpes simplex viruses (HSV-1 and HSV-2), varicella zoster virus (VZV), molluscum contagiosum, warts
	  ○ Distinctive paediatric viral exanthems, including measles and rubella
	  ○ Fungal infections: tinea, candida
	  ○ Arthropods: Scabies, Head lice
	
	Cutaneous Manifestations of Systemic Disease
	• Nail clubbing
	• Purpuric lesions (disseminated intravascular coagulation, vasculitis, and endocarditis)
	• Chronic liver disease
	• Cardiac disease including xanthomas; infective endocarditis (splinter haemorrhages)
	• Erythema nodosum-sarcoidosis-

	Internal malignancy • Direct tumour spread and cutaneous metastases • Paraneoplastic syndromes • Acanthosis nigrican • Dermatomyositis • Pyoderma gangrenosum **Autoimmune diseases** • Systemic Lupus erythematosus • Discoid lupus • Dermatomyositis • Systemic sclerosis • Bullous diseases- Bullous pemphigoid Alopecia Drug reactions **Skin cancers including** • squamous cell carcinoma (SCC) • basal cell carcinoma (BCC) • Bowen's disease/in situ SCC • typical actinic keratoses • melanocytic naevi (moles) • keratoacanthoma • melanoma
2.2 Medical history taking	• Take and present an appropriate dermatological history
2.3 Physical examination	• Systematic approach to examination of the skin, mucosae, hair and nails and describe examination findings using appropriate dermatologic terms
2.4 Differential diagnosis	• The differential diagnosis of skin cancers • The differential diagnoses for nail clubbing, purpuric lesions • The differential diagnosis of rash
2.5 Common investigations	• Describe the different types of skin biopsy and the advantages, disadvantages and indications for each type (punch biopsy, shave biopsy, incisional and excisional biopsy) • Understand the investigations required to diagnose infectious skin diseases (skin swabs, scrapings, biopsy for culture, PCR etc.) • Investigation of patients with pruritus, alopecia, leg ulcers
2.6 Common procedures	• Take a skin swab for virology or microbiology • Take a skin scrape for fungal culture • Basic skin biopsy

	• Cryosurgery for simple skin cancers
2.7 Management options	• Recognise the physical, emotional and psychosocial impacts of chronic skin disease • Outline an initial treatment plan for a patient with acne depending on the presenting features, severity and preference of the patient • Devise management plan for patients with eczema including avoidance of aggravating factors and use of topical therapies • Recommend an initial treatment regime for a patient with typical psoriasis • Provide patient education on sun safety and sunscreen use • The management options for patients with skin cancer (NMSC and Melanoma) • The management of patients with chronic leg ulcers
2.11 Prescribe	The mechanism of action, use and adverse effects of the following agents: • Emollients • Topical corticosteroids • Oral corticosteroids (prednisolone) and other systemic immunosuppressive agents • Oral antibiotics (including penicillins, cephalosporins, tetracyclines, vancomycin, metronidazole) • Oral antihistamines • Oral anti-viral medications
2.12 Recognise critically unwell patients	• Anaphylaxis and angioedema • Widespread blistering / skin loss (toxic epidermal necrolysis)
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	• Considers the alternatives to antibiotic treatment of acne in light of worldwide problems with antibiotic resistance
3.5 Health screening and prevention	• Recognise when notification of infectious skin diseases to Public Health authorities is appropriate • Prevention and treatment of pressure ulcers • Prevention of occupational dermatitis • Prevention of sun damage and skin cancers • Screening of skin cancers in high risk population
4.8 Roles and expertise of other health care professionals	• The importance of multi-disciplinary team in management of skin diseases and the indications for specialist referral

EARS, NOSE & THROAT (ENT)

1.1 Biological, clinical, epidemiological, social, and behavioural sciences 1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	**Physiology and anatomy** • Anatomy and functions of nose & sinuses, ears (tympanic membrane, middle ear, labyrinth) & temporal bones, pharynx, larynx, oral cavity & salivary gland, thyroid & parathyroid glands • Physiology of smell and taste • Physiology of balance • Physiology of hearing • Physiology of voice • Thyroid & parathyroid gland physiology • Understand the basic physiological principles of swallowing **Pathophysiology** • Hearing loss • Head & Neck cancer **Common/important presentations** • Hearing loss - adult and paediatric • Tinnitus • Loss of balance • Discharging ear • Vertigo • Rhinorrhoea • Nasal obstruction • Epistaxis • Facial pain • Loss of sense of smell • Neck lump in adult and children • Sore throat • Hoarse voice • Difficulty swallowing • Noisy breathing (stridor) • Common/important Conditions • Facial palsy • Otitis media and its related complications • Otitis externa • Cholesteatoma • Tympanic membrane perforation • Benign paroxysmal positional vertigo (BPPV) • Vestibular neuronitis

	• Meniere's disease • Allergic rhinitis • Acute and chronic rhinosinusitis vs rhinitis vs common cold • Facial pain syndrome • Cancer of the head and neck including oral cavity, larynx, pharynx including nasopharyngeal carcinoma • Airway obstruction - acute and chronic causes (including epiglottis & croup) • Cleft lip and palate • Tonsillitis • Peritonsillar abscess and parapharyngeal abscess • Epiglottitis, laryngitis, pharyngitis, infectious mononucleosis • Vocal cord paralysis, vocal cord nodules and polyps • Hypothyroidism and thyrotoxicosis (including goitre, thyroid malignancy)[JL1] • Branchial arch abnormalities • The role of ENT disorders in obstructive sleep apnoea • Sialadenitis, salivary gland stones
2.2 Medical history taking	• Elicit a structured, patient centred ENT history relevant to the presenting problem. • Obtain a relevant family history, occupational and social history
2.3 Physical examination	• Examination of the nose, ears, oral cavity and oropharynx, larynx • Assessment of swallowing and risk of aspiration • Examine the nose using a head torch and Thudicum's speculum • Examine the neck and thyroid • Examine the ear including the external auditory meatus using the otoscope • Use tuning forks to identify conductive and sensorineural hearing loss • Perform basic clinical balance tests including Romberg's and Hallpike's tests • Examine the relevant cranial nerves • Understand the role of flexible and rigid endoscopic examination in the clinic
2.4 Differential diagnosis	• The differential diagnosis of hearing loss • The differential diagnosis for causes of hoarse voice • The differential diagnosis for causes of vertigo • The differential diagnosis of a neck lump in different age groups • The differential diagnosis for causes of dysphagia
2.5 Common investigations	• Formulate a plan of investigation in consultation with the patient • Initiate, justify and interpret appropriate haematological and biochemical investigations • Understanding of the principles of audiometry • Recognises need to request audiometry • Understanding the role of targeted requests for radiology in ENT disorders
2.6 Common procedures	• Take a throat swab

	• Be able to manage simple epistaxis (cautery, anterior nasal packing) • Understanding of common ENT procedures notably grommet insertion, adenotonsillectomy, sinus surgery, tracheostomy, thyroidectomy
2.11 Prescribe	• Demonstrate knowledge of drug actions, therapeutics, pharmacokinetics, drug side effects and the principles of safe drug prescription during pregnancy, lactation and childhood for medications relevant to the ear, nose and throat • Able to understand the indications for and safely prescribe intranasal sprays/drops (including steroid, antihistamine, decongestant, saline preparations) • Use of corticosteroids in the management of ENT conditions • Rational use of antibiotics in management of ENT conditions • Able to understand the indications for and safely prescribe topical otological drops (incl antibiotic, antifungal, combination products, cerumolytics) • Oral antihistamines
2.12 Recognise critically unwell patients and perform CPR	• Recognition and management of an obstructed airway • Resuscitation of a patient with tracheostomy or laryngectomy • Foreign body in the throat including bolus obstruction • Foreign body in the ear, nose • Manage trauma to the tympanic membrane • Manage fractured nose • Epistaxis management including nasal packing
2.14 Place the needs and safety of patients at the centre of care	• Awareness of impact of ear disease and hearing loss on communication, education and employment prospects, interpersonal relationships • Awareness of impact of middle ear disease and hearing loss on early childhood development and education • Awareness of how common ear disorders affect an individual's ability to contribute to family life, work place and society including: loss of hearing, loss of balance and tinnitus • Awareness of the morbidity and mortality of untreated OSA • Awareness of the impact of head and neck cancer and its treatment on a patient's swallowing, voice, and quality of life
2.15 Retrieve, interpret and record information in clinical data systems	• Interpret common investigation results in ENT
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	• Aware of the risk factors for head and neck cancer and what means are available for preventing head and neck cancer • The high prevalence of ear disease in indigenous people and its causes
3.5 Health screening and prevention	• Awareness of neonatal hearing screening • Professionalism and Leadership
4.8 Roles and expertise of other health care professionals	• The importance of multi-disciplinary team in management of ENT disorders, including the role of audiologists, speech therapists and vestibular physiotherapists in the management and rehabilitation of patients with ENT related conditions • Appropriate indications for referral to a specialist for ongoing management

EMERGENCY

1.1 Biological, clinical, epidemiological, social, and behavioural sciences &	**Physiology and anatomy** • Acquire a fundamental knowledge of basic sciences as applied to emergency medicine • Airway • Head and neck anatomy in relation to traumatic injury **Pathophysiology** • Fractures and bone healing • Dislocations • Burns • Head Injury and raised intracranial pressure • Reduced level of consciousness and coma • Cardiac and respiratory arrest • Types of respiratory failure • Shock
1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	• Common/important presentations • Undifferentiated patient presentation • Trauma • Poisoning, envenomation and attempted suicide • Chest pain • Shortness of breath • Fever • Abdominal pain • Cardiac arrest • Major incidents • Motor vehicle accidents • Falls • Intoxication • Headache • Stroke • Gastrointestinal haemorrhage • Rectal bleeding • Fit • Acute mental health and behavioural disorders including agitation, aggression, suicidal behaviour • Acute weakness or difficulty mobilising • Acute urinary retention • Rash • Sudden visual loss or impairment, acute red eyes - bacterial and viral conjunctivitis, mild eye trauma, foreign body • Bleeding nose (epistaxis)

	• Child abuse signs and symptoms • • Common/important Conditions • Head injury and simple maxillo-facial trauma • Neck injury • Spinal injury • Chest and abdominal trauma-blunt and penetrating • Limb fractures including neck of femur, Colles fracture, scaphoid fractures, clavicle fracture, open fracture • Neurovascular limb compromise, compartment syndrome • Lacerations • Burns • Acute arterial limb ischaemia • Compromised airway • Respiratory failure • Acute severe or life-threatening asthma • Acute pneumothorax • Pulmonary embolism • Myocardial infarction • Life threatening arrhythmia • Anaphylaxis • Shock • Sepsis • Febrile neutropenia • Meningitis • Septic arthritis • Identification and initial treatment of sexually transmitted diseases • Over dose of drugs commonly used to self-harm, attempt suicide, intoxication, accidental overdose, recreational drugs • Hypothermia and hyperthermia • Delirium • Coma and acute mental status change • Subarachnoid haemorrhage • Acute stroke • Spinal cord compression • Epilepsy and status epilepticus • Diabetic emergencies (DKA, hypoglycaemia) • Acute liver failure • Acute renal failure • Cellulitis • Blistering and exfoliative diseases

	• Cutaneous drug reactions • Acute psychosis • Substance abuse • Toxic syndromes including anticholinergic syndromes, neuroleptic malignant syndrome, serotonergic syndrome • Ectopic pregnancy • Basic paediatric resuscitation • Common injuries in children
Domain?	• Demonstrate proficiency in basic life support skills and cardiopulmonary resuscitation • Demonstrate the capacity to differentiate and treat common acute problems • Provide a comprehensive assessment of the undifferentiated patient • Recognize and initiate first aid for airway obstruction • Be able to provide rapid stabilization with intravenous access and fluid/blood administration • Understand the principles of cerebral resuscitation in brain illness and injury • Understand principles of wound care and wound care techniques • Understand the principles of trauma management • Recognize life-threatening illness or injury and apply basic principles of stabilization to the early management of these conditions • Understand basic pre-hospital care
2.2 Medical history taking	Accurate and comprehensive history taking in emergency situations and in patients following trauma Worrying or 'red flag' features in patients with headache, chest pain, abdominal pain, back pain
2.3 Physical examination	The recognition of critically unwell patients Assessment of airway, breathing and circulatory adequacy Assessment of level of consciousness including Glasgow Coma Scale Assessment of hydration state of patient Determining fluid & electrolyte loss in unwell patients Assessment of potential fractures, dislocations and sprains Assessment of neurovascular compromise Primary and secondary surveys
2.4 Differential diagnosis	The differential diagnosis of shock The differential diagnosis of chest pain, abdominal pain, headache, neck and back pain The differential diagnosis of breathlessness Recognition of non-accidental injury patterns
2.5 Common investigations	The basic investigations for fluid, electrolyte, and acid base abnormalities Investigations in the bleeding patient or with suspected blood loss and use of blood transfusion An understanding of the common radiological investigations in trauma and emergency situations including the appropriate uses of plain X-Rays, CT scans and ultrasound, The use of clinical support tools in guiding appropriate investigations
2.6 Common procedures	Intravenous access Arterial blood gases Management of wounds including suturing

	Local anaesthetic techniques Understanding of the principles of management for commonly encountered fractures and dislocations Protecting and maintaining the airway Understanding of the indications and risks of lumbar puncture Understand the indication and risks of chest tube insertion for pneumothorax
2.7 Management options	Basic and advanced life support Assessment and management of patients with trauma including head injury Assessment and management of patients with burns Wound management including basic wound debridement and closure, identification and treatment of infected wounds The management of patients with impaired consciousness or coma, including suspected meningitis and encephalitis Management of anaphylaxis The management of patients with shock The management of patients with life threatening causes of chest pain including AMI, pulmonary embolism, aortic dissection The management of patients with an acute abdomen, suspected rupture abdominal aortic aneurysm, ischaemic bowel The management of patients with gastrointestinal haemorrhage The management of patients with breathlessness including acute pulmonary oedema, acute asthma, exacerbations of COPD, pneumonia, pneumothorax The management of patients with life-threatening arrhythmias and hypotension The assessment and management of patients with acute renal failure and acute liver failure The management of patients with diabetic emergencies The management of patients following a seizure or with status epilepticus The assessment and management of patients with acute poisoning, envenomation and or have attempted suicide or self harm An understanding of Major disasters and Major Incident Plans and responses Assessment and management of suicidal intent Assessment and management of disorders with threat to vision
2.11 Prescribe	The use of drugs in emergency situations including in cardiac arrest protocols The drug management of anaphylaxis The pharmacological management of acute pain The use of antidotes for commonly encountered poisonings The use of antibiotics in patients with severe infections The safe and appropriate administration of oxygen Prescribing scheduled drugs Prescription writing in hospital practice Writing medications in national hospital drug chart Writing fluid orders for patient
2.14 Place the needs and safety of patients at the centre of care	An appreciation of the protective strategies in the unconscious or critically unwell patient An appreciation of secondary threats to patient safety such as infection, thromboses, allergic responses Understand time constrained decision making in emergency medicine and have the patient's best interests in mind at all time

2.15 Retrieve, interpret and record information in clinical data systems	Ability to synthesize multiple and often incomplete sources of information to develop a management plan Obtain clinical data from different sources including GP's record Able to interpret common blood test results including ABG and VBG Able to interpret common plain X-rays, ultrasound and CT findings Documentation in emergency medicine especially during resuscitation
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	Appreciation of the role of accidents, trauma, alcohol and other intoxicants in emergency presentations Demonstrate the capacity to prioritize attention to those patients with more urgent conditions Awareness of public health interventions designed to reduce emergency presentations
3.7 Relationship between health agencies and equitable allocation of resources	The role of triage in the management of patients with emergencies Describe the importance of the ED as a key link between the general population and the health care system
4.4 Principles of ethical practice	Principles of consent to treatment and assessment of capacity Understanding of relevant mental health legislation Death notification for sudden unexpected death Basic understanding of unique medico-legal issues, confidentiality in emergency medicine
4.8 Roles and expertise of other health care professionals	Communicating with patients and their families/carers in an emergency situation, including the progress to date, likely cause for patient's condition, immediate therapeutic goals, expected outcome, and any limits on escalation of care Role of nursing, paramedic and allied health care professionals in the delivery of emergency care Appreciate teamwork in ED

ENDOCRINOLOGY

1.1 Biological, clinical, epidemiological, social, and behavioural sciences 1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	**Physiology and anatomy** Principles of hormonal action Pituitary, structure and function Thyroid and parathyroid structure and function Adrenal glands, structure and function Male and female reproductive hormones Endocrine functions of the kidney Pancreas hormones and control of blood glucose and metabolism Hormonal control of BP, fluid and electrolyte balance Basic knowledge of the molecular, biochemical, and cellular mechanisms for maintaining homeostasis Endocrine pathophysiology Causes of hormonal deficiency and excess **Common/important presentations** Thyroid swellings/goitre Hirsutism Sweating and flushing Obesity Gynaecomastia Erectile dysfunction Hypertension **Common/important Conditions** Diabetes mellitus type 1 and type 2 Complications of diabetes including: Diabetic nephropathy, its predisposing factors and available screening methods Diabetic retinopathy Diabetic foot disease and peripheral vascular disease Cardiovascular and cerebrovascular disease in patients with diabetes Gastroparesis, erectile dysfunction, postural hypotension Diabetic Ketoacidosis Hyperglycaemic hyperosmolar state Hypoglycaemia/coma Hyperprolactinaemia and pituitary tumours, panhypopituitarism Acromegaly Hypothyroidism Hyperthyroidism Thyroid nodules and cancers

	Endocrine causes of hypocalcaemia and hypercalcaemia, hyperparathyroidism SIADH Diabetes Insipidus Adrenal insufficiency/Addison' disease Cushing's syndrome and disease Phaeochromocytoma Hyperaldosteronism/Conn's syndrome Hypogonadism Endocrine causes of hypertension Obesity Osteoporosis Clinical Practice
2.2 Medical history taking	Appreciation of the common presentations of endocrine disease Symptoms of common endocrine diseases Take detailed history from patients with suspected endocrine disorders Be able to elucidate an appropriate history from diabetic patients especially diabetic complications
2.3 Physical examination	Examination findings in patients with diabetic complications Signs of common endocrine diseases
2.4 Differential diagnosis	The differential diagnosis of secondary hypertension
2.5 Common investigations	Investigation in the diagnosis of diabetes mellitus and its complications Investigations of thyroid under and overactivity The investigation of patients with suspected pituitary and adrenal disorders The investigation and management of goitre Investigation of patients with hypercalcaemia
2.6 Common procedures	Subcutaneous injection of insulin Fingerstick rapid glucose monitoring
2.7 Management options	Able to outline a management for a patient with type 1 and type 2 diabetes Role and importance of lifestyle factors, diabetic, lipid and blood pressure control to slow progression of diabetic complications Describe the management of diabetic emergencies including diabetic ketoacidosis, hypoglycaemia and hyperosmolar non-ketotic coma The management and avoidance of the common diabetic complications The treatment of patients with thyroid disease especially hypo and hyperthyroidism The management of patients with pituitary tumours The management of patients with adrenal disorders The management of patients with hypercalcaemia and hypocalcaemia Management options for patients with obesity The management of patients with diabetes in hospital with intercurrent illness or requiring surgery
2.11 Prescribe	To safely prescribe medications in diabetes including the use of insulins Make appropriate insulin dose adjustments including different regimens for intermittent insulin therapy The mechanisms of action and potential side effects of common hypoglycaemic drugs

	The safe prescribing of thyroid and adrenal hormone replacement Prescribing insulin and monitoring blood glucose Prescription writing in hospital practice Writing medications in national hospital drug chart Writing fluid orders for patient especially in patients with DKA
2.12 Recognise critically unwell patients and perform CPR	Diabetic ketoacidosis Hyperglycaemic hyperosmolar state Hypoglycaemia Addisonian crisis
2.14 Place the needs and safety of patients at the centre of care	An understanding of the risks of radiological investigations, surgery and anaesthesia in patients with diabetes Risks and benefits of level of glycaemic control Recognise the central role of the patient in the management of their endocrine disorders and diabetes Develop a self-management plan with the patient Take a holistic view to the management of the patient especially in patients with long-term diabetes and cardiovascular disease
2.15 Retrieve, interpret and record information in clinical data systems	Able to interpret basic investigation results for patients with suspected endocrine disorders
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	The role and importance of lifestyle factors in the development of obesity and diabetes The impact of culture, social determinants of health, education level, risk behaviour and psychological factors on the presentation and history of diabetes Diabetes as an important cause of renal failure, premature death, cardiovascular disease, amputation and visual loss Cardiovascular risk factors and their modification. The high prevalence of diabetes in indigenous people and its causes Give appropriate advice about employment, driving, exercise, alcohol, weight management, smoking and family planning
3.5 Health screening and prevention	Appropriate strategies for the prevention and detection of diabetes An understanding of screening for diabetes and its complications including renal disease, diabetic eye disease, foot complications and hypertension
3.7 Relationship between health agencies and equitable allocation of resources	The limited availability and allocation of interventions such as bariatric surgery and the use of insulin pumps
4.8 Roles and expertise of other health care professionals	The importance of multi-disciplinary team in management of diabetes and endocrine diseases and the indications for specialist referral Identify appropriately patients who can be managed in different settings such as primary care, intermediate care and multidisciplinary specialist care

GASTROINTESTINAL

1.1 Biological, clinical, epidemiological, social, and behavioural sciences 1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	**Gastrointestinal physiology and anatomy** Anatomy and physiology of the GI tract Anatomy and functions of the liver Nutritional requirements **Gastrointestinal pathophysiology** Pathophysiology of liver failure Pathophysiology of inflammatory bowel disease Malabsorption and malnutrition Pathophysiology of peptic ulceration GI cancer and development of benign and malignant cancers **Common/important presentations** Vomiting Diarrhoea Constipation Bowel obstruction Dysphagia Abdominal pain Dyspepsia Jaundice Haematemesis Melaena and PR bleeding Weight loss Abdominal mass **Common/important Conditions** Gastro-oesophageal reflux disease (GORD) Oesophageal cancer Gastric and duodenal ulcers Gastric cancer Inflammatory bowel disease; Crohn's disease and ulcerative colitis Irritable bowel syndrome Coeliac disease Ischemic bowel disease Colon cancer Cirrhosis, acute and chronic liver failure Alcoholic liver disease Haemochromatosis

	Wilson's disease Causes of obstructive jaundice Autoimmune liver disease including primary biliary cirrhosis and sclerosing cholangiitis Viral hepatitis (hepatitis A, B and C) Ascites Pancreatitis Bowel obstruction Appendicitis Gastroenteritis and food poisoning Diverticular disease Malabsorption Gallstone disease Haemorrhoids
2.2 Medical history taking	Obtain a relevant gastrointestinal and liver history in complex, acute and chronic presentations
2.3 Physical examination	Conduct a systematic and structured physical examination Perform a problem-focussed physical examination relevant to gastrointestinal system Able to detect abnormal signs when present and assess the significance of these findings including signs of malnutrition, chronic liver disease and liver failure Assessment of hydration state Determining fluid & electrolyte loss in unwell patients Extraintestinal manifestations of GI disease
2.4 Differential diagnosis	The differential diagnosis for causes of liver failure and jaundice The differential diagnosis of haematemesis, melaena and blood loss PR The differential diagnosis of unexplained weight loss The differential diagnosis of diarrhoea The differential diagnosis of acute and chronic abdominal pain The differential diagnosis of dysphagia
2.5 Common investigations	Interpretation of liver function tests. Investigation of patients with anaemia, especially iron deficiency anaemia and weight loss The investigations of a patient with suspected coeliac disease The investigation of a patient with gastrointestinal blood loss The investigations in a patient with suspected acute abdomen The investigations in a patient with dysphagia Investigations in patients with vomiting and/or diarrhoea An understanding of the indications and risks of upper endoscopy and colonoscopy The investigations in a patient with jaundice Understanding of indications and risks of liver biopsy, ascitic tap
2.6 Common procedures	Insertion of nasogastric tube Blood transfusion Understanding of sigmoidoscopy, rectal biopsy, gastroscopy, colonoscopy, liver biopsy

2.7 Management options	Management plan for a patient with acute GI haemorrhage including risk assessment Management of patients with dyspepsia PUD and Helicobacter pylori infection Understand appropriate management for patients with bowel obstruction including disorders of fluid, electrolyte, and acid base Able to describe the available management strategies for inflammatory bowel disease Assessment and management strategies of patients with liver failure Management of cirrhosis and its complications The role of liver transplantation in the management of patients with liver disease and an understanding of immunosuppression. The complications and management of patients with excess alcohol use and alcoholic hepatitis Management of patients with uncomplicated gastroenteritis Management of patients with common GI cancers
2.11 Prescribe	To safely prescribe medications in the presence of liver impairment The indications and use of treatment in patients with hepatic encephalopathy An understanding of those medications which can cause liver impairment Risks and benefits of therapeutic immunosuppressants
2.12 Recognise critically unwell patients and perform CPR	The treatment and management of acute gastrointestinal bleeding The management of patients with acute abdominal pain and bowel obstruction The management of patients with severe liver failure The recognition and management of acute pancreatitis
2.14 Place the needs and safety of patients at the centre of care	Makes patient safety a priority in clinical practice Use a patient-centred approach in practicing gastroenterology An understanding of the risks and consequences of malnutrition An understanding of the use and risks common radiological investigations in gastrointestinal disease including the use of ultrasound, CT, nuclear medicine, endoscopy, biopsy
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	The role and importance of alcohol in liver and other diseases The impact of culture, social determinants of health, education level, risk behaviour and psychological factors on the presentation and history of gastrointestinal disease. An understanding of the more common genetic causes of liver disease
3.5 Health screening and prevention	An understanding of screening for colorectal cancer
3.7 Relationship between health agencies and equitable allocation of resources	The ethical considerations underpinning allocation of transplant organs Professionalism and Leadership
4.4 Principles of ethical practice	The principles of liver transplantation, and the medical, surgical, ethical, and social considerations
4.8 Roles and expertise of other health care professionals	The importance of multi-disciplinary team in management of gastrointestinal diseases and the indications for specialist referral

GENERAL MEDICINE

1.1 Biological, clinical, epidemiological, social, and behavioural sciences 1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	**Philosophy and foundation of General Medicine** General Medicine manages patients presenting with a wide range of general medical symptoms and conditions. These patients are often elderly with significant co-morbidities. The following are the lists of the common presentations and conditions which medical students should become familiar with. General Medicine specialises in managing uncertainty, dealing with co-morbidities, diagnostic reasoning and recognising when specialty opinion or care is required. **Physiology, anatomy, pathophysiology, pathology and basic medical science** Understand the contribution of basic medical science to our knowledge of fundamental mechanism of disease and translation to clinical practice. Show appropriate clinical reasoning by analysing underlying physiological, pathophysiological process. Know the aetiology, pathogenesis, incidence, prevalence, common cause of common presentations and conditions in General Medicine **Common/important presentations** Undifferentiated presentations Chest pain Palpitation Syncope Cough Shortness of breath Haemoptysis Wheeze Abdominal pain Abdominal mass Nausea and vomiting Diarrhoea Constipation Haematemesis and melaena Dyspepsia Dysphagia Weight loss Jaundice and abnormal LFTs Obesity Polyuria/polydipsia Hirsutism Amenorrhoea Dysuria Haematuria

	Proteinuria Renal colic Electrolyte abnormality Raised serum creatinine Anaemia Bruising and spontaneous bleeding Lymphadenopathy Fever Sepsis Genital discharge and ulceration Paraesthesia and numbness Acute confusion Dizziness and vertigo Headache Hearing loss Involuntary movements Seizures Unsteadiness / balance disturbance Visual disturbance Weakness and paralysis Back pain Joint pain and swelling Neck pain Deterioration in mobility Falls Frailty Incontinence Memory loss Aggressive or disturbed behaviour Alcohol and substance dependence Anxiety or panic Depression and self-harm Treatment refusal Rash Fatigue Coma and impaired consciousness Peripheral oedema **Common/important Conditions** **Cardiovascular disease** Ischaemic heart disease including acute coronary syndrome and stable angina

	Hypertension including malignant and resistant hypertension Heart failure including pulmonary oedema Valvular heart disease including rheumatic fever Atrial Fibrillation and anticoagulation Hyperlipidaemia Thoracic and abdominal aortic aneurism Peripheral vascular disease **Respiratory** Asthma COPD Upper and lower respiratory tract infection Pneumonia Respiratory failure Pulmonary embolism and deep vein thrombosis Lung Cancer including: screening, investigation, principals of staging and treatment Obstructive sleep apnoea Pleural effusion Pneumothorax Interstitial lung disease **Gastroenterology** Acute gastrointestinal haemorrhage Liver failure and hepatic encephalopathy GORD Peptic ulcer disease, including helicobacter pylori infection, gastric carcinoma Coeliac disease Inflammatory bowel disease Irritable bowel syndrome Colonic adenoma/carcinoma Diverticulosis/diverticulitis Acute hepatitis, including alcoholic liver disease Non-alcoholic steatohepatitis (NASH) Cirrhosis and complications Haemochromatosis Acute and chronic pancreatitis and complications **Endocrinology** Diabetes including management, insulin initiation and titration, and complications such as DKA Hyper and hypothyroidism, thyroid nodules

	Osteoporosis Basic investigation and initial management of more complex endocrine disorders including: adrenal disease, prolactin abnormalities, other pituitary disease **Nephrology** Acute and recurrent urinary tract infections Acute kidney injury including acute tubular necrosis, common nephrotoxins Glomerulonephritis Chronic kidney disease including: strategies for renal preservation Renal artery stenosis Urinary tract calculi Acid base disorders Fluid and electrolyte disturbance and management **Neurology** Stroke & TIA Epilepsy Parkinson's disease CNS infection Multiple sclerosis Guillain-Barre syndrome Bell's palsy Trigeminal neuralgia Peripheral neuropathy **Rheumatology** Septic arthritis Crystal arthropathies: gout/pseudogout Connective tissue disorders including: SLE, vasculitis, scleroderma, myositis Temporal arteritis / polymyalgia rheumatica Inflammatory arthritis such as: rheumatoid arthritis, seronegative arthritis Osteoarthritis, back pain, soft tissue rheumatism **Infectious diseases** Management and stabilisation of acutely septic patients Investigation of febrile patients, including pyrexia of unknown origin Return traveller diarrhoea and fever, malaria Meningococcal disease Cellulitis, osteomyelitis and soft tissue infection Sexually transmitted disease Tuberculosis

	Hepatitis A, B and C Viral infections such as: Influenza, measles, mumps, varicella, EBV, CMV, dengue, rubella, herpes HIV including: Initial diagnostic workup, aware AIDS defining illness, diagnosis and treatment **Haematology and oncology** Anaemia: Initial investigation, differential diagnosis and management Febrile neutropenia Lymphoma Multiple myeloma Suspected cancer: Initial investigation and appropriate referral Ongoing maintenance of patients co-managed by oncologists **Allergy** Anaphylaxis Angioedema and urticaria **Geriatrics** Dementia Delirium Falls Polypharmacy Coordination of multidisciplinary care, role of residential care **Palliative care** Symptom control Psychosocial care **Others** Pre-operative assessment Post-operative care Medical problems in pregnancy, gestational diabetes, hypertension, preeclampsia Incidental findings Chronic fatigue syndrome
2.2 Medical history taking	Obtain an accurate clinical history that reflects contextual issues including: presenting problems, epidemiology, occupation, family, gender, culture and geographic location Obtain a relevant history in complex, chronic and multisystem disorders Elicit a history to discriminate between likely clinical diagnoses
2.3 Physical examination	Conduct a systematic and structured physical examination Perform a problem-focussed physical examination relevant to clinical history, epidemiology and cultural context Able to detect abnormal signs when present and assess the significance of these findings Able to integrate findings on physical examination with history and investigation results to make diagnosis

	Able to perform the following focused examinations: Abdominal examination Breast examination Cardiovascular system examination Rheumatology examination Lymph nodes examination Penis, scrotum, testes examination Gynaecological examination Cranial nerve examination Peripheral nerve examination Respiratory system examination Skin examination and dermoscopy for skin cancer and lesions Vascular system examination Urine dipstick examination Lumbar and cervical spine Foot, ankle, knee and hip examination Hand, wrist, elbow and shoulder examination
2.4 Differential diagnosis	Apply diagnostic reasoning to arrive at one or more provisional diagnoses Learn to diagnose undifferentiated presentations, chronic complex and multisystem disorders Formulate an appropriate diagnostic plan, take into account patient preferences, and the urgency required Formulate an appropriate differential diagnosis Explain clinical reasoning behind diagnostic decisions to patients, carers, and other colleagues Be aware of common presenting symptoms in General Medicine and the possible cause and diagnosis
2.5 Common investigations	Order and/or perform appropriate diagnostic tests where required to confirm a diagnosis, monitor medical care and exclude treatable or serious conditions Determine appropriate choice of investigations, consider the risks and benefits of the investigations Swab and microbiology tests Urinary dipsticks ECG, Echocardiography Peak flow meter testing, spirometry Order appropriate blood tests Order appropriate imaging (plain Xray, ultrasound, CT, MRI and nuclear medicine) Indications for endoscopy and colonoscopy Indications for branchoscopy
2.6 Common procedures	Intravenous access Arterial blood gases Management of wounds including suturing Protecting and maintaining the airway Understanding of the indications and risks of lumbar puncture
2.7 Management options	Basic and advanced life support

	Assessment and management of patients with impaired consciousness or coma, including suspected meningitis and encephalitis Management of anaphylaxis The assessment and management of patients with shock The management of patients with life threatening causes of chest pain including MI, pulmonary embolism, aortic dissection The management of patients with an acute abdomen, suspected rupture abdominal aortic aneurysm, ischaemic bowel The assessment and management of patients with gastrointestinal haemorrhage The assessment and management of patients with acute breathlessness including acute pulmonary oedema, acute asthma, exacerbations of COPD, pneumonia, pneumothorax The assessment and management of patients with tachycardias, bradycardias and hypotension. The assessment and management of patients with acute kidney injury and acute liver failure. The management of patients with diabetic emergencies including DKA and hypoglycaemia The management of patients following a seizure or with status epilepticus The assessment and management of patients with acute poisoning, envenomation and or have attempted suicide or self harm Assessment and management of disorders with threat to vision
2.11 Prescribe	Prescribing scheduled drugs Prescription writing in hospital practice Writing medications in national hospital drug chart Writing fluid orders for patient Prescribing modifications due to co-morbidities, drug interaction, renal impairment and elderly The use of drugs in emergency situations including in cardiac arrest protocols The drug management of anaphylaxis The pharmacological management of acute pain The use of antidotes for commonly encountered poisonings The use of antibiotics in patients with severe infections The safe and appropriate administration of oxygen
2.12 Recognise critically unwell patients and perform CPR	Recognise critically unwell patients Able to perform CPR Assist in stabilising critically ill patients with above common emergency conditions
2.14 Place the needs and safety of patients at the centre of care	Use a patient-centred approach in General Medicine and make patient safety a priority An understanding of the risks of different investigations An appreciation of the protective strategies in the unconscious or critically unwell patient An appreciation of secondary threats to patient safety such as hospital acquired infection, thromboses, allergic responses
2.15 Retrieve, interpret and record information in clinical data systems	Understand the principles, applications, interpretation and limitations of common investigations
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	Apply a population health approach Analyse the social, environmental, economic and occupational determinants of health that affect the community burden of disease Provide continuity of care to patients, including management of comorbidities and cognitive impairment Provide effective health education to empower patients Ensure patient's understanding of condition and self-management

	Explore how other co-morbidities, personal/socio-economic/rural factors influenced management Involve other multidisciplinary team members in patient's care Understand the impact on patient of living in a remote rural area Apply knowledge of the differing profile of disease and health risks among culturally diverse and disadvantaged groups Address Aboriginal and Torres Strait Islander health issues
3.5 Health screening and prevention	Integrate evidence-based prevention, early detection and health maintenance activities into practice Educate patients regarding to their health issues and ways to enhance their health Implement effective lifestyle change Apply preventive medicine and general health promotion
3.7 Relationship between health agencies and equitable allocation of resources	Be aware of the range of resources and referral options available to patients Manage patients in an outpatient clinic, ambulatory or community setting, including management of chronic disease Manage medical problems in patients in other specialties and special cases Contribute to multi-disciplinary team care including effective discharge planning
Demonstrates professionalism when dealing with patients, carers, colleagues and others	
4.4 Principles of ethical practice	Practise medicine within an ethical, intellectual and professional framework Able to deal with ethical and legal issues related to clinical practice in General Medicine Able to work in a contemporary multidisciplinary team Ensure safety, privacy and confidentiality in patient care Maintain appropriate professional boundaries Advocate to increase access to quality health services for disadvantaged groups Address the health care needs of culturally diverse and disadvantaged groups
4.8 Roles and expertise of other health care professionals	Role of primary, specialist care and other health care professionals in management of patients with complex problems

GENERAL PRACTICE

1.1 Biological, clinical, epidemiological, social, and behavioural sciences 1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	**Philosophy and foundations of general practice** Population health and public health Men's health Women's health Children's and young people's health Mental health Sexual health Multicultural health and Aboriginal and Torres Strait Islander health Practice management Rural general practice Understand primary health care funding, Medicare Australia health funding and practical issues for General Practice including item numbers Epidemiology of General Practice consultations **Common/important presentations** Chest pain and chest tightness/discomfort Heartburn/indigestion Shortness of breath Headache Dysuria Back pain Cough Weight loss Breast lump Diarrhoea Rash Sore throat Earache Skin check Screening and health check Immunisation Falls services for elderly and aged care Immobility Palliative care in the community Developmental assessment Infant feeding The baby that is always crying Failure to thrive Enuresis and soiling

	Hyperactivity Child abuse Sexual abuse Trauma Infertility Contraception **Common/important Conditions** ***Cardiovascular system*** Hypertension Ischaemic heart disease/angina Heart failure Atrial Fibrillation and anticoagulation Hyperlipidaemia ***Respiratory*** Asthma COPD Upper and lower respiratory tract infection Smoking cessation Viral sore throat, glandular fever, tonsillitis Otitis media & externa Rhinitis Obstructive sleep apnoea ***Gastrointestinal system*** GORD Gastroenteritis *Irritable bowel syndrome* Inflammatory bowel disease Coeliac disease Gallstones and Pancreatitis Chronic liver disease **Endocrinology** Diabetes Hypothyroidism and hyperthyroidism Osteoporosis **Genitourinary system**

	UTI Common STDs Chronic kidney disease Prostate disease including prostate cancer **Neurological system** Dementia and delirium Stroke Parkinson's disease Migraine, tension headache, cluster headache **Haematology and oncology** Anaemia Mechanical low back pain Common cancers: breast, prostate, bowel, lung, skin **Obstetrics and Gynaecology** Contraception Early pregnancy and pregnancy shared care Menopause and menstrual disorders **Psychiatric diseases** Depression, anxiety Chronic psychosis Personality disorder Chronic fatigue syndrome **Dermatology** Eczema Psoriasis Alopecia Acne Skin cancers Leg ulcers **Others** Mild trauma and sport medicine Back pain Disability in General Practice Drug and alcohol medicine Travel medicine Dementia

	End of life care Advanced care planning and directives Bereavement Clinical Practice
2.2 Medical history taking	History taking and documentation of chronic diseases, other co-morbidities, past medical history, family history, drug history and social history Elicit likely causes and risk factors for common presentations/conditions Elicit a history to discriminate between likely clinical diagnoses Able to communicate effectively with a range of patients Understanding of the issues involved in communication with family, friends and carers of patients Identify potential impacts of sociocultural factors on presentation, engagement and compliance Identify the key signs to be elicited on physical examination during history taking Appreciate psychological factors that may be contributing to, or consequences of, physical symptoms
2.3 Physical examination	Informed consent prior to undertaking a physical examination Conduct an appropriate, respectful and structured physical examination Able to detect abnormal signs when present and assess the significance of these findings Able to integrate findings on physical examination with history and investigation results to make diagnosis In combination with history-taking, Identification of a significantly ill patient Able to undertake a focussed examination relevant to the presenting complaint
2.4 Differential diagnosis	Be aware of common presenting symptoms in General Practice and the possible cause and diagnosis Deal with common undifferentiated problems in General Practice Provide diagnostic formulations Be able to formulate a differential diagnosis for the common presenting symptoms Use appropriate investigations and screening tools to make a diagnosis Be familiar with the network of diagnostic services that can be used in the private and public health care system
2.5 Common investigations	Understand the need for targeted and relevant investigations Appropriate explanation, informed consent regarding commonly used investigations Determine appropriate choice of investigations consider the risks and benefits of the investigations Swab and microbiology tests Samples, analysis and use of urinary dipsticks ECG Peak flow meter testing, spirometry Order appropriate blood tests Order appropriate imaging Awareness of use of point of care tests
2.6 Common procedures	Understand the procedures which may be undertaken safely in general practice

	Subcutaneous, IM injections and vaccinations Venepuncture Measure blood glucose levels using finger prick testing Administer local anaesthesia Use ophthalmoscopy and otoscope External auditory canal irrigation Wound dressings Simple skin lesion excision Simple suturing Suture removal Simple swab Inhaler technique Cervical smear
2.7 Management options	Develop evidence based management plan for patients with common presentations and conditions Develop patient centred consulting skills and holistic care in considering patient's ideas, beliefs, concerns, expectations, effects on life and feelings of the illness Indications for referral and write a referral letter Breaking bad news and managing patients who are agitated or distressed Develop a GP chronic disease management plan and understand which for conditions this might be particularly useful Develop a GP mental health plan Awareness of strategies used in crisis intervention and managing violence Appreciation of the management of drug seeking patients Appreciation of ways in which health can be optimised and maintained including health promotion education and self care The importance of continuity of care and the risks of fragmentation of care Awareness of the roles of multidisciplinary teams in care
2.11 Prescribe	Prescribing scheduled drugs Prescription writing Prescribing in General Practice including obtaining a PBS authority Prescribing modifications due to co-morbilities, drug interaction, compliance and cost Be aware of the guidelines for appropriate use, dosing, limitations, side effects and interaction of common medications Access resources to assist in rational prescribing such as the National Prescribing Service (NPS) Appropriate monitoring of treatment, treatment concordance, barriers to medication compliance and efficacy The appropriate primary care use of treatments such as antibiotics and analgesia Common prescription and over-the-counter drug interactions Management of medication misuse Appreciation of restricted medications and legislation

2.12 Recognise acute serious illness and trauma	Recognition of clinical features and initial management of acute serious illness including Anaphylaxis, acute asthma, pulmonary oedema, snake bite, hypoglycaemia, seizure, stroke, myocardial infarction Recognition of seriously unwell patients and the need for specialist or hospital care and arrangements for transfer
2.14 Place the needs and safety of patients at the centre of care	Identify factors that may impact effective communication and describe strategies to overcome barriers to communication including use of interpreters Display an empathetic approach for patients Appreciation of shared decision making
2.15 Retrieve, interpret and record information in clinical data systems	Documentation in electronic and written records in primary care including secure storage and confidentiality Communication with specialist, hospital and team care Awareness and use of assessment tools such as: mini-mental status examination suicide risk assessment (eg SAFE-T – Suicide Assessment Five-step Evaluation and Triage) Depression Anxiety Stress Scales (DASS) developmental screening for infants and children (Australian developmental screening test)
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	Understand the central role of GP in the health care system Communicate effectively and appropriately to provide quality care Provide effective health education to empower patients Ensure patient's understanding of condition and self-management Explore how other co-morbidities, personal/socio-economic/rural factors influence management Involve other multidisciplinary team members in patient's care Understand the impact on patients of living in a remote rural area Understand the follow up process including home visit and nursing home visit Understand the particular challenges of Aboriginal and Torres Strait Islander health Appreciation of contemporary public health risks
3.5 Health screening and prevention	Promote important screening program including breast cancer, bowel cancer screen Appreciate the evidence of benefits and harms in screening programmes Educate patients in regard to their health issues and ways to enhance their health Implement effective lifestyle change General health promotion and identification of patients who would benefit from specific interventions optimising nutrition and exercise Promote early return-to-work after work-related injuries or illness Implement management strategies regarding alcohol, tobacco and other substance use, gambling, Identify and manage safety risks for older patients Counsel patients with genetic risks of disease
3.7 Relationship between health agencies and equitable allocation of resources	Be aware of the range of resources and referral options available to patients Professionalism and Leadership

4.4 Principles of ethical practice	Demonstrate professional approach to patient's care Understand professional conduct, boundaries, confidentiality, and duty of care in General Practice Advocate for increasing access to quality health services for patients especially rural patients Aware the importance of confidentiality Approaches to address patient complaints
4.8 Roles and expertise of other health care professionals	Understand the roles and expertise of other health care professionals in primary care Strategies to minimise fragmentation of care

GENETICS

1.1 Biological, clinical, epidemiological, social, and behavioural sciences 1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	**Philosophy and foundation of General Medicine** Medical genetics is one of the most rapidly advancing fields of medicine; molecular genetics is now integral to all aspects of biomedical science and clinical practice. Every medical student will require a basic knowledge of human genetics and their application to a wide variety of clinical problems **Physiology, anatomy, pathophysiology, pathology and basic medical science** *The human genome, epigenetics and chromosomes* 1. The human genome 2. The associated epigenome 3. Structures of human chromosomes 4. The human karyotype 5. Staining metaphase chromosomes The nature of mutations and how they contribute to human variability and to disease The factors that affect development of the phenotype in single-gene disorders, including variable expressivity and incomplete penetrance Understand how genes are organized into chromosomes, how chromosomes replicate in mitosis and meiosis, and how they are transmitted from parent to child The modes of Mendelian inheritance and autosomal dominant, autosomal recessive, X-linked dominant, and X-linked recessive traits The modes of non-Mendelian inheritance patterns: multifactorial, mitochondrial, trinucleotide repeat expansion (anticipation), imprinting The basis of mitochondrial diseases and the expected pattern for mitochondrial (maternal) inheritance *Classification of genetic disorders* 1. Single-gene disorders 2. Chromosome disorders 3. Multifactorial disorders 4. Somatic cell genetic disorders 5. Mitochondrial disorders *The molecular and cellular origins of chromosome abnormalities/disorders* 1. Gametogenesis and meiosis, changes in chromosome number 2. Chromosome recombination 3. Chromosome segregation 4. Deletions or duplications 5. Translocation 6. Chromosome abnormalities in somatic cells (cancer) 7. The molecular structure of chromatin

	8. DNA methylation and histone methylation and acetylation 9. X-chromosome inactivation 10. Imprinting abnormalities 11. Defective telomeres replication The principles of population genetics and the public health implications of genetic epidemiology Understand how polymorphisms, gene linkage, and human gene mapping are used in medicine Understand the multifactorial nature of most human traits, both normal and abnormal, and the principles of multifactorial inheritance Describe the mechanisms of teratogenesis and the effects of major human teratogens Describe the role of genetics in the pathogenesis of neoplasms and in the predisposition to malignancies Understand the basic common molecular and cytogenetic diagnostic techniques and how they are applied to genetic disorders Understand epigenetic mechanisms, explain how epigenetics influences in gene expression and disease onset and severity Explain pathological and biochemical changes, clinical symptoms in adult and paediatric common metabolic diseases **Common/important presentations** Inborn errors of metabolism Pharmacogenetic variations Congenital anomalies Evaluation and calculation of genetic risk Cancer genetics Genetic screening Genetic counselling Prenatal diagnosis Pedigree analysis Neonatal bloodspot screening **Consider genetic disorders and the role of genetic testing for the following presentations** Acute encephalopathy Acute psychosis Cardiomyopathy Congenital lactic acidosis Developmental regression Dysmorphic features Eye disease Hepatosplenomegaly Hypoglycaemia Intellectual disability Liver disease including acute liver failure Movement disorders Myopathy

	Nutritional status and growth failure Peripheral neuropathy Rhabdomyolysis CKD, Fanconi syndrome and renal tubular acidosis Seizures Skeletal disorders Skin disorders **Common/important Conditions** Down's syndrome Turner's syndrome Klinefelter's syndrome Fragile X syndrome Androgen insensitivity syndrome Inherited cardiomyopathies, arrhythmias, sudden cardiac death Familial hyperlipidaemia and disorders of lipoproteins and lipid metabolism Cystic fibrosis Haemochromatosis Wilson's disease Polycystic kidney disease Tuberous sclerosis Thalassemias and other hemoglobinopathies Haemophilia Thrombophilia Von Willebrand disease The "Philadelphia" chromosome and CML Huntington disease Neurofibromatosis Charcot-Marie-Tooth syndrome Inherited muscular dystrophies Congenital hearing loss Dementia Breast/ovarian cancer, BRCA1/2 mutations Adenomatous polyposis of the colon Hereditary non-polyposis colon cancer Prader-Willi-Angelman syndromes MELAS syndrome Phenylketonuria Clinical Practice
2.2 Medical history taking	Elicit a comprehensive medical genetic history and construct an appropriate pedigree

	Gather family history which may be helpful in genetic referral for diagnosis, testing, treatment, and counselling Elicit history of possible late complications of common metabolic disorders
2.3 Physical examination	Conduct a comprehensive physical examination for major and minor anomalies Able to detect abnormal signs when present and assess the significance of these findings Able to integrate findings on physical examination with history and investigation results to make diagnosis
2.4 Differential diagnosis	Able to consider a "genetic" disease in the differential diagnosis of a clinical presentation
2.5 Common investigations	Describe basic genetic investigation, including the use of specialized tests through biochemical, cytogenetic, and molecular genetic laboratories: • karyotype • fluorescent in situ hybridization • polymerase chain reaction • DNA sequencing • mutation analysis, gene mapping and linkage analysis • DNA banking, and DNA microarrays Understand genetic tests may provide a definitive diagnosis or just identify inherited risk in family members of an affected individual Understand many genetic tests are complex with limited sensitivity and/or specificity Understand the needs for pre- and post-test counselling • test interpretation (potential for ambiguous test results, as well as false positives and false negatives) • implications of test results for clinical management and psychosocially • implications of test results for family members Diagnostic screening for inborn errors of metabolism in symptomatic patients by analysis of metabolites such as amino acids in urine, plasma and CSF Understand the basic diagnostic assays for common genetic disorders by analysis of specific analytes in body fluids, enzymatic studies, or DNA studies of specific genes Understand the role of "karyotype" analysis in the discovery and diagnosis of human chromosome disorders Appreciate the role of testing in utero for foetal abnormalities
2.6 Common procedures	Construct and analyse a three-generation pedigree Appreciation of genetic counselling Familiar with prenatal diagnostic procedures (e.g., amniocentesis, chronic villus sampling) Familiar the availability and cost of the common genetic tests locally
2.7 Management options	Develop general approaches to treatment of genetic diseases Appreciation of appropriate treatments, including dietary, pharmacological, enzyme-replacement, transplantation, and gene therapy Explain the treatment for common metabolic disorders including dietary management, metabolic inhibitors or activators or cofactor, chelation, enzyme replacement and gene therapy

	Apply knowledge of biochemical pathways and genetic principles to treat metabolic disorders Apply knowledge of genetics/genomics to the treatment of cancer Develop patient centred consulting skills in considering patient's ideas, beliefs, concerns, expectations, effects on life and feelings of the illness Provide palliative care for advanced genetic disorders such as Huntington disease
2.14 Place the needs and safety of patients at the centre of care	Use a patient-centred approach Display an empathetic approach to patients with genetic disorders and their relatives and carers Share decision making by informing the patient, prioritising the patient's wishes, and respecting the patient's beliefs, concerns and expectations
2.15 Retrieve, interpret and record information in clinical data systems	Appropriately select investigations and interpret results Be able to use information systems effectively, including electronic library and electronic resources, in the evaluation and management of patients with genetic diseases, the diagnosis of multiple congenital anomaly syndromes and the recognition of teratogenic exposures Basic understanding of cytogenetic, biochemical, and molecular laboratory reports Be aware of online genetics resources: • Online Mendelian Inheritance in Man (OMIM) • CDC Tier 1 Genomic Applications Toolkit • NCBI Genetic Testing Registry (GTR) • NIH Genetics Home Reference
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	Appreciation for the economic, social, psychological, and familial implications of genetic disorders Ensure patient's understanding of condition and self-management Describe organizational and economic aspects of the health care system regarding genetics disorders Learn to communicate information regarding genetic conditions, clearly, nondirective, and without personal bias, to people from greatly differing educational, socioeconomic, ethnic, and cultural backgrounds Define populations at risk/prevalence of genetic conditions
3.5 Health screening and prevention	Integrate evidence-based prevention, early detection and health maintenance activities into practice Understand the difference between genetic testing for screening vs. genetic testing for diagnosis of disease Describe population-based screening for inborn errors of metabolism by enzyme, protein and metabolite assays Understand the existence of and justification for screening programs such as neonatal bloodspot screening to prevent genetic disease Maternal fetal screening especially maternal age and risk of fetal Down syndrome Breast cancer, bowel cancer and ovarian cancer screening in high risk population
3.7 Relationship between health agencies and equitable allocation of resources	Be aware of the range of resources and referral options available to patients Recognise that patients with genetic disease are best served by a multidisciplinary approach incorporating physicians, geneticists, and genetic counsellors

	Understand the utility of early referral to a genetic counsellor Utilize community support services and agencies appropriately Describe local and national referral and management guidelines for patients with genetic conditions Able to access specialist help and advice from genetic services and refer appropriately Address the difficulty in accessing to genetics consultation, particularly in rural and remote areas
4.4 Principles of ethical practice	Practise medical genetics within an ethical, intellectual and professional framework Comply with legal, ethical and medical requirements relating to patient records and documentation, including confidentiality, informed consent and data security Identify culture in sex roles, decision making, values in medical genetics Identify special legal, cultural, religious and ethical issues involved in the practice of medical genetics Appreciation of varying cultural, social, and religious attitudes in relation to issues such as contraception, abortion, parenting, and gender roles "Respect patients' religious, moral, and ethical beliefs and biases, even if they differ from the students' own beliefs Be aware of both the importance of confidentiality and the difficulties that confidentiality poses when relatives are found to be at risk for a serious and potentially preventable disease Demonstrate an awareness of cultural diversity and the ability to function effectively and respectfully, when working with and treating Aboriginal people
4.8 Roles and expertise of other health care professionals	Understand medical genetics is at the interface between the genetic diagnostic laboratory, computer informatics, patients and clinicians Understand the role of primary, specialist care and other health care professionals in management of patients with complex genetic problems Learn what genetic services are available in local medical system and how to access them Understand when to recommend a patient to a genetic counsellor

GERIATRICS

1.1 Biological, clinical, epidemiological, social, and behavioural sciences 1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	**Physiology and anatomy** Normal ageing and molecular, cellular and genetic theories of ageing The anatomical and histological changes associated with ageing The physiology of ageing Appreciate the current and predicted demographic and epidemiological features of ageing Appreciate the common age related changes in mobility, vision and hearing **Common/important presentations and conditions** Falls Osteoporosis Dementia Delirium/confusion Depression Incontinence Pressure ulcer Poor Mobility Frailty Clinical Practice
2.2 Medical history taking	Undertake an appropriate history in the elderly patient including the features of dementia, functional and social situation
2.3 Physical examination	Be able to assess cognitive function, perform a mental state examination
2.4 Differential diagnosis	Describe the differential diagnosis for causes of falls Describe the differential diagnosis of dementia Describe the differential diagnosis of delirium
2.5 Common investigations	Understand the Comprehensive Geriatric Assessment including the assessment medical comorbidity, function, cognition, nutrition, socioeconomic status, supports at home Select appropriate investigations for elderly patients
2.7 Management options	Be able to assess, diagnose, treat, and manage common acute and chronic illnesses in older people Understand of the management of the rehabilitation of the older person who has suffered a functional decline following an acute insult Appreciate the assessment of the care requirements for the older person who may require community or residential care Aware of the management of patients with delirium and dementia Diagnose and manage urinary incontinence and retention, constipation and faecal incontinence
2.11 Prescribe	Understand the effect of ageing upon pharmacodynamics and pharmacokinetics

	Appreciate the principles of safe prescribing in the elderly and polypharmacy Describe the principles of prescribing in palliative care settings including symptom relieving medications
2.12 Recognise critically unwell patients and perform CPR	Appreciate limitations of care and discussions of not for resuscitation
2.14 Place the needs and safety of patients at the centre of care	Assessment of the activities of daily living Understand the potential complications of acute illness and immobilisation in the elderly Understand iatrogenic problems in the elderly
2.15 Retrieve, interpret and record information in clinical data systems	Prescribing scheduled drugs Prescription writing in hospital practice Writing medications in national hospital drug chart
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	Understand and acknowledge the importance of socio-economic factors that contribute to illness vulnerability Recognise the special needs of older people from culturally and linguistically diverse backgrounds Awareness of elder abuse
3.5 Health screening and prevention	Understand strategies to promote healthy ageing Describe the important primary and secondary prevention strategies in the elderly
3.7 Relationship between health agencies and equitable allocation of resources	The ethical considerations underpinning care of the elderly Understand the roles of the Aged Care Assessment Teams and Services Understand the different levels of residential care and the cost implications and prevalence of residential care

GYNAECOLOGY

1.1 Biological, clinical, epidemiological, social, and behavioural sciences 1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	**Physiology and Anatomy** The anatomy of the female genital tract Physiology of the menstrual cycle Menarche and menopause Normal vaginal discharge Principles of commonly used contraceptive methods Pregnancy **Pathophysiology** Menstrual disorders Subfertiltiy/Infertility Cervical cancer and the role of HPV **Common/important presentations** Intermenstrual bleeding Post coital bleeding Post menopausal bleeding Menstrual disorders including menstrual irregularity, menarche, menopause Heavy menstrual bleeding Dysmenorrhoea Primary and secondary amenorrhoea Hirsutism Vaginal discharge Pelvic pain Vaginal prolapse Abnormal cervical smear Unintended pregnancy Psychosexual problems Female sexual dysfunction Sexual violence Urinary incontinence Infections of the lower genital tract **Common/important conditions** Pelvic inflammatory disease and pelvic infection Polycystic ovarian syndrome Endometriosis Sexually transmitted infections including HIV Bartholin abscess/cyst

	Candida infections Carcinoma of the cervix Carcinoma of the uterus Benign disorders of the uterus: fibroids, endometrial hyperplasia Carcinoma of the ovary Miscarriage Ectopic pregnancy Gestational trophoblastic neoplasia Bleeding or pain in early pregnancy Infertility Contraception and sterilisation, therapeutic abortion Abortion
2.2 Medical history taking	Elicit a history from women with gynaecological presentation Elicit a sexual, menstrual and a contraceptive history Elicit a history regarding incontinence and prolapse Take a subfertility history
2.3 Physical examination	Able to undertake an abdominal examination Able to undertake a vaginal examination and a speculum examination Understand the importance of having a chaperone present for all gynaecological examinations and procedures The examination of a woman with pregnancy
2.4 Differential diagnosis	The differential diagnosis of primary and secondary amenorrhoea The differential diagnosis of dysmenorrhoea The differential diagnosis of vaginal bleeding Differential diagnosis in subfertility and infertility: ovulatory dysfunction, male factor, tubal disease, endometriosis, coital dysfunction and unexplained infertility
2.5 Common investigations	High vaginal and endocervical swabs Cervical smear Urinary pregnancy test Awareness of the indications and role of colposcopy, pelvic ultrasound Investigations for suspected sexually transmitted infections Investigations in the assessment of incontinent and prolapse Urinary microbiology Urodynamics study Hysteroscopy and endometrial sampling Cystoscopy

	Blood tests and other basic tests in the investigation of amenorrhoea and subfertility
2.6 Common procedures	Insertion of urinary catheters in female Perform cervical smear Perform high vaginal and endocervical swabs Observe hysterectomy
2.7 Management options	The support of a woman following pregnancy loss Management of symptoms and problems of menopause The management options for gynaecological cancers The management of women with an abnormal cervical smear The different contraceptive methods The management options available to women with an unintended pregnancy The management of women with menorrhagia Management of common psychosexual problems and female sexual dysfunction The non-surgical management of incontinence and/or prolapse The surgical management of incontinence and/or prolapse The principles of ovulation induction, artificial reproduction techniques, gamete donation and reproductive surgery
2.11 Prescribe	Oral contraception Hormone replacement therapy
2.12 Recognise critically unwell patients and perform CPR	Recognition of the patient with serious gynaecological presentations including acute vaginal bleeding, ectopic pregnancy
2.14 Place the needs and safety of patients at the centre of care	Display an empathetic approach for patients with gynaecological problems Understand the emotional implications of subfertility
2.15 Retrieve, interpret and record information in clinical data systems	Prescribing scheduled drugs Prescription writing in hospital practice Writing medications in national hospital drug chart Writing fluid orders for patient Interpret pelvic ultrasound result Health and Society
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	Appreciation of the epidemiology of sexually transmitted infections Understanding of the legal age of consent for sexual intercourse Implications of prescribing contraception Understanding of sexual assault and the legal ramifications The legal status of the fetus and mother

	The prevalence of sexual violence and acute and long term impacts Gynaecological problems with high prevalence in indigenous women
3.5 Health screening and prevention	The role of cervical cancer screening and HPV vaccination Screening tests for sexually transmitted infections Professionalism and Leadership
4.4 Principles of ethical practice	Acknowledge and respect cultural and sexual diversity The particular importance of confidentiality and consent in care of patients with gynaecological issues Understanding of legislation and ethical considerations in relation to termination of pregnancy, sexual assault and child protection
4.8 Roles and expertise of other health care professionals	The roles of other health professionals in the management of patients with gynaecological problems

HAEMATOLOGY

1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	Haematology is a clinical discipline that specialises in the diagnosis, treatment, prevention and investigation of disorders of the haematopoietic, haemostatic and lymphatic systems and disorders of the interaction between blood and blood vessel wall. These disorders may be primary blood disorders or the consequence of diseases in other systems. Haematology also includes transfusion medicine. **Physiology, anatomy, pathophysiology, pathology and basic medical science** The anatomy, physiology, biochemistry and molecular biology of the cellular and protein elements of blood and of the haematopoietic, lymphatic, vascular and reticuloendothelial systems Knowledge of pathophysiology and pathogenesis of common haematological disorders Describe the mechanisms of erythropoiesis The aetiology and pathophysiology of common causes of anaemia Able to outline the molecular basis of haemoglobinopathies Basic knowledge of normal haematopoiesis and stem cell biology Explain lymphocyte molecular biology, cluster differentiation (CD) classification, immunoglobulin Understand basic histopathology of lymphoma Describe the pathophysiology of normal haemostasis Describe coagulation pathways including control mechanisms, coagulation inhibitors and fibrinolysis Explain the epidemiology and molecular basis of thrombophilia Explain the pathogenesis of thrombosis in arteries, veins and the microcirculation Outline platelet structure and function and define platelet and vessel wall interaction Outline the mechanisms of action of heparin, oral anticoagulants (vitamin K antagonists, novel oral anticoagulants NOACs platelet inhibitors Outline basic blood transfusion techniques including blood group testing, antibody screening and cross-matching **Common/important presentations** General weakness Fatigue Unintentional weight loss Night sweats Persistent fever Easy bruising and bleeding Spontaneous bleeding Frequent infections Bone or joint pain Minimal trauma fractures Enlarged lymph nodes Pallor/anaemia Shortness of breath Jaundice

	Hepatosplenomegaly Deep vein thrombosis (DVT) and Pulmonary embolism (PE) **Common/important Conditions** *Anaemia* Iron deficiency anaemia Megaloblastic anaemia Congenital & acquired haemolytic anaemia Haemoglobinopathies: thalassaemia, sickle cell disease Anaemia of chronic disease *Acute Leukaemia* Presentation, natural history, diagnosis & treatment of acute leukaemia in adults and children Classification of acute leukaemia *Myeloproliferative disorders* Chronic myeloid leukaemia (CML) Polycythaemia vera (PV) Essential thrombocythaemia (ET) Myelofibrosis (MF) *Plasma cell dyscrasias* Multiple myeloma MGUS AL Amyloid *Lymphoproliferative disorders* Hodgkin lymphomanon Non-Hodgkin lymphoma Chronic lymphocytic leukaemia (CLL) *Congenital coagulation disorders* Haemophilia A Haemophilia B Von Willebrand Disease *Thrombophilia* *Platelet disorders* Idiopathic thrombocytopenic purpura (ITP) TTP HUS and atypical HUS

	Acquired bleeding disorders DIC Massive transfusion Renal disease Hepatic disease Obstetric complications Coagulation factor inhibitors Acquired Factor deficiency, especially FVIII and VWF *Bone marrow failure* Aplastic anaemia Myelodysplastic syndromes Pancytopenia Paroxysmal nocturnal haemoglobinuria *Transfusion medicine* Donor and recipient and pre transfusion testing, including consent and sample precautions Indications for blood products (including special requirements such as irradiation) Selection of blood and blood products and their administration Complications of transfusion Recognise, investigate and manage transfusion reactions Hospital and national/regional haemovigilance activities Monitor the efficacy of transfusion Long-term complications of repeat blood transfusion Iron overload disorders
2.2 Medical history taking	Obtain a relevant haematological history in complex, acute and chronic presentations
2.3 Physical examination	Able to integrate findings on physical examination with history and investigation results to make haematological diagnosis Recognise the limitations of physical examination in haematology and the need for adjunctive assessment to confirm diagnosis
2.4 Differential diagnosis	Apply diagnostic reasoning to arrive at one or more provisional haematological diagnoses Formulate an appropriate diagnostic plan, taking into account patient preferences, and the urgency required Formulate an appropriate differential diagnosis for disorders such as anaemia Be aware of common presenting symptoms in haematology and the possible cause and diagnosis
2.5 Common investigations	Order and/or perform appropriate diagnostic tests where required to confirm a diagnosis, monitor treatment Determine appropriate choice of investigations, consider the risks and benefits of the investigations (see below) Order appropriate imaging (plain Xray, ultrasound, CT, MRI and nuclear medicine)

	Erythrocyte Studies Iron studies Vitamin B12, folate level measurement Intrinsic factor antibody measurement **Haemolysis Studies** Reticulocyte count Plasma LDH and haptoglobin measurement Tests for haemoglobinopathies/thalassaemia Screening tests for G6PD and other enzyme deficiencies Tests for paroxysmal nocturnal haemoglobinuria **Coagulation Studies** Coagulation testing using point-of-care instrumentation Prothrombin time and INR Activated partial thromboplastin time (APTT) Anti-Xa assay Coagulation factor assays and inhibitor studies D-dimer assays von Willebrand factor studies Protein C, Protein S, antithrombin assays Antiphospholipid antibody testing (eg. Lupus anticoagulant, anticardiolipin antibodies) Tests for heparin induced thrombocytopenia (HIT) Molecular testing, (Factor V Leiden, prothrombin G20101A gene mutation, methyltetrahydrofolate reductase) Plasma homocysteine **Blood Transfusion Studies** Blood grouping and antibody screening Direct antiglobulin test Cross-matching Antenatal serology HLA antibody testing Tests for Hepatitis B, C, HIV detection and other transfusion transmissible diseases Transfusion reaction studies **Other investigations** Immunoelectrophoresis (EPG) and immunofixation of serum and urine proteins Cryoglobulin and cryofibrinogen detection Describe the indications for bone marrow aspirate and trephine biopsies

	Understand the use of specific cytochemical stains, immunophenotyping, cytogenetics and molecular investigations in blood and bone marrow samples Describe the laboratory investigation of haemolytic disorders including disorders of the red cell membrane, enzyme disorders, microangiopathic and immune haemolysis Understand laboratory tests (Protein C, Protein S, antithrombin, APCR and Lupus anticoagulant) in the diagnosis and management of venous thrombosis Understand basic immunophenotype or flow cytometry Explain the principles, use and limitations of Point-of-Care testing
2.6 Common procedures	Describe normal and abnormal peripheral blood film appearances Analyse and interpret blood film results and manual differential white cell count Recognise malignant haematological cells (acute and chronic leukaemia, myeloma and lymphomas) and common red cell abnormalities Perform cannulation and phlebotomy, observe therapeutic venesection if possible Observe bone marrow aspiration and trephine biopsy and understand indications, benefits and potential risks, inform consent Observe breaking bad news Observe lumbar punctures for diagnosis & administration intrathecal chemotherapy
2.7 Management options	Develop, implement and maintain an evidence based management plan for the common clinical problems encountered in haematology Recognise and respond early to the deteriorating patient including observation charts and MET criteria Develop patient centred consulting skills in considering patient's ideas, beliefs, concerns, expectations, effects on life and feelings of the haematological disorders Observe the principles of systemic therapy including common chemotherapy regimens: the modes of action and side effects of drugs used in the treatment of acute and chronic leukaemia Observe supportive care in management of acute leukaemia, including the following: • Use of blood product • Prevention and management of tumour lysis syndrome • Prophylaxis and therapy for febrile neutropenia • Antiemetics Describe supportive care in myeloma, including prevention and management of renal dysfunction, bone disease, pain and bone marrow failure Understand the role of autologous and allogeneic haematopoietic stem cell transplantation in the management of acute & chronic leukaemia, myeloma, lymphoma. Identify complications of stem cell transplantation including post transplant viral syndromes and graft versus host disease and long term effects Describe the role of palliative care in patients with terminal haematological disorders Practices safe and effective initiation of anticoagulant therapy and thromboprophylaxis
2.11 Prescribe	Ensure safe and appropriate prescribing of common medications used in haematology

	Indications, contraindications, side effects, drug interactions and dosage of commonly used drugs Anticoagulants: heparin, LMWH, warfarin, Non-vitamin K antagonist oral anticoagulants (NOACs) Anti-platelets: aspirin, dipyridamole, clopidogrel Thrombolytics: tissue plasminogen activator (t-PA), alteplase Haemostatic drugs: tranexamic acid, vitamin K, desmopressin Antianaemics: iron, erythropoietin, vitamin B12, folate Blood and coagulation factor products Other drugs commonly used in haematology: hydroxyurea, dexamethasone, ondansetron, allopurinol, Co-trimoxazole, famciclovir Recall adverse drug reactions to commonly used drugs Appropriate use of blood and blood products
2.12 Recognise and assist in managing emergency presentations	Assist in stabilising critically ill patients with haematological conditions and provide appropriate primary and secondary care Emergency management of spinal cord compression and hyperviscosity Manage major blood loss and massive blood transfusion Manage febrile neutropenia, sepsis
2.14 Place the needs and safety of patients at the centre of care	Use a patient-centred approach in haematology and make patient safety a priority Develops a self-management plan with the patient with chronic haematological conditions To understand the risks of treatments and to discuss these openly with patients so that patients are able to make decisions about risks and treatment options
2.15 Retrieve, interpret and record information in clinical data systems	Understand the principles, application, interpretation and limitations of haematological tests in relation to clinical problems Interpret iron studies results Interpret results of PT, INR, APTT, thrombin time, fibrinogen assay and D-dimer results Interpret thrombophilia testing results Interpret results of investigations for haemolytic disorders
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	Understand the impact on patient of living in a remote rural area in the treatment haematologic malignancies Apply knowledge of the differing profile of disease and health risks among culturally diverse and disadvantaged groups
3.5 Health screening and prevention	Integrate evidence-based prevention, early detection and health maintenance activities into practice Identify risk factors for thrombosis, and the role of risk assessment Describe the indications and methods for thromboprophylaxis, both pharmacological and non-pharmacological measures Understand the positive and negative effects of screening on the individual such as thrombophilia screen
3.7 Relationship between health agencies and equitable allocation of resources	Awareness of high financial costs of some treatments and management strategies in haematology

4.4 Principles of ethical practice	Demonstrates professional behaviour with regards to patients, carers, colleagues and others Awareness of consent in regard to treatments in haematology Awareness of refusal of blood transfusion by some groups such as Jehovah's witnesses Awareness of management of patients with terminal haematological conditions
4.8 Roles and expertise of other health care professionals	Role of primary, specialist care and other health care professionals in management of patients with complex haematological problems

IMMUNOLOGY

1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	**Physiology and anatomy** The immune system B cells, T cells, antigen presentation and processing Major Histocompatibility Complex Immunoglobulins Innate immunity Macrophages and neutrophils Complement Allergens Classification of hypersensitivity reactions **Pathophysiology** Immunodeficiency-primary and secondary Immunosuppressive medications and mechanisms Tumour immunology including tumour antigens, immune system in tumorigenesis, passive and active immunotherapy Basic transplant immunology **Common/important presentations** Recurrent Infections Lymphadenopathy Splenomegaly Anaphylaxis Asthma, allergic rhinitis Wheezing Rash/dermatitis **Common/important Conditions** Vaccines and immunisation schedules Hypersensitivity reactions Drug allergy Food allergy Asthma Allergic rhinitis Urticaria and angioedema Atopic dermatitis Common primary and second immune deficiency AIDS and its complications Common and important autoimmune conditions including immunologically mediated lung disease, glomerulonephritis, vasculitis, contact dermatitis, SLE, immune mediated endocrine disorders including Addison's disease, Grave's disease, paraneoplastic syndromes, and multiple sclerosis

	Splenectomy Neutropenic sepsis Organ transplantation
2.2 Medical history taking	Careful history taking in cases of anaphylaxis and allergy to define antigen exposure
2.3 Physical examination	Recognition of signs of anaphylaxis and allergic responses Lymphadenopathy and Splenomegaly
2.4 Differential diagnosis	The differential diagnosis of shock and collapse The differential diagnosis of allergic reactions
2.5 Common investigations	Interpretation of full blood count Immunoglobulins T cell count and CD4count Investigations in patients with possible HIV infection Awareness of specific tests for autoimmune conditions
2.6 Common procedures	Administration of adrenaline in anaphylactic shock Appreciation of role of skin testing in allergy
2.7 Management options	Immunisation against infectious disease and schedules The role of anti-retroviral treatments in AIDS Strategies to limit allergen exposure Basic understanding of allergen immunotherapy including stinging insect and venom
2.11 Prescribe	To safely prescribe immunosuppressive medications including corticosteroids
2.12 Recognise critically unwell patients and perform CPR	The recognition and treatment of anaphylaxis
2.14 Place the needs and safety of patients at the centre of care	Understand the risks of allergen exposure Understand the risks associated with immunosuppression
2.15 Retrieve, interpret and record information in clinical data systems	Prescribing scheduled drugs and accurate recording of drug and other allergies
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	Epidemiology of HIV disease
3.5 Health screening and prevention	Role of vaccination in reducing infectious disease
4.8 Roles and expertise of other health care professionals	The importance of multi-disciplinary team in management of allergy and the indications for specialist referral.

INDIGENOUS & CULTURE

1.2 Apply core medical and scientific knowledge to individual patients, populations and health systems	Appreciate the role of cultural difference in the occurrence and presentation of people with diseases Appreciate the broad array of social and cultural influences on the manifestations of disease and wellbeing for any individual Appreciate the diversity of cultures, experiences, histories, languages and geographical locations of Aboriginal and Torres Strait Islander Peoples and how they influence health and wellbeing today. Appreciation of the diversity of cultures and peoples that will be encountered in different areas and their varying and important influences on health and health beliefs. Understand the physical well-being of the individual in the context of the social, emotional and cultural wellbeing of the whole community Understand the issues in healthcare of migrant and refugee people The differing cultural attitudes to health and wellbeing including different beliefs and practices surrounding death, transplantation, blood transfusion, contraception, termination of pregnancy
1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/ important presentations	Understand and appreciate the social determinants of health **Common/important Conditions** Rheumatic fever and heart disease Hypertension Substance misuse Scabies Strongyloides Tropical infections including melioidosis Trachoma and visual impairment Diabetes Obesity Perinatal and maternal morbidity and mortality Chronic kidney disease Cardiovascular risk profiles Otitis media and hearing impairment

1.4 Access, critically appraise, interpret and apply evidence from the medical and scientific literature	Understanding of those conditions which particularly impact some indigenous people including specific health issues uncommon to the broader population
2.1 Ability to communicate with patients, family/carers, doctors and other health professionals	Engage in culturally appropriate, safe and sensitive communication that facilitates trust and the building of respectful relationships with Aboriginal and Torres Strait Islander peoples Ability to communicate effectively and with culturally safe communication with Indigenous patients
2.2 Medical history taking	Undertake an appropriate history from an indigenous patient including community and social supports services
2.3 Physical examination	
2.4 Differential diagnosis	
2.5 Common investigations	
2.6 Common procedures	
2.7 Management options	
2.11 Prescribe	
2.12 Recognise and assist in managing emergency presentations	
2.14 Place the needs and safety of patients at the centre of care	Consider the specific health, social and community needs of indigenous patients
2.15 Retrieve, interpret and record information in clinical data systems	
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	Demonstrate knowledge of unique health concerns of indigenous people Appreciation of the connection between history and present health outcomes, including colonisation and the forms and impacts of racism Appreciation of characteristics of mortality and morbidity specific to Indigenous Australians and initiatives such as "Closing the Gap"
3.4 Health Aboriginal and Torres Strait Islander peoples	Understanding of cultural safety and ensuring that individuals and systems delivering health care are aware of the impact of their own culture and cultural values on the delivery of services, and knowledge of, respect for and sensitivity towards the cultural needs of others Appreciation of the concepts of the broad range of differing lived experiences of individual indigenous people with wide variation in geographical locations (e.g., urban, rural, remote) and historical, cultural and social experiences Knowledge of Aboriginal and Torres Strait Islander history, culture, values and social practices, and respect for how these aspects may influence health practice

	Understand Aboriginal and Torres Strait Islander key concepts of health and wellbeing and the influence of culture, family and connection to country in health practice
3.5 Health screening and prevention	Access to screening programs and diagnostic services for indigenous people
3.7 Relationship between health agencies and equitable allocation of resources	The importance of equity of access for Aboriginal and Torres Strait Islander peoples to mainstream services that are free of racism and other forms of discrimination and to services which are specific and culturally appropriate Understanding of different models of health service delivery for indigenous people Advocate for equitable health outcomes and culturally safe services for Aboriginal and Torres Strait Islander clients
4.4 Principles of ethical practice	Recognise the importance of privacy, consent, shared decision making and understand the cultural needs and contexts of different patients to obtain good health outcomes
4.8 Roles and expertise of other health care professionals	Awareness of the provision of healthcare to indigenous people The role of Indigenous professionals, family and community members and other team members in improving health care

INFECTIOUS DISEASES AND MICROBIOLOGY

1.1 Biological, clinical, epidemiological, social, and behavioural sciences	**Physiology, anatomy, pathophysiology, pathology and basic medical science** • Describe genetic, structural and biological characteristics of micro-organisms that determine virulence • Appreciate host determinants of susceptibility to infection including: age, immunodeficiency, intravenous drug use, occupation, animal/pet exposure, and travel to endemic country • Describe host immunological response to micro-organisms and how it is altered by physiological states including: extremes of age and pregnancy, or pathological states - burns, immunodeficiencies and co-infection with other micro-organisms • Describe different methods of antimicrobial susceptibility testing • Describe principles of antigen detection methods, including enzyme immunoassay (EIA), immunofluorescence • Describe principles of antibody detection methods, including: immunofluorescence, compliment fixation test, radioimmunoassay, Western blotting • Describe principles of PCR test • Outline the principles of epidemiology and the use of epidemiological tools in the surveillance and control of infections in health care settings • Discuss the global epidemiology of infections **Basic microbiology** Understand organism characteristics, typical disease patterns, diagnostic tools and approach, effective antimicrobial and adjunctive therapy and expected resistance patterns, epidemiologic factors, characteristics of predisposed host; incubation and infectivity periods and morbidity and mortality for the following pathogens: **Gram positive bacteria:** Staphylococcus aureus, including methicillin-resistant S. aureus (MRSA) Coagulase-negative staphylococcus Group A and B streptococcus Streptococcus pneumoniae Enterococcus, including vancomycin resistant enterococcus (VRE) **Fungi** Candida albicans Aspergillus fumigatus **Gram negative bacteria:** Escherichia coli Salmonella, Campylobacter, Shigella/Yersinia/Vibrio Klebsiella Enterobacter Proteus, including those with multidrug resistance, such as extended spectrum beta lactamases producers organisms Pseudomonas aeruginosa Neisseria meningitidis/Haemophilus influenzae/Neisseria gonorrhoeae

	Bacteroides fragilis Stenotrophomonas maltophilia and Burkholderia pseudomallei Legionella pneumophila **Mycobacteria:** Mycobacterium tuberculosis (MTB) Atypical mycobacteria Mycobacterium avium complex **Cell wall deficient bacteria:** Chlamydia pneumoniae, Chlamydia trachomatis, Mycoplasma pneumoniae **Spirochaetes:** Treponema pallidum and Leptospira spp. **Parasites:** Protozoa: Plasmodium spp., Toxoplasma gondii, Pneumocystis jiroveci, Giardia lamblia Helminths: Strongyloides stercoralis, Ascaris, Schistosoma spp. **DNA Viruses:** Herpes simplex virus (HSV), varicella zoster virus (VZV), cytomegalovirus, Epstein-Barr virus, human herpes virus -6, 7, and human Herpes virus -8 Adenovirus Papillomaviruses JC, BK and other polyomaviruses Hepatitis B virus Parvovirus **RNA Viruses:** Rubella virus Dengue virus and Ross River virus Hepatitis C virus Coronaviruses, including SARS Parainfluenza Mumps, measles Human respiratory syncytial virus and metapneumovirus Influenza – human and avian Human T-lymphotropic virus I/II HIV Ebola and Zika virus

	Other Viruses: Norovirus Polio Coxsackievirus, echoviruses and enteroviruses Hepatitis A virus •
1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	**Common/important presentations** Fever of short duration Fever - pyrexia of unknown origin (PUO) Febrile neutropenia Fever with rash Fever with headache, altered consciousness Fever with cough or shortness of breath Fever with jaundice Fever with dysuria or lower urinary tract symptoms Fever with joint pain Fever with muscle pain Febrile child without localising features Lymphadenopathy - generalised, localised with or without fever Septic patient and septic shock Diarrhoea Cough Return traveller diarrhoea and fever Perinatal infection screening Red eye Earache Wound infection Fever with abdominal pain Fever post-operation **Common/important Conditions** *Respiratory infection* Pneumonia: community-acquired pneumonia, nosocomial pneumonia, aspiration pneumonia Infective exacerbation of COPD or asthma Sinusitis, otitis media, pharyngitis, tonsillitis, epiglottitis, laryngitis Bronchitis Bronchiectasis Lung abscess Pleural effusion and empyema Tuberculosis

	Urinary and genital tract infection Cystitis and urethral syndromes UTI, pyelonephritis, renal abscess Asymptomatic bacteriuria Recurrent UTI – with and without a catheter UTI in children – investigation and prophylaxis Prostatitis Epididymitis and orchitis Genital lesions, ulcer, warts, and vulvitis Vaginal discharge, vaginitis, vaginosis, cervicitis Pelvic inflammatory disease Postpartum fever, endometritis, post-caesarean infection, post-abortion sepsis STD *Gastrointestinal system and intra-abdominal infection* Infectious diarrhoea, common parasite infestations Surgical abdomen/peritonitis/pancreatitis/intra-abdominal abscess/cholangitis Spontaneous bacterial peritonitis Diverticulitis Liver or splenic abscess *Skin and soft tissue infections* Cellulitis including orbital cellulitis Wound infection Skin implantation injuries – vegetation, soil and water Impetigo, folliculitis, furuncle and carbuncle Bites – human and animal Subcutaneous tissue infections and abscess Necrotising fasciitis Diabetic foot infection, gangrene Scabies *Nervous system infection* Meningitis – bacterial, virial, aseptic Encephalitis *Cardiovascular system infection* Infective endocarditis Myocarditis Pericarditis

	Vascular foreign bodies – vascular graft infection, artificial valve, pacemaker infections *Bone and joint infections* Osteomyelitis – acute and chronic Acute bacterial arthritis Viral arthritis vs. reactive arthritis Infections with prostheses in bones and joints *HIV* Pathophysiology and clinical signs and symptoms of infection Long-term management plan for patients with HIV Current diagnostic tests and procedures Progression of HIV to AIDS Manage a patient newly diagnosed with HIV Diagnose, manage, and prevent complications of advanced HIV disease/AIDS *Hepatitis A, B and C* *Rare Yet Serious Infections* Tetanus, diphtheria Creutzfeldt–Jakob disease *Infectious diseases in immunocompromised patients* Primary immunodeficiency syndromes Solid organ transplantation Bone marrow transplantation Haematological malignancy Patient taking immunosuppressants *Infections in other special host* Intravenous drug use Patients in intensive care
2.2 Medical history taking	Obtain an accurate and focused clinical history from patients presented with suspected or confirmed infection
2.3 Physical examination	Conduct a systematic and structured physical examination in patients with suspected or confirmed infection Perform a problem-focussed physical examination in order to establish diagnosis(es) and formulate differential diagnosis Able to detect abnormal signs in infection when present and assess the significance of these findings Able to integrate findings on physical examination with history and investigation results to make diagnosis

2.4 Differential diagnosis	Formulate a differential diagnosis of patients presenting with clinical features of infectious diseases Be aware of common presenting symptoms in infectious diseases and the possible cause and diagnosis Differential diagnosis for PUO
2.5 Common investigations	Determine appropriate choice of investigations, consider the risks and benefits of the investigations Select and interpret appropriate microbiological diagnostic tests below: • antibody detection • antigen detection • microscopy and culture • molecular tests • antimicrobial resistance testing • chest x-ray, other x-ray, CT scans, MRI, bone scan Apply diagnostic reasoning to minimise the number of investigations Recognise situations where it is appropriate not to investigate Indications for invasive investigation such as: bone marrow biopsy and culture, bronchoscopy, aspiration of a collection
2.6 Common procedures	Venepuncture and venous cannulation Take blood culture Hand hygiene Aseptic technique Pre-operative sterilisation Use of microscope Urine bacterial and cell count Able to recognise Gram positive or negative cocci or bacilli under microscope Describe requirements for the following types of isolation: standard precautions, contact precautions, airborne precautions and droplet precautions
2.7 Management options	Develop, implement and maintain an evidence based management plan for the common conditions (see above list) in infectious diseases Recognise and respond early to the septic patient Manage all aspects of antibiotic use including the duration Understand the principles of initiating antimicrobial therapy with reference to: • choice of empiric therapy • commencement of empiric therapy vs. waiting for a microbiological diagnosis • importance of completing investigations prior to initiating antimicrobial therapy • detect, interpret, and manage antimicrobial failure Observe management of immunocompromised patients, including those with HIV/AIDS

	Recognise and manage hospital acquired infection Manage imported infection and provide advice in relation to travel medicine Participate multi-disciplinary care planning
2.11 Prescribe	Ensure safe and appropriate prescribing of medications Select antimicrobial and other relevant drugs, considering their pharmacological characteristics Discuss the principles of antimicrobial stewardship and select appropriate antimicrobial drugs to control antimicrobial resistance Know the antimicrobials listed below with respect to: • pharmacokinetics (oral bioavailability, metabolism, changes in renal function, liver impairment, site of action/levels in various target organs) • mechanism of action • adverse drug reaction • spectrum of activity • benzylpenicillin • moderate spectrum penicillin: amoxicillin and ampicillin • antistaphylococcal penicillins: flucloxacillin • broad spectrum antipseudomonal penicillins: piperacillin, ticarcillin • combination penicillin and beta-lactamase inhibitor: amoxicillin, clavulanic acid • cephalosporins: • glycopeptides: vancomycin • fluoroquinolones: norfloxacin, ciprofloxacin, moxifloxacin • aminoglycosides: gentamicin • macrolides: erythromycin, roxithromycin, clarithromycin and azithromycin • tetracyclines: tetracycline and doxycycline • antifolate: trimethoprim, trimethoprim and sulfamethoxazole Anti-TB agents Antiviral agents: acyclovir, ganciclovir, valacyclovir, famciclovir, oseltamivir and zanamivir Consult pharmacist, MIMS, Australian antibiotic guidelines and other databases to obtain prescribing information
2.12 Recognise and assist in managing emergency presentations	Assist initial assessment and triage of patients with overwhelming sepsis or septic shock Assist in stabilising critically ill septic patients and provide appropriate primary and secondary care
2.14 Place the needs and safety of patients at the centre of care	Use a patient-centred approach in caring patients with infection Makes patient safety a priority in clinical practice Display an empathetic approach for patients with infection Share decision making by informing the patient, prioritising the patient's wishes, and respecting the patient's beliefs, concerns and expectations

2.15 Retrieve, interpret and record information in clinical data systems	Appropriately selects, manages and interprets investigations Review relevant appropriate pathology tests Understand the process and constraints of the microbiological report Interpret diagnostic test results considering accuracy, validity, reproducibility, and cost effectiveness
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	Apply a population health approach Analyse the social, environmental, economic and occupational determinants that affect the community burden of infection Discuss the global epidemiology of infections and their impact outside Australia and New Zealand Provide effective infection prevention education to empower patients Ensure patient's understanding of infection and self-management Explore how other co-morbilities, personal/socio-economic/rural factors influenced in the management of infection Describe differences in health outcomes between Aboriginal/Torres Strait Islander and non-indigenous Australians in relation to infectious diseases Discuss infection issues in Northern territory especially among the Indigenous populations Understand the notifiable diseases system, process for reporting a notifiable infectious disease and expectations on the public health practitioner and clinician
3.5 Health screening and prevention	Integrate evidence-based prevention, early detection and health maintenance activities into practice Advocate immunisation with an understanding of the immunological, epidemiological, and public health basis of immunisation strategies Describe different types of immunity and vaccines, and their implications in terms of adverse events, age at vaccination, spacing of vaccines, contraindications and passive and active immunity Describe the following principles of prevention of surgical site infection: asepsis, timing of antibiotics in surgical procedures, antimicrobial prophylaxis for different surgical procedures Discuss the principles of antimicrobial prophylaxis procedures in prevention of rheumatic fever, endocarditis, joint prosthesis infection and post-splenectomy Describe principles of infection prevention following contact with potentially contagious individuals: • meningitis – invasive Hib disease and invasive meningococcal disease • chickenpox • following sexual activity with a person known to have HIV, hepatitis B or other STI, or if status unknown following sexual assault • post-occupational exposure to blood borne viruses, e.g. sharps injuries and mucosal exposures Appreciate preventative strategies to control health care associated infections, especially MRSA, VRE, multi-resistant Gram negative bacteria Recognise the public health consequences of infections and initiate measures to minimise disease burden and prevent transmission through advice and notification Discuss use, efficacy, and cost-effectiveness of the following infection control initiatives: • hand hygiene • environmental/equipment hygiene • sterilisation/disinfection • antimicrobial prophylaxis

	• antimicrobial stewardship • sharps disposal • hospital infection control teams • isolation • infection control bundles
3.7 Relationship between health agencies and equitable allocation of resources	Manage patients with chronic infection in an outpatient clinic, ambulatory or community setting Apply a MDT approach to the management of infection within the hospital and community
Demonstrates professional behaviour with regard to patients, carers, colleagues and others	
4.4 Principles of ethical practice	Ensure safety, privacy and confidentiality in patient care Maintain appropriate professional boundaries
4.8 Roles and expertise of other health care professionals	Role of infection control nurses Role of microbiology laboratory

RHEUMATOLOGY, MUSCULOSKELETAL, ORTHOPAEDICS

1.1 Biological, clinical, epidemiological, social, and behavioural sciences 1.2 Physiology and anatomy	Structure and function of: bone especially turnover, joints, connective tissue, tendons Cellular and molecular components of the immune system Vertebral column Upper limb Lower limb
1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	Pathophysiology Pathophysiology of osteoarthritis, rheumatoid arthritis and gout Bone healing Wound healing Osteoporosis Autoimmune diseases Common/important presentations Acutely inflamed joint Polyarthralgia Back pain Sciatica Muscular pain and or weakness Multisystem disease Bone fracture Joint dislocation Common/important Conditions Septic arthritis Gout and pseudogout Rheumatoid arthritis Psoriatic arthritis Reactive arthritis Ankylosing spondylitis Lupus erythematosus and antiphospholipid syndrome Scleroderma Vasculitis Sjogren's syndrome Myositis, polymyositis and dermatomyositis Polymyalgia rheumatica and temporal arteritis Mixed connective disorders Osteoarthritis Osteoporosis

	Osteomalacia Paget's disease Fibromyalgia Common orthopaedic conditions: Hip: Degenerative joint disease, greater trochanteric bursitis Knee: Meniscus tears, anterior cruciate ligament (ACL) tear, Osgood-Schlatter's disease Shoulder: Rotator cuff tear/strain/tendinopathy, impingement syndrome/subacromial bursitis Elbow: Lateral and medial epicondylosis, olecranon bursitis, ulna nerve entrapment Wrist/hand: Carpal tunnel syndrome, wrist ganglions, trigger finger, Dupuytren's contracture Ankle/foot: Bunions, plantar fasciitis, Achilles tendinosis or rupture Spine: Low back pain, vertebral disc prolapse, sciatica, spondylolysis/listhesis Common traumatic injuries and fractures Compartment syndrome Open fracture Fractured neck of femur Pubic ramus fracture Patella fracture Shoulder dislocation Clavicle fracture Olecranon fracture Radial head fracture Distal radius fracture Scaphoid fracture Metacarpal / phalangeal fractures Tendon injuries Ankle fracture Metatarsal stress fracture Cauda equina Spinal fracture Spinal cord compression Clinical Practice
2.2 Medical history taking	Take a medical history to diagnose accurately, and manage appropriately, patients with suspected or established musculoskeletal disorders

2.3 Physical examination	Examine the musculoskeletal and relevant systems to diagnose musculoskeletal disorders and guide treatment Use, apply, and interpret measures of disease activity, functional status, and cumulative damage that are appropriate for a patient's condition Perform a locomotor screening examination - GALS (Gait, Arms, Legs, Spine) Examination of the back Examination of the major joints including spin, hip and pelvis, knee, ankle and foot, shoulder, elbow, wrist and hand Features of systemic rheumatological disease including extra-articular signs The recognition of nerve root compression in sciatica, spinal cord compression Importance of functional assessment
2.4 Differential diagnosis	The differential diagnosis for causes of back pain and 'red flags' The differential diagnosis of an acutely inflamed joint The differential diagnosis for polyarthralgia The differential diagnosis of shoulder, hip, knee wrist/hand pain
2.5 Common investigations	Order and interpret relevant, cost-effective investigations to diagnose accurately and manage patients with suspected or established r musculoskeletal disorders Investigations for an acutely inflamed joint including synovial fluid analysis Investigations in a patient with polyarthalgia Immunological tests, autoantibodies, and genetic marker such as HLA B27 Investigations in a patient with suspected temporal arteritis Radiological and imaging investigations in patients with suspected rheumatological conditions When and how to investigate a patient with back pain Radiographic investigations for suspected fracture or dislocation When and how to investigate a patient with suspected osteoporosis
2.6 Common procedures	Joint aspiration Local and intra-articular steroid injection Suturing of wounds The principles of emergency limb realignment Observe joint relocation procedures Splinting: • Apply principles of splinting including • Plaster of Paris and fibreglass as well as pre-formed splints • Explain splinting techniques including the advantages and disadvantages of backslab and full cast • Safely use splint removal equipment

2.7 Management options	General principles in managing a patient with a fracture or dislocation Management of common fractures including scaphoid fracture, neck of femur, skull fracture, Colle's fracture Management of patients with spinal cord injury Management of patients with multiple trauma Role of rehabilitation in patients with musculoskeletal conditions Role of physiotherapy in musculoskeletal conditions Role of anaesthetic and anti-inflammatory injections in management of musculoskeletal conditions Role of surgery in rheumatological conditions The prevention and management of osteoporosis and osteomalacia Management principles in patients with ankylosing spondylitis Basic understanding of indications, potential benefits, risks and results for: • Total hip and total knee replacement • Arthroscopy • Meniscectomy • Anterior cruciate ligament reconstruction • Simple shoulder procedures • Tendon repair • Wound management and debridement • Nerve decompression (carpal tunnel) Understand the indications, potential benefits, risks and results for: • Open and closed reduction • Wiring, plating, intramedullary nailing and joint replacement in trauma • Dynamic hip screw and hemiarthroplasty for hip fracture
2.11 Prescribe	The indications and risks of commonly prescribed treatment in rheumatological disease including NSAIDS, corticosteroids, disease modifying anti-rheumatic drugs (DMARs), common cytotoxic drugs, biological therapies and immunosuppressants Understand pharmacology, toxicology and long-term side effects of the above medications The pharmacological management of gout The pharmacological management of osteoporosis
2.12 Recognise critically unwell patients and perform CPR	The recognition of cervical vertebral disease in patients with rheumatological conditions The recognition of spinal cord compression, and cauda equina Temporal arteritis Septic arthritis Open fracture Compartment syndrome

2.14 Place the needs and safety of patients at the centre of care	An understanding of the underlying causes of fractures An understanding of the common radiological investigations in rheumatological disease An understanding of the functional consequences of common rheumatological conditions Risks and benefits of immunosuppressives treatment Risks of bony fracture particularly in the frail and elderly Appreciate psychosocial aspects of disability due to musculoskeletal conditions
2.15 Retrieve, interpret and record information in clinical data systems	Interpretation of musculoskeletal imaging and bone densitometry Interpretation of common investigation results for patient with suspected rheumatological conditions
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	The impact of culture, social determinants of health, education level, risk behaviour and psychological factors on the presentation and history of common musculoskeletal conditions such as back pain
3.5 Health screening and prevention	Screening and prevention of osteoporosis Occupational health and safety in prevention of low back pain and injury
4.8 Roles and expertise of other health care professionals	The importance of multi-disciplinary team in management of musculoskeletal conditions and the indications for specialist referral Understand the role of physiotherapy, occupational therapy, orthotics, exercise therapy, self-management and community services

NEUROLOGY

1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	Neurophysiology and neuroanatomy Neuroanatomy including cerebral blood supply CSF composition, biochemistry and immunology and circulation; blood brain barrier Central and peripheral nervous system Autonomic nervous system Cranial nerves Spinal cord Nerve conduction Neurotransmitters and neurotransmission Electrical activity of the brain sleep-wake regulation Neuropathophysiology Common causes of nerve compression Causes of neuropathy Demyelination Signs of upper and lower motor neuron disease Raised intracranial pressure Common/important presentations Headache Facial pain Weakness Numbness Confusion Unconsciousness/Coma Tremor Double-vision Diplopia Visual loss Hearing loss Dizziness/vertigo Difficulty walking Common/important Conditions Epilepsy and its different types and classification including status epilepticus Syncope Headache including tension headache, cluster headache Migraine Trigeminal neuralgia

	Subarachnoid haemorrhage Subdural and extradural haemorrhage Hydrocephalus Meningitis and encephalitis and brain abcess and prion disease Raised intracranial pressure Brain tumour-primary and secondary Motor neurone disease Stroke including ischaemic stroke, haemorrhagic stroke and TIA Cerebral venous thrombosis Spinal cord compression/injury Muscular dystrophies Neuromuscular diseases /myaesthenia gravis Myopathy including polymyositis Multiple sclerosis Peripheral neuropathy Guillain Barre Syndrome Dementia Delirium Common inherited neurological conditions Parkinson's disease and other movement disorders Cerebellar disorders Sleep disorders: narcolepsy, daytime hypersomnolence, obstructive sleep apnoea Common neurogenetic disorders: Huntington's disease, hereditary neuropathies Brain death
2.2 Medical history taking	Able to take a medical and neurological history
2.3 Physical examination	Neurological examination and the importance of lesion localisation Mental status examination
2.4 Differential diagnosis	The differential diagnosis for dementia The differential diagnosis for stroke The differential diagnosis of headache The differential diagnosis for coma/impaired consciousness The differential diagnosis of causes of peripheral neuropathy
2.5 Common investigations	Interpretation of lumbar puncture and CSF analysis Use of Electroencephalogram (EEG) Use of electrophysiological studies, EMG and nerve conduction studies The investigations and risk factors of a patient with suspected stroke

	CT and MRI imaging Investigations of a patient with peripheral neuropathy Investigations of a patient with dementia
2.6 Common procedures	Lumbar puncture
2.7 Management options	Able to identify a management plan for a patient with common causes of headache Management options for a patient with epilepsy Management options for patients with stroke including subarachnoid haemorrhage The therapeutic options for patients with multiple sclerosis Management of entrapment neuropathies Management of Parkinson's disease An appreciation of managing pain, spasticity, incontinence, improving mobility and independence in patients with neurological disease
2.11 Prescribe	Understand principles of treatment especially vascular disease, migraine, epilepsy, pain, psychiatric disorders, movement disorders, multiple sclerosis, autoimmune disorders, infections, dementia, motor neuron disease To understand the risks and benefits of thrombolytic therapy in stroke The use of medications in the primary and secondary prevention of stroke and TIA The use of medications in the prevention and treatment of common causes of headache The antibiotic treatment of meningitis and encephalitis The use of medications in the treatment of epilepsy and Parkinson's disease Use and risks of thrombolytic, anti-coagulant and anti-platelet agents
2.12 Recognise critically unwell patients and perform CPR	The recognition and management of the unconscious patient or patients with impaired consciousness The recognition and management of spinal cord compression The recognition and management of raised intracranial pressure The recognition and management of patients with meningitis The recognition and management of patients with respiratory compromise due to neuromuscular disease The recognition and management of patients with status epilepticus
2.14 Place the needs and safety of patients at the centre of care	An understanding of the risks of neurological investigations An understanding of the common radiological investigations in neurological disease An appreciation of the functional consequences and complications of neurological disease and the role of rehabilitation An appreciation of the secondary risks to the neurologically impaired patient including the potential need for airway protection The management and problems of psychological, sexual, bowel and bladder function due to neurological disease
2.15 Retrieve, interpret and record information in clinical data systems	Use of the Glasgow coma scale Interpret neuro-radiological investigations: CT, MRI, cranial/ angiography, carotid ultrasound

3.2 Explain factors that contribute to health, illness, disease and treatment of populations	The role and importance of risk factors in stroke The impact of culture, social determinants of health, education level, risk behaviour and psychological factors on the presentation of neurological disease An understanding of the commoner genetic causes of neurological diseases
3.5 Health screening and prevention	An understanding of screening for hypertension and cardiovascular risk factors
3.7 Relationship between health agencies and equitable allocation of resources	The ethical and social considerations in the allocation and care of patients with neurological disease and disability
4.4 Principles of ethical practice	The principles of brain death
4.8 Roles and expertise of other health care professionals	The importance of multi-disciplinary teams in management of patients with neurological disease The role of rehabilitation in patients with neurological disorders The indications for specialist referral in common neurological conditions Understand end of life issues in neurological disorders and the role of palliative care services and specialist nurses; ethical and legal aspects of terminal care

OBSTETRICS

1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	**Physiology and Anatomy** The anatomy of the female genital tract and reproductive system The anatomy and physiology of pregnancy and fetal and placental development Lactation Anatomy and physiology of normal labour and delivery **Pathophysiology** Pre-eclampsia and eclampsia Haemorrhage during pregnancy Ectopic pregnancy, molar pregnancy and Gestational Trophoblastic Disease Causes of maternal mortality and morbidity Causes of stillbirth **Common/important presentations** Bleeding in early and late pregnancy Raised blood pressure UTI and other common maternal infections Hyperemesis Miscarriage and stillbirth Problems in fetal development including Down's syndrome screening and counselling Common problems with breastfeeding Labour **Common/important Conditions** Molar pregnancy Pre-eclampsia Hypertension during pregnancy Gestational diabetes Pulmonary embolism and DVT during pregnancy Definition and appreciation of high-risk pregnancies Breech presentation Premature rupture of membranes and preterm labour Rhesus isoimmunisation Growth retardation and fetal monitoring The large for dates fetus Operative vaginal delivery: indications, methods and complications Caesarean section: indications, procedures and complications Common obstetric emergencies including:

	cord prolapse shoulder dystocia fetal bradycardia breech delivery Intrapartum haemorrhage i.e.: placenta praevia, placental abruption Common postnatal mood disorders and psychosis Common medical disorders in pregnancy Asthma, thyroid dysfunction, anaemia, epilepsy, autoimmune disorders
2.2 Medical history taking	Able to elicit an obstetric history from women Able to elicit a sexual, menstrual and a contraceptive history Take a menstrual and contraceptive history to establish likelihood of pregnancy and able to calculate the estimated date of delivery (EDD
2.3 Physical examination	Able to undertake an abdominal examination in pregnancy Measure blood pressure in pregnancy Auscultate the fetal heart Able to appropriately estimate fetal growth The examination of a woman with pregnancy and with common medical problems Vaginal examination including bivalve speculum
2.4 Differential diagnosis	The diagnosis of pregnancy Assess risk in pregnancy based on historical, medical and social factors The differential diagnosis of vaginal bleeding in pregnancy The differential diagnosis of collapse or shock during pregnancy, labour and post-partum
2.5 Common investigations	Urinary pregnancy test Recognise the significance of Rhesus D negative status and management Routine screening tests in pregnancy and their timing The diagnostic tests used to identify fetal abnormality The use of ultrasound in pregnancy Interpretation of blood tests during pregnancy Understand the risks of radiological tests during pregnancy Indication and basic interpretation of cardiotocography (CTG)
2.6 Common procedures	Perform and interpret urinalysis in pregnancy and urine pregnancy test Female urinary catheterisation Assist in or conduct a normal vaginal birth under supervision Observe and describe the use of episiotomy and the cause and management of perineal trauma Observe caesarean section: indications, procedures and complications

	Observe the immediate neonatal assessment
2.7 Management options	Explain lifestyle changes, folic acid use, nutritional requirements and as part of pre-conceptual care and during pregnancy Preconception counselling of women with pre-existing illness The support of a woman following pregnancy loss Provide antenatal care including shared care with GP and midwife The determination, risks and monitoring of high-risk pregnancies The diagnosis and management of pre-eclampsia and eclampsia The diagnosis, management and risks of multiple pregnancy Monitoring of fetal wellbeing The management and investigations of antepartum haemorrhage and eclampsia Hypertensive disorders of pregnancy Gestational diabetes Preterm labour/rupture of membranes Rhesus isoimmunisation Antepartum haemorrhage Infections in pregnancy Thromboembolic disease The small or large for dates fetus: monitoring and management Manage normal vaginal delivery The indications, contraindications and complications of induction and augmentation of labour the indications, options, methods, complications and effects on woman and fetus of pain relief in labour Indicators and methods of operative or complex vaginal delivery including twin delivery, forceps or ventouse Caesarean section: indications, procedures and complications Management of obstetric emergencies including cord prolapse, shoulder dystocia, fetal bradycardia, breech delivery Manage common neonatal problems, the rationale and the method of checking a newborn before discharge Appreciation of the importance of breastfeeding and management of common problems Management common causes and investigation of puerperal pyrexia
2.11 Prescribe	The principles of safe prescribing in pregnancy Appreciate how to determine, with reference to an appropriate data source, whether or not a drug is considered safe to use in pregnancy The Australian categorisation of drug safety in pregnancy The alterations in distribution and metabolism of drugs resulting from the normal physiological changes in pregnancy The risk of substance abuse in pregnancy and the strategies to prevent and ameliorate The use of Anti-D The risks and modifications required to continuing drug treatment during pregnancy Pain relief in labour Management and prescribing for women requiring suppression of lactation Contraception postpartum

2.12 Recognise and assist in managing emergency presentations	Recognition and management of the patient with serious obstetric presentations including bleeding, ectopic pregnancy, massive haemorrhage, cardiac problems, pulmonary and amniotic embolism, drug reactions, trauma
2.14 Place the needs and safety of patients at the centre of care	Display an empathetic approach for patients with obstetric problems Demonstrate empathy to the pregnant woman regarding the physiological and emotional changes that can occur across the course of a pregnancy Awareness of the principles underpinning the choice of mode of delivery in partnership with the mother
2.15 Retrieve, interpret and record information in clinical data systems	Prescribing scheduled drugs Prescription writing in hospital practice Writing medications in national hospital drug chart Writing fluid orders for patient
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	Respect for cultural and religious differences in attitudes to childbirth The measures of maternal morbidity and mortality The measures of perinatal morbidity and mortality The major causes of maternal mortality in the developed and developing world The disparity in maternal and perinatal outcomes between Indigenous and non-Indigenous Australians
3.5 Health screening and prevention	Screening tests and monitoring during pregnancy Understanding of the booking visit and routine investigations performed and the aims and patterns of routine antenatal care
4.4 Principles of ethical practice	Acknowledge and respect cultural and sexual diversity The particular importance of confidentiality and consent in care of patients with obstetric issues Understanding of legislation and ethical considerations in relation to termination of pregnancy, sexual assault and child protection Identify patient at risk of domestic and sexual violence and mental health problems Utilise chaperones whenever a pelvic examination is being performed
4.8 Roles and expertise of other health care professionals	The roles of other health professionals in the management of patients with obstetric problems including primary care, midwives, paediatricians particularly in the management of high risk pregnancies or sick or deteriorating women The development of multidisciplinary management plans

OCCUPATIONAL MEDICINE

1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	Philosophy and foundation of occupational medicine • Occupational medicine deals with all aspects of the relationship between the work environment and health including the health benefits of work. • Occupational medicine involves accident and illness prevention, acute medical management and rehabilitation from work related illness and injury. • It includes and understanding of the effects of the environment on health beyond the immediate work environment. Physiology, anatomy, pathophysiology, pathology and basic medical science • Understand the relationship between specific occupations and illness • Describe the basic role of biomechanics in workplace injuries and the role of ergonomics in the workplace Common/important presentations • fitness to drive or to operate equipment such as forklifts or tractors • the effects of drugs, prescribed or recreational, in the workplace • back pain • joint pain • neck pain • depression • anxiety • self harm • substance abuse • sexual harassment and bullying in the workplace • work-related wheezing and/or cough • shortness of breath • rash • pruritus • hearing loss • Occupational exposure to potential infection Common/important Conditions Musculoskeletal or neurological conditions that affect or are affected by occupation • Spinal degenerative disorders, knee and shoulder pain and injury • Osteoarthritis • Peripheral nerve disorders Psychiatric conditions that affect or are affected by occupation or environment • PTSD • Anxiety states due to accidents, threats, fire, warfare, and their implication for work

	• Work related stress • Depression and its implications for work • Substance abuse Respiratory diseases that affect or are affected by occupation or environment • Occupational asthma and hypersensitivity pneumonitis • Obstructive sleep apnoea • Asbestos exposure and asbestosis, lung cancer • Pneumoconiosis Skin diseases that affect or are affected by occupation or environment • Irritant contact dermatitis • Allergic contact dermatitis • Photosensitive dermatitis • Occupational cutaneous infections • Skin cancer Eye conditions that affect or are affected by occupation or environment • Eye injuries including chemical eye injuries • Occupational conjunctivitis • Ultraviolet photokeratitis • Occupational significance of restricted visual fields, scotomata, colour blindness Ear conditions that affect or are affected by occupation or environment • Temporary and permanent hearing impairment Infection • Hepatitis, HIV, TB
2.2 Medical history taking	• Able to take a full occupational history when taking a history. • Take, record, and analyse an occupational and environmental history from a patient • Evaluate the history in light of the degree of functional impairment
2.3 Physical examination	• Conduct a systematic and structured physical examination • Perform a problem-focussed physical examination relevant to occupational history and environment exposure • Able to detect abnormal signs when present and assess the significance of these findings • Able to integrate findings on physical examination with occupational history and investigation results to make diagnosis • Able to perform functional capacity assessment • Understand the special requirements for pre-placement, periodic and return to work medical examination

3.2 Explain factors that contribute to health, illness, disease and treatment of populations	• Health promotion in the workplace • Advocate the need and requirements for first aid training in the workplace • Act as an advocate for patients with occupational diseases, where appropriate, to ensure a successful outcome, especially for those from disadvantaged socioeconomic and educational backgrounds • Balance any competing priorities of workers and employment as required, including maintaining appropriate professional conduct by delineating the role of medical management to work toward the best outcome for all parties • Demonstrate an understanding of how environmental health risk and hazardous exposures are monitored • Describe how work related injuries affect patient self esteem, confidence, income and family • Awareness of occupational environments with particular risks such as healthcare, commercial drivers and pilots, underwater, armed services, police, paramedics major environmental events (eg bird flu, nuclear accidents, industrial catastrophes)
3.5 Health screening and prevention	Integrate evidence-based prevention, early detection and health maintenance activities into practice • Educate patients in regard to their health issues and ways to enhance their health in work environment • Promote risk awareness in the workplace • Understand the need for occupation related immunisation
3.7 Relationship between health agencies and equitable allocation of resources	• Be aware of the range of resources and referral options available to patients • Understand the role of the medical practitioner in the workers compensation environment
4.4 Principles of ethical practice	• Appreciation of OH&S legislative requirements • Able to deal with ethical and legal issues related to clinical practice in occupational medicine • Describe patient confidentiality requirements and 'need to know' stakeholders to whom the patient has given the doctor permission to disclose • Describe practitioner legal responsibilities about when to report a worker as being unsafe to drive or work • Know the medical and legal issues in relation to medical certification, equal opportunity laws, and in relation to the courts
4.8 Roles and expertise of other health care professionals	• Understand the roles and importance of professionals in the multidisciplinary work related health team, including occupational therapists and rehabilitation providers • Awareness of the particular health issues amongst medical students and doctors including depression, infection, suicide, burnout, substance abuse and strategies to avoid and address these

ONCOLOGY

1.1 Biological, clinical, epidemiological, social, and behavioural sciences	Philosophy and foundation of Oncology • The discipline of Oncology specialises in managing the holistic care of patients with cancer diagnoses. This with the goal of providing the best possible quality of life and extending life span through expert management. This practice requires solid foundational knowledge in epidemiology of cancer, anatomy, cancer biology, diagnosis, including histopathology, cytology and tumour markers, cancer treatment and management, and the psychosocial and cultural impacts of cancer and its treatments.

1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	Cancer Biology
	• Functional anatomy of nerves, muscles, bones, blood supply and lymphatics related to cancer biology and metastasis
	  ○ Cell cycle regulation and apoptosis
	  ○ Cell signalling in carcinogenesis
	  ○ Oncogenes and tumour suppressor gene
	  ○ Causes of cancer: gene mutations, viral driven cancers, DNA repair systems, genetic instability of tumour cells
	• Multistep carcinogenesis including the main stages of carcinogenesis and cellular principles of invasion and metastasis
	• Hormonal and immunological interactions with cancer cells, and tumour markers
	• The molecular basis of familial cancer syndromes and genetic testing
	
	Cancer Clinical Care
	• Patterns of disease behaviours of common cancers
	• Diagnosis of cancer including tissue diagnosis, histopathology/cytopathology, concept of molecular genetics/cytogenetics testing, appropriate use of tumour markers
	• Understand the staging system and imaging especially TNM systems
	• Understand the basic principles and overall approach of cancer treatment including surgery, chemotherapy, biological, immunological and hormonal therapy, radiation therapy, palliative care
	• Concepts of quality of life, therapeutic ratio and resource costs
	• The role of surgeries in cancer management and their efficacy, side-effects, financial and quality of life effects, understand pre-operative TNM staging, patient-selection and timing of surgery, surgery of the primary tumour and sentinel and basin lymph node
	• The role of radiotherapy modalities in curative, adjuvant and palliative treatment, and their efficacy, side effects, financial and quality of life effects
	• The mechanism of action of cytotoxic, hormonal, biological therapy, signal transduction inhibitors, and the potential future role of gene therapy
	• The principles of cancer immunotherapy: immune checkpoints, cancer immunosurveillance and immunoevasion, spectrum of cancer immunotherapy, immune checkpoint inhibitors
	• Indications and goals of systemic therapy in different settings
	• The pathophysiology and clinical presentation of the toxicities of systemic treatment
	• The principles of managing complications of treatments of cancer
	• The principles of palliative care, its role in cancer management

	• Long-term care for cancer survivors Epidemiology of Cancer • Concepts of incidence, prevalence, mortality, relative risk and survival in relation to cancer • The role of epidemiological data in individual practice • Genetic and environmental risk factors for cancer • Patterns of cancer mortality in Australia and around the world • Disparity in cancer outcomes in regional and rural Australia and among Indigenous Australians Social and behavioural • Psychosocial and cultural factors influencing presentation for screening and diagnosis • The psychosocial impact of cancer on families • The economic impact of cancer on individuals and families • The impact of cancer and its treatment on sexuality and fertility Common/important Cancers • Breast cancer • Colorectal cancer • Lung cancer • Prostate cancer • Melanoma and skin cancers • Oesophageal and stomach cancer • Pancreatic cancer • Renal cancer, bladder cancer and germ cell cancer • Haematopoietic and lymphoid malignancies see haematology • Ovarian and cervical cancer • Common head and neck, brain tumour • Cancer of unknown primary origin
2.2 Medical history taking	• Obtain an accurate clinical history that reflects contextual issues including: presenting problems, epidemiology, occupation, family, gender, culture and geographic location • Obtain a relevant history pertaining to cancer diagnosis and management • Elicit a history to discriminate between likely clinical diagnoses

2.3 Physical examination	• Conduct a systematic and structured physical examination
	• Perform a problem-focussed physical examination relevant to clinical history, epidemiology and cultural context
	• Able to detect abnormal signs when present and assess the significance of these findings
	• Able to integrate findings on physical examination with history and investigation results to make diagnosis
	• Able to perform the following focused examinations:
	  ○ Abdominal examination
	  ○ Breast examination

	○ Cardiovascular system examination ○ Rheumatology examination ○ Lymph nodes examination ○ Penis, scrotum, testes examination ○ Gynaecological examination ○ Neurological examination ○ Respiratory system examination ○ Skin examination and dermoscopy for skin cancer and lesions ○ Vascular system examination
2.4 Differential diagnosis	• Apply diagnostic reasoning to arrive at one or more provisional diagnoses • Formulate an appropriate diagnostic plan, taking into account patient preferences, and the urgency required • Formulate an appropriate differential diagnosis • Explain clinical reasoning behind diagnostic decisions to patients, carers, and other colleagues • Be aware of common presenting symptoms in Oncology and the possible diagnoses
2.5 Common investigations	• Order and/or perform appropriate diagnostic tests where required to confirm a diagnosis, monitor medical care and exclude treatable or serious conditions • Determine appropriate choice of investigations, consider the risks and benefits of the investigations and an appreciation of staging investigations • ECG, Echocardiography • Order and interpret appropriate blood tests • Order and interpret appropriate imaging (plain Xray, ultrasound, CT, MRI and nuclear medicine) • Indications for endoscopy and colonoscopy • Indications for bone marrow biopsy • Indications for bronchoscopy
2.6 Common procedures	• Aware of the indications and procedure pleural tap/drainage • Aware of the indications and procedure ascitic tap • Aware of the indications and procedure lumbar puncture • Awareness of venous access for administration of therapies
2.7 Management options	• Develop, implement and maintain an evidence based management plan for the common clinical problems encountered in Oncology • Recognise and respond early to the deteriorating patient including observation charts and MET criteria, with regards to patient centred goals of care • Develop patient centred consulting skills in considering patient's ideas, beliefs, concerns, expectations, effects on life and feelings of the illness • Communicating the meaning of unexpected poor outcomes, diagnoses, prognostic information to patients appropriately • Management of end of life care and applying palliative care skills • Understand the risks and benefits of surgical and non-surgical interventions to improve prognosis and symptoms - pleural procedures, pericardial procedures, GI tract surgery, biliary tract interventions, urinary tract interventions

	• Recognise dying patient and avoid futile medical investigations and interventions
2.11 Prescribe	• Ensure safe and appropriate prescribing of medications • Review the pharmacotherapy for each patient, making rational and where possible evidence based decisions to initiate, maintain, titrate or cease each drug • Be aware of the guidelines for appropriate use, dosing, limitations, side effects and interaction of common medications • Understand the pharmacological principles behind the pharmacological management of cancer symptoms including pain, nausea, vomiting, constipation, diarrhoea and breathlessness
2.12 Recognise critically unwell patients	• Appreciation of the diagnosis, assessment and management of Oncological Emergencies: • Hypercalcemia, tumour lysis syndrome, febrile neutropenia, superior vena cava syndrome, spinal cord compression, pericardial effusion
2.14 Place the needs and safety of patients at the centre of care	• Use a patient-centred approach in Oncology • Makes patient safety a priority in clinical practice • Display an empathetic approach to patients, relatives and carers • Employ shared decision making by informing the patient, prioritising the patient's wishes, and respecting the patient's beliefs, concerns and expectations
2.15 Retrieve, interpret and record information in clinical data systems	• Appropriately select, manage and interprets investigations • Review relevant appropriate pathology tests • Review patient's past medical records, in order to frame current clinical plan
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	• Social determinants of health in relation to cancer • Effect of health literacy on engagement and self-management • Benefits and pit-falls of information sharing between consumers • The cultural significance of cancer on body image • The individualised and varied experience of cancer in relation to identity, self and mental health and how this relates to cancer outcomes • Cultural differences in how concepts of health, illness and disease are understood • Understanding of how "Western" concepts of individuality and self-empowerment impact how people view cancer and cancer treatment • The relevance of all of the above in reference to particular social and cultural groups, focusing particularly on rural, remote and indigenous populations
3.5 Health screening and prevention	• Integrate evidence-based prevention, early detection and health maintenance activities into practice • Methods to enhance primary and secondary prevention of cancer through environmental control, behavioural control and chemical approaches • Methods of screening for cancer and pre-cancerous conditions and their efficacy and indications - e.g. Cervical screening test, mammography, faecal testing, colonoscopy • Interpreting family history appropriately in arranging screening investigations • The psychosocial impact of screening tests and staging tests on individuals and families
3.7 Relationship between health agencies and equitable allocation of resources	• Understanding the role of inter-disciplinary and multi-disciplinary care in cancer diagnosis and management • Understanding the need for engagement with non-government and government agencies in cancer prevention, screening, awareness and patient support

	• Understanding the concepts of justice and equitable allocation of resources as it applies to the population level management of cancer • Understanding the concepts of cost effectiveness, cost/benefits, and opportunity costs as it applies to cancer management and equity
4.4 Principles of ethical practice	• The effects on health professionals of dealing with patients with cancer and how to deal with this positively • Self care, self awareness and accountability in an uncertain and emotionally challenging life as a doctor • Ethical issues surrounding access, equity and resource allocation • Ethics of medical care at the end of life • Medico-legal issues in diagnosis, screening and management • Ethical and legal aspects of defensive medicine, justice, physician assisted suicide and euthanasia • The ethical basis of shared decision making
4.8 Roles and expertise of other health care professionals	• How to engage effectively in multi-disciplinary teams • The roles of allied health professionals in cancer care - e.g. Psychologists, physiotherapists, social workers, occupational therapists, dieticians and speech pathologists • The roles of different medical specialties at different times in a patient's journey with cancer

OPHTHALMOLOGY

1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/ important presentations	Physiology and anatomy • The structure and function of the visual system • The anatomy of the eye, visual pathways and associated head anatomy and neuroanatomy • Physiology of the eye and vision Pathophysiology • Glaucoma • Macular degeneration • Diabetic retinopathy • Uveitis • Cataract • Refractive error Common/important presentations • Flashes • Floaters • Abrupt or progressive vision disturbance • Sudden loss of vision • Painful and painless acute red eye • Blurred vision • Abnormal eye movements • Ocular trauma Common/important Conditions • Cataract • Glaucoma • Eye movement disorders • Ocular trauma • Retinal detachment • Retinal disorders including diabetic retinopathy • Conjunctivitis: bacterial, viral, allergic, toxic • Episcleritis, scleritis • Uveitis • Corneal ulcer • Macular degeneration • Uncorrected refractive error, myopia, hyperopia, presbyopia • Strabismus

	• Papilloedema
	• Visual field defects
	• Ocular manifestation of systemic diseases
	  ○ Diabetic retinopathy
	  ○ Malignant hypertension
	  ○ Central retinal artery or vein occlusion
	  ○ Embolic cardiovascular disease
	  ○ Sarcoidosis
	  ○ Graves disease
	  ○ AIDS and syphilis
	  ○ Bell's palsy
	  ○ Ptosis
	  ○ Orbital and periorbital cellulitis
	  ○ Infections including herpes zoster ophthalmicus and trachoma

2.2 Medical history taking	• Elicit a relevant focused history from patients with eye presentation • Elicit likely causes and risk factors for the common presentations • Elicit a history to discriminate between likely clinical diagnoses
2.3 Physical examination	• Able to assess and record visual acuity • Able to assess and interpret visual fields by confrontation • Perform a complete external eye examination • Examine the pupils and assess pupillary reflexes • Assess eye movements • Examine the fundus and optic nerve using direct ophthalmoscopes • Able to dilate the pupils • Upper lid eversion
2.4 Differential diagnosis	• The differential diagnosis of acute visual deterioration • The differential diagnosis of chronic visual deterioration • The differential diagnosis of painful or painless red eye • Differential diagnosis in systemic illness with eye manifestations
2.5 Common investigations	• Appropriate microbiology tests in suspected ocular infection • Visual fields test • Radiology and neuro-imaging • Optical coherence tomography indications and interpretation of retinal and optical nerve imaging • Ocular angiography • Blood tests for possible systemic illness
2.6 Common procedures	• Demonstrate lid hygiene to a patient • Carry out irrigation and debridement of the eye • Fluorescein staining of the cornea

	• Apply protective pad to the eye • Understanding of the procedure of slit lamp examination and the removal of ocular surface foreign bodies • Appreciation of the measurement of intraocular pressure using applanation tonometry
2.7 Management options	• Apply visual standards for driving • Management of simple traumatic eye injuries in the emergency department • Corneal foreign body treatment & management • Treatment of different types of conjunctivitis • Treatment of herpes zoster ophthalmicus • Provide advice on contact lens care • Diabetic retinopathy screening and follow up • Basic principles and indications for refractive surgery • Treatment of retinal detachment • Treatment of cataract • Pharmacological and surgical treatment of glaucoma • Identify ophthalmic disorders suitable for laser treatment
2.11 Prescribe	• Prescribing common drugs used in ophthalmology • Awareness of ocular effects of systemic medication and systemic effects of ocular medications • Understanding of ocular administration of medication
2.12 Recognise critically unwell patients	Recognise eye emergencies including eye injuries • Recognition of clinical features and management of eye emergencies including giant cell arteritis, acute glaucoma, eye trauma (blunt and sharp/penetrating), chemical burn, orbital cellulitis, retinal detachment, retinal venous and arterial occlusion
2.14 Place the needs and safety of patients at the centre of care	• Display an empathetic approach for patients with vision impairment and eye diseases
2.15 Retrieve, interpret and record information in clinical data systems	• Writing medications in national hospital drug chart • Documenting visual acuity and fields
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	• Appreciate the prevalence of vision impairment worldwide • Appreciate the commonest and avoidable causes of vision impairment in developed and developing nations • Acknowledge the increased prevalence of eye diseases and vision impairment in the aging population • Appreciate the high prevalence of eye diseases and vision impairment in indigenous population and strategies to improve this
3.5 Health screening and prevention	• Promote measures of injury prevention including protective eyewear • Promote the importance of diet and nutrition in ophthalmic disorders • Promote screening of diabetic retinopathy

3.7 Relationship between health agencies and equitable allocation of resources	•
4.4 Principles of ethical practice	• Appreciate the importance of equitable care and opportunities for people who are blind or have vision impairment
4.8 Roles and expertise of other health care professionals	• Understand the roles of other health professionals particularly optometrists in the management and screening of patients with eye problems • Appreciate the indications for specialised ophthalmic referral

PAEDIATRICS

1.1 Biological, clinical, epidemiological, social, and behavioural sciences	•
1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/ important presentations	**Physiology, anatomy, pathophysiology, pathology and basic medical science** • Childhood growth and development • Developmental milestones **Common/important presentations** Undifferentiated presentations Crying baby Feeding difficulties Oppositional behaviour The child with school problems Enuresis Developmental assessment Fever The atopic child Cough The child who wheezes The pale child Abnormal bleeding and bruising Seizure The child with a headache Growth and its abnormalities The child with diarrhoea or constipation The child with abdominal pain Jaundice in neonate/infant Vomiting in infancy and childhood The child with a rash The child with red eye The child with earache The child with hearing problem The child with nutrition problem Immunization issues Failure to thrive The child with a family in difficulty The child with suspected child abuse The child with behavioural disturbances

	The child with dehydration **Common/important conditions** *Cardiovascular disease* • innocent murmurs • congenital heart disease rheumatic fever and valvular heart disease supraventricular tachycardia Kawasaki's Disease *Respiratory* • asthma • bronchiolitis, laryngo-tracheobronchitis/croup, epiglottitis • pertussis/whooping cough • pneumonia • peritonsillar abscess(quinsy) • retropharyngeal abscess *Gastroenterology* • acute viral gastroenteritis and dehydration assessment • gastroeosophageal reflux (GORD) • chronic constipation and soiling • malabsorption • malnutrition • failure to thrive • coeliac disease • giardiasis, bacterial enteritis *Endocrinology* • type 1 diabetes • hyper and hypothyroidism • congenital adrenal hyperplasia • delayed/early puberty • short stature *Nephrology* • urinary tract infection • vesico-ureteric reflux • acute and chronic renal failure • Henoch Schönlein purpura • nephrotic syndrome • nephritic syndrome

	• haemolytic uraemic syndrome • enuresis *Neurology* • viral and bacterial meningitis • febrile convulsions • epilepsy • cerebral palsy • learning disorders, intellectual disability *Rheumatology* • juvenile chronic arthritis *Infectious diseases* • upper respiratory tract infections • viral exanthema • glandular fever • tonsillitis • otitis media • immune deficiency *Haematology and oncology* • iron deficiency anaemia • haemolytic anaemia • thalassemia • haemophilia • leukaemia • idiopathic thrombocytopenic purpura • brain tumours, solid tumours *Allergy* • anaphylaxis • angioedema and urticaria • food allergies, hayfever *Dermatology* • atopic eczema • acne • impetigo • molluscum contagiosum • hand foot and mouth disease *Palliative care* • Symptom control • Psychosocial care *Genetic disorders and congenital malformations*

	• Down's syndrome • Marfan's syndrome • spina bifida • inborn errors of metabolism such as PKU *Neonatal medicine* • complications, morbidity and mortality of preterm birth • respiratory distress in neonates • jaundice • neonatal infection • hypoglycaemia • birth asphyxia • sudden infant death syndrome *General paediatric surgical problems* • pyloric stenosis • intussusception • appendicitis • intestinal obstructio • Hirschsprung disease • anorectal agenesis • urinary tract obstruction (esp. posterior urethral valves) • inguinal hernia • torsion of the testes, hydrocoele, circumcision, balanitis • head injuries • burns *Paediatric orthopedics* • congenital dislocation of the hip • common childhood fractures • transient synovitis of the hip/irritable hip • septic arthritis and osteomyelitis • Perthe's disease • slipped capital femoral epiphysis • scoliosis/kyphosis • postural changes during growth (bow legs, intoeing, knock knees, flat feet) *Ophthalmology and ENT* • conjunctivitis • retinopathy of prematurity • squint • acute and chronic otitis media • recurrent tonsillitis and retropharyngeal abscess

	• hearing impairment • cleft lip and palate *Child and adolescent psychiatry* • attention deficit hyperactivity disorder • autistic spectrum disorders • psychosis • youth suicide • behavioural and emotional problems (anxiety, depression, hyperactivity, aggression) • eating disorders (anorexia nervosa) • sleeping problems *Developmental issues in paediatrics* • Interpret growth parameters for infants and children • Describe key normal neurodevelopmental milestones for infants and children • Detect delayed development in infants and children and be able to describe the principles of early intervention • Be familiar with conditions that lead to poor school performance (intellectual deficit/ • specific learning disorders/ADHD/autism spectrum disorders/visual, hearing and other physical impairments/ psychosocial factors) • Describe the impact of factors such as feeding and nutrition on infant and child growth and developmental progression • Describe the principles of infant feeding (including breastfeeding, formula feeding, feeding difficulties, progression to solids • Child abuse and neglect including mandatory reporting
2.2 Medical history taking	• Take an age and developmentally appropriate paediatric history including biological, psychological, environmental, vaccination, educational and social factors in the child and family. • Develop effective history-taking in three-way conversation • Ability to take a specific history with adolescents which includes HEADSS (Home & Environment, Education & Employment, Activities, Drugs, Sexuality, Suicide/Depression)

2.3 Physical examination	• Perform an accurate systematic and complete physical examination of a neonate
	• Perform an accurate systematic and complete physical examination of a child
	• Respond sensitively to children who are uneasy or unwilling to undergo a physical examination
	• Able to detect abnormal signs when present and assess the significance of these findings
	• Able to integrate findings on physical examination with history and investigation results to make diagnosis
	• Able to perform the following focused examination:
	  • Neonatal examination
	  • Developmental examination in a child under 5 years
	  • Respiratory system examination
	  • Cardiovascular system examination
	  • Gastrointestinal system examination
	  • Central and peripheral neurological examination

	• Musculoskeletal system and skin examination • Rheumatology examination • Genitourinary system examination • ENT examination • Able to assess the mental state of children and young people
2.4 Differential diagnosis	• Apply diagnostic reasoning to arrive at one or more provisional diagnoses • Formulate an appropriate differential diagnosis in paediatrics • Learn to diagnose undifferentiated presentation • Be aware of common presentations in paediatrics and the possible cause and diagnosis •
2.5 Common investigations	• Demonstrate knowledge of when to undertake investigations in the clinical setting • Be able to initiate appropriately the following paediatric investigations and interpret the results: 1. complete blood examination 2. serum electrolytes, creatinine and urea 3. arterial blood gas 4. chest X-ray and abdominal X-Ray 5. urinalysis 6. microscopy and culture of urine 7. microscopy and culture of CSF • Demonstrate a basic knowledge and indication of specialised paediatric investigations: 1. audiogram 2. CT head, chest and abdomen 3. MRI (head, chest and abdomen) 4. ultrasound (cranial US in neonates, renal US) 5. micturating cystourethrogram (MCUG), DMSA scan, DTPA scan 6. echocardiography 7. barium swallow, pH probe, endoscopies • Appreciation of reference ranges and normal values in paediatric patients
2.6 Common procedures	• Familiar with the following procedures in children: 1. Hold and undress a baby 2. Insertion of an IV cannula in a paediatric patient 3. Venepuncture/collection of blood samples 4. Collection of urine (clean catch, midstream, bag, bladder tap, catherisation) 5. Demonstration of use of metered dose inhaler and spacer or dry powder administration of asthma medication to parent and child 6. Administration of immunisations 7. Observe lumbar puncture

	8. Able to perform BLS in children 9. Measure peak expiratory flow rate 10. Describe techniques for undertaking practical procedures in children including distraction, play therapists, topical anaesthetic
2.7 Management options	• Prioritise the care of a sick child • Recognise and respond early to the deteriorating sick child • Develop, implement and maintain an evidence based management plan for the common clinical problems encountered in paediatrics (see list) • Recognise and manage behavioural, emotional and psychosocial aspects of illness in children and families • Develop skills to involve both child and parents or carers in consultation • Negotiate management plans for children and families including self-care strategies • Look for factors which may influence children, parents or carers in their approach to following the treatment plans
2.11 Prescribe	• Know the pharmacological basis for treatments • Ensure safe and appropriate prescribing in paediatrics • Learn the dosing calculation • Know appropriate use of some common drugs in paediatrics, including but not limited to drugs used for: • common antibiotics, anticonvulsants, analgesia, bronchodialators • Be aware of the guidelines for appropriate use, dosing, limitations, side effects and interaction of common medications in paediatrics • Access resources to assist in safe prescribing • Appropriate use of oral rehydration solution and Intravenous fluids (bolus and maintenance)
2.12 Recognise critically unwell patients	Recognise and assist in managing emergency presentations • Recognise life-threatening presentations in children and know how to initiate help • Cardiorespiratory arrest, collapse, seizure, poisoning and envenomation, suspected meningitis • Assist in stabilising critically ill children and provide appropriate primary and secondary care • Neonatal resuscitation
2.14 Place the needs and safety of patients at the centre of care	• Understand the duties and responsibilities in safeguarding of babies, children and young people • Understand the duties and responsibilities in supporting parents and carers to be effective in caring their children • Follow the principle that all decisions are to be made in the best interests of the children • Consider all aspects of a child's well-being including biological, psychological and social factors • Show patience and sensitivity in the communications with children and their families
2.15 Retrieve, interpret and record information in clinical data systems	• Appropriately selects, manages and interprets investigations • Review relevant appropriate pathology tests • Review patient's past medical records, clinic letters and clinical reports

3.2 Explain factors that contribute to health, illness, disease and treatment of populations	• Understand that preventive medicine begins in childhood • Health promotion such as immunisation, nutrition • Understand the ways in which illness affects the child, the parents and the rest of the family • Understand the effects of family composition, socio-economic factors and poverty on child health • Advocate healthy lifestyle in children and young people • Ensure patient's understanding of condition and self-management in young people • Involve other multidisciplinary team members in the child's care • Address Aboriginal and Torres Strait Islander children's health issues • Be aware of child health exploitation, child prostitution, child labour and children in combat
3.5 Health screening and prevention	• Integrate evidence-based prevention, early detection and health maintenance activities into practice • Educate children in regard to their health issues and ways to enhance their health • Implement effective lifestyle change • Promote immunisation • Apply preventive medicine and general health promotion
3.7 Relationship between health agencies and equitable allocation of resources	• Able to work in multidisciplinary team • Be aware of the range of resources and referral options available to the children • Manage children in ambulatory or community setting • Contribute to multi-disciplinary team care plan
Domain 4: the medical graduate as a professional and leader	• Demonstrates professional behaviour with regard to patients, carers, colleagues and others
4.4 Principles of ethical practice	• Develop compassion and respect for children, young people and their families and working with them • Practise medicine within an ethical, intellectual and professional framework • Able to deal with ethical and legal issues related to clinical practice in paediatrics • Aware religious and culture beliefs that parents might hold about the treatment of their children • Ensure safety, privacy and confidentiality in care of children • Advocate to increase access to quality health services for disadvantaged children • Awareness of relevant legislation in regard to autonomy, consent and child protection
4.8 Roles and expertise of other health care professionals	• Roles of other healthcare professionals in the care of children

PATHOLOGY

1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/ important presentations	This aspect of the curriculum draws heavily on the Learning Objectives for Pathology in Medical Curricula from the Royal College of Pathologists of Australasia (RCPA) • An understanding of the pathogenesis, morphological and clinical manifestations of basic pathological processes and specific diseases at the molecular, cellular, tissue, organ and whole body levels. • An ability to accurately observe, describe and interpret diseased tissue at cellular, tissue and organ levels (i.e. microscopic and macroscopic) using the correct vocabulary and to explain the basis of these observations in terms of the underlying pathology. • An ability to formulate and work through a differential diagnosis to arrive at a preferred or definitive diagnosis. • An understanding of the methods of collection and processing of common laboratory specimens. • Respect for the skills which pathologists contribute to diagnosis and patient management and an awareness of the need for effective communication with the pathologist to optimise this contribution. • An ability to communicate information regarding the manifestations of disease to professional colleagues, patients and other members of the public. An ability to adequately complete a death certificate and refer appropriately to the coroner. • Knowledge of autopsy procedure and recognition of the role of the autopsy in understanding human disease. • An awareness of the limitations of their own knowledge and understanding and the ability to seek further information from appropriate sources when necessary. • An ability to appropriately select and interpret laboratory, and other relevant investigations, and relate the results to underlying pathology. Basic pathological processes: • Genetic abnormalities • Necrosis and apoptosis • Hypertrophy, hyperplasia and atrophy • Metaplasia • Hypoxia and morphologial changes of ischaemia • Acute Inflammation and sequelae • Chronic inflammation and repair • Wounds including fracture healing • Systemic effects of inflammation including SIRS • Haemodynamic disorders including shock, cardiac failure, multi-organ failure • Haemostasis, thrombosis, embolism, infarction • Innate and adaptive immunity, disorders of immunity • Microbiological concepts and disorders • Abnormalities of cell growth, and differentiation and neoplasia **Practice of pathology**

	• Knowledge of how common diagnostic specimens are collected, transported, handled, processed, interpreted and reported by a pathology laboratory. • Knowledge of the different pathological specialties and the role of each (Anatomical Pathology, Microbiology, Immunology, Haematology, Clinical Chemistry). • Knowledge of the role of the different areas within each pathological specialty (e.g. cytology, autopsy (including forensic) and surgical pathology (including frozen section) within anatomical pathology). • Knowledge of special investigative techniques (e.g. electron microscopy, cytogenetics, immunocytochemistry, flow cytometry, PCR and other molecular techniques). • Knowledge of autopsy procedure. • An awareness of the costs of laboratory or other investigations.
2.4 Differential diagnosis	Appropriate use of pathology testing in making diagnosis.
2.5 Common investigations	Make rational use of a diagnostic laboratory, including the appropriate selection of tests, provision of appropriate clinical information and appropriate interpretation of results and an awareness of the limitations of investigations. Adequately complete a death certificate, refer appropriate cases to the coroner and explain the autopsy procedure and gain consent to perform a non-coronial autopsy from the next of kin.
4.4 Principles of ethical practice	An appreciation of clinical and legal issues as they relate to the practice of pathology
4.8 Roles and expertise of other health care professionals	An appreciation of the active and important role of the pathologist in clinical liaison, patient management and the understanding of human disease A respect for the needs and skills of laboratory staff involved in the investigation of disease and death.

PHARMACOLOGY

Philosophy and foundation of Clinical Pharmacology	Clinical Pharmacology is a clinical discipline. It involves the application of pharmacological principles to patients. Its scope includes promoting rational and safe prescribing of established drugs, managing and minimising side effects of drugs and interaction, guiding cost-effective drug use and regulating the use of drugs in populations.
1.1 Physiology, anatomy, pathophysiology, pathology and basic medical science	**Understand the mechanism of action of the common medications** • Understand molecular targets for drug action: receptors, ion channels, enzymes and • transporters • Understand cellular mechanisms of action including excitation, contraction and secretion **Understand dose–response relationships** • Understand the relationship between drug dose and response • Define the terms agonist, antagonist and partial agonist • Explain the effect of antagonists on the dose–response curve of an agonist • Explain the assessment of receptor selectivity • Define the terms efficacy and potency • Define the term 'therapeutic index' • Describe the phenomena of desensitization and tolerance **Understand and apply pharmacokinetic principles** Explain the terms and four phases of pharmacokinetics (absorption, distribution, metabolism, and excretion) and relevance to prescribing **Understand determinants of drug kinetics-Absorption** • Explain the mechanisms of drug movement across physiological barriers • Understand the fundamental differences between various routes of drug administration • Describe first pass metabolism and its importance • Describe how one drug can influence the absorption of another **Understand determinants of drug kinetics-Drug distribution** • Explain the distribution of drugs across body compartments • Define volume of distribution • Explain how the distribution of a drug influences its pharmacokinetics **Understand determinants of drug kinetics-Metabolism and excretion** • Define phase I and II metabolism • Explain the important role of the liver in drug metabolism • Explain the important routes of drug excretion from the body • Understand the concept of AUC, clearance **Understand determinants of drug kinetics-Concentration and time relationships** • Describe the typical concentration–time curve for a drug with first order kinetics • Explain the importance of zero order (saturation) kinetics • Define clearance and half-life • Define bioavailability **Understand determinants of drug kinetics-Repeated drug dosing**

	• Understand the pharmacokinetic factors that determine choice of dose, route and • frequency of drug administration • Explain the pharmacokinetics of repeated dosing including time to "steady-state" • Explain fundamental differences between drugs with long and short half-lives • Understand the rationale for loading doses **Understand individual variability in the response to drugs** • Identify the main factors influencing variability in response • Explain how altered pharmacokinetic handling of drugs produces variation in response • and how this can be predicted and the adjustments that might have to be made by • prescribers • Explain how pharmacogenetic variation influences the response to drugs • Explain how pharmacodynamic factors can affect drug response (e.g. receptor sensitivity, • tolerance, organ disease) **Adherence, compliance and concordance** • Adherence to medication • Define the terms adherence and compliance, separating them from concordance • Explain the scale of non-adherence and its consequences • Identify measures to improve poor adherence whether intentional or unintentional • Make an accurate assessment of adherence to medication • Define the term concordance • Describe the influence of patients' beliefs on adherence • Identify the barriers to achieving shared decision making with patients • Learn ways in which concordance can be improved (e.g. presenting accessible • information) • Be able to discuss the benefits and risks of drug therapy with patients and care givers • Discuss patients' views and wishes in drug treatment **Monitoring drug therapy** • Understand the importance of monitoring the impact of drug therapy • Describe the ways in which therapy can be monitored: clinical outcomes, • pharmacodynamic responses and plasma drug concentrations • Identify common drugs where monitoring concentrations are important: gentamicin, • vancomycin, digoxin • Identify ways in which drug effects can be measured • Appreciate the impact of drugs on clinical outcomes is difficult to measure • Identify the difference between a surrogate and hard outcomes • Explain the variable relation between dose and plasma drug concentration, and between • drug concentration and effect • Describe the characteristics that make a drug suitable for monitoring by measuring • plasma concentration

	• Be able to interpret drug concentration measurement results • Be able to adjust dosage in light of drug concentration measurement results **Adverse drug reactions (ADRs)** *Basic principles* • Define an ADR and other adverse outcomes of drug therapy • Explain the frequency of ADRs and their impact on public health • Describe the common classification of ADRs *Drug allergy* • Discuss risk factors for allergy/anaphylaxis • List medicines that are commonly implicated in allergic reactions • Identify and characterize an allergic drug reaction • Understand the importance of accurate diagnosis and recording of allergic reactions to • drugs • Know the precautions that should be taken to prevent allergic reactions • Diagnosis and management • Describe the principles of diagnosing an adverse drug reaction as a possible cause of • new symptoms and signs • Know how to respond if an ARD is suspected • Manage a suspected ADR *Avoiding ADRs* • Describe important risk factors that predict susceptibility to ADRs • Identify risk factors for ADRs which can influence prescribing decisions • Identify sources of information about ADRs *Pharmacovigilance* • Explain the main ways in which ADRs can be identified: drug development, voluntary • report • Understand why the ADR profile of individual drug is unclear when first enters the market • Discuss the importance of and the prescriber's responsibility in pharmacovigilance • Describe how to report a suspected ADR **Drug interactions** • Understand the potential for interacting drugs to cause beneficial and harmful effects • Recognize the multiple ways in which interactions can occur • Identify sources of information about drug interactions to inform prescribing • Be able to predict and avoid drug interactions • Explain how to adjust drug dosage in anticipation of a drug interaction that cannot be • avoided • Understand the importance of liver cytochromes as a point of drug clearance • Identify the importance of liver metabolism as a point of interaction between drugs • Explain how liver enzyme metabolism can be inhibited and induced then the impact this

	• has on drug handling **Drug development and regulation** • Understand the various stages of development (preclinical, phase I to IV) • Explain the risks and costs involved in developing drugs and understand what a generic • drugs is and the process of regulation and bioequivalence • Classify the different forms of clinical trial and explain their advantages and • disadvantages • Describe the requirements of a good clinical trial including consent, ethics, bias, statistics • and dissemination of information • Identify the major drug regulatory authorities in Australia • Explain the role of local formularies and guidelines in the choice and use of medicines • Describe the definition and purpose of a clinical guideline • Understand the potential limitations and harms of clinical guidelines **Toxicology** • Basic understanding of toxicology **Complementary and alternative medicines** • Appreciate the extent of the popularity of complementary medicine • Describe common therapies used by practitioners of complementary and alternative • medicine and the evidence for their efficacy and safety • Understand the potential adverse effects of complementary and alternative medicines • Describe the regulation of complementary and alternative medicines
1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/ important presentations	**Pharmacological therapeutics for common/important conditions** **Cardiovascular system** • Hypertension including hypertension in pregnancy • Hyperlipidaemia • Congestive heart failure • Ischaemic heart disease • Acute coronary syndromes • Common arrhythmias including: atrial fibrillation, supraventricular tachycardia, ventricular • arrhythmias • Deep vein thrombosis • Pulmonary embolus • Peripheral vascular disease • Bacterial endocarditis • Cardiorespiratory arrest • Cardiovascular risk and disease prevention **Respiratory system** • Asthma

	• Acute asthmatic attacks • Stable asthma • Chronic obstructive pulmonary disease (COPD) • Acute exacerbations of COPD • Stable COPD • Respiratory infections • Bacterial pneumonias • Atypical pneumonias • Tuberculosis • Type I and II respiratory failure **Gastrointestinal system** • Peptic ulcer disease • Peptic ulceration (including eradication of H. pylori) • Gastro-oesophageal reflux disease • Acute and chronic diarrhoea and constipation • Nausea and vomiting • Acute gastroenteritis • Irritable bowel syndrome • Inflammatory bowel disease • Cirrhosis and portal hypertension • Ascites **Endocrine system** • Type 1 diabetes • Management of type 1 diabetes • Diabetic ketoacidosis • Hypoglycaemia • Type 2 diabetes • Management of type 2 diabetes • Thyroid disease • Hyperthyroidism • Hypothyroidism • Bone disease • Osteoporosis • Adrenal disease • Addison's disease (including Addisonian crisis) **Renal and urological disease** • CKD • AKI including management of hypovolaemia, hyperkalaemia • Urinary tract infection

	• Benign prostatic hyperplasia
	• Impotence
	• Incontinence and bladder instability
	Infectious disease
	• Acute gastroenteritis
	• Bacterial endocarditis
	• Respiratory infections
	  ○ Bacterial pneumonias
	  ○ Atypical pneumonias
	  ○ Tuberculosis
	• Acute bacterial meningitis
	• Acute HSV encephalitis
	• Urinary tract infection, pyelonephritis
	• Cellulitis, orbital cellulitis, osteomyelitis
	• Post-operative infections
	• Post-operative wound infections
	• Post-operative peritonitis
	• Septicaemia
	• Hospital-acquired infections
	• Clostridium difficile infection
	• Methicillin-resistant staphylococcus aureus (MRSA)and VRE infection
	• Infection in an immunocompromised host
	• Sepsis in an immunocompromised patient
	• Tropical infections
	• Malaria
	• HIV infection
	Haematological disease
	• Anaemia
	• Iron deficiency anaemia
	• Macrocytic anaemias
	• Blood transfusion and other blood products
	• Haematological malignancies including: myeloma, lymphoma, leukaemia
	Oncology
	• Cancer chemotherapy
	• Adverse effects related to cancer chemotherapy
	• Palliative care
	• Cancer-related pain
	• Palliation of symptoms in terminal malignant disease
	• Common cancers including breast cancer, prostate cancer, lung cancer, colorectal

	• cancer **Rheumatology** • Osteoarthritis • Acute gout attack and prophylaxis of gout • Rheumatoid arthritis • Septic arthritis • Temporal arteritis and polymyalgia rheumatica • Vasculitis • SLE **Psychiatric disease** • Anxiety disorders • Chronic anxiety • Acute panic attack • Depression • Major depression • Chronic depressive illness • Bipolar disorder • Schizophrenia • Chronic schizophrenia • Acute behavioural disturbance • Drug dependence • Smoking cessation • Alcohol dependent • Chronic opioid abuse **Nervous system** • Acute stroke • Primary and secondary prevention of stroke • Principles of managing pain (including the analgesic ladder) • Neuropathic pain • Parkinson's disease • Epilepsy including status epilepticus • Migraine including prophylaxis • Dementia • Acute bacterial meningitis • Insomnia **Obstetrics and gynaecology** • Oral contraception • Contraception when oestrogens are contra-indicated • Menopause

	Diseases of the skin, eyes, ear, nose and throat • Diseases of the skin • Chronic eczema • Psoriasis • Acne vulgaris • Cellulitis • Diseases of the eye • Acute glaucoma • Chronic 'open-angle' glaucoma • Diseases of the ear, nose and throat • Allergic rhinitis • ENT infections **Surgery, anaesthetics and intensive care** • Preparation of a patient for surgery • Antibiotic prophylaxis • Thromboprophylaxis • Managing and amending regular medication (e.g. warfarin, insulin, aspirin) • Post-operative treatment • Post-operative pain (including patient-controlled analgesia) • Post-operative fluid replacement • Post-operative wound infections • Post-operative peritonitis **Accident and emergency medicine** • Overdoses • Paracetamol poisoning • Salicylate poisoning • Tricyclic antidepressant poisoning • Acute opiate intoxication • Acute benzodiazepine intoxication • Acute alcohol withdrawal • Anaphylaxis • Trauma **Common/important drugs that you need to learn (student formulary)** **Cardiovascular disease** • Diuretics; thiazide diuretics, loop diuretics, frusemide, potassium-sparing diuretics, • spironolactone • B-adrenoceptor blocking drugs; atenolol • Calcium channel blockers; amlodipine, verapamil • Nitrates; GTN, Isosorbide mononitrate

	• Drugs affecting the renin-angiotensin system; ACE inhibitors, perindopril; Angiotensin II • receptor antagonists, losartan • α-adrenoceptor blocking drugs; prazosin • Anti-arrhythmic drugs; digoxin, amiodarone • Anti-platelet drugs; aspirin, clopidogrel • Anticoagulants; Heparins (unfractionated and low molecular weight), Warfarin, Direct oral • anticoagulants • Lipid-lowering drugs: Statins **Respiratory** • Bronchodilators ; B2-adrenoceptor agonists, salbutamol, salmeterol,; Antimuscarinics • (tiotropium) • Corticosteroids • Inhaled corticosteroids • Leukotriene receptor antagonists **Gastroenterology** • Peptic ulcer disease; Antacids, H2-receptor antagonists (ranitidine); Proton pump • inhibitors (omeprazole, pantoprazole) • Antidiarrhoeal drugs; Antimotility drugs (codeine, loperamide) • Laxatives (bran, sorbitol, movicol, senna, lactulose) • Antispasmodic drugs • Antispasmodics (hyosine, mebeverine, atropine) • Inflammatory bowel disease; Aminosalicylates (mesalazine); Biologics (infliximab) **Endocrinology** • Drugs for diabetes; Insulins, Metformin' Oral hypoglycaemic agents (sulphonylureas, • thiazolidinediones, dipeptidyl peptidase-4 inhibitors, GLP-1 analogues, SGLT-2 inhibitors) • Thyroid disease; Levothyroxine, propranolol, carbimazole • Osteoporosis; Bisphosphonates (alendronic acid) and denosumab (calcium, vitamin D, • oestrogens) • Corticosteroids (hydrocortisone, dexamethasone, prednisolone) **Nephrology** • Immunosuppressant drugs; Immunosuppressants (ciclosporin, azathioprine, • cyclophosphamide, tacrolimus, mycophenolate) • Drugs for benign prostatic hypertrophy; a-adrenoceptor blockers (prazosin, finasteride, • gonadorelin analogues) • Erythropoietic agents. erythropoietin **Neurology** • Drugs for Parkinson's disease; Levodopa and dopa-decarboxylase inhibitors; • Antimuscarinic antiparkinsonian drugs; Other antiparkinsonian drugs (bromocriptine) • Drugs used to treat epilepsy' Anticonvulsant drugs (phenytoin, carbamazepine,valproate,

	• gabapentin, Levetiracetam and Lamotrigine) • Drugs used to treat migraine; 5-HT1-receptor agonists (sumatriptan) • Drugs used for nausea and vomiting; Anti-emetic drugs • (metoclopramide,prochlorperazine, ondansetron) • Drugs for dementia; Acetylcholinesterase inhibitors (donepezil, rivastigmine) **Rheumatology** • Analgesic drugs; Non-steroidal anti-inflammatory drugs (ibuprofen, naproxen, • indomethacin, diclofenac) • Disease-modifying anti-rheumatic drugs (e.g. sulphasalazine, methotrexate, biological • agents) **Infectious diseases** • Antibacterial drugs • Penicillins (e.g. benzylpenicillin, amoxicillin,flucloxacillin) • Cephalosporins (cephalaxin, cephazolin, ceftriaxone) • Macrolides (azithromycin) • Quinolones (norfloxacin, ciprofloxacin, moxifloxacin) • Doxycycline • Trimethoprim • Vancomycin • Other broad spectrum antibiotics (meropenem) • Aminoglycosides (gentamicin) • Antituberculous drugs (e.g. isoniazid, rifampicin,ethambutol) • Antifungal drugs (e.g. clotrimazole, amphotericin,nystatin) • Antiviral drugs (aciclovir) • Antiprotozoal drugs • Antimalarial drugs (chloroquine) • Metronidazole • Drugs for HIV infection; Nucleoside reverse transcriptase inhibitors zidovudine); Protease • inhibitors (darunivir); Non-nucleoside reverse transcriptase inhibitors (nevirapine) **Haematology and oncology** • Alkylating drugs (cyclophosphamide) • Cytotoxic antibiotics (doxorubicin) • Anti-metabolites (methotrexate) • Anti-oestrogens (tamoxifen, anastrazole) • Targeted oncology treatments; small molecules and monoclonal antibodies **Psychiatric disease** • Anxiolytic and hypnotic drugs; Benzodiazepines (diazepam, temazepam); Others • (zopiclone) • Antidepressant drugs; Tricyclic antidepressants amitriptyline); Selective serotonin

	• reuptake inhibitors (e.g. fluoxetine,citalopram, setraline); Other antidepressant drugs • (monoamine oxidase inhibitors) • Antipsychotic drugs (e.g. haloperidol, olanzapine) • Mood stabilizers (lithium, valprorate) • Drugs of abuse; Opioids, Cannabis, Amphetamine, Cocaine **Surgery, anaesthetics and intensive care** • Anaesthetic drugs; Inhalational anaesthetic drugs (halothane); Intravenous anaesthetics • (thiopental sodium, ketamine); Local anaesthetic drugs (lidocaine); Muscle relaxants • (suxamethonium); • Analgesic drugs; Paracetamol and combination analgesics; Opioids (codeine, tramadol, • morphine sulphate) • Drugs used for nausea and vomiting; Anti-emetic drugs (e.g. cyclizine, • metoclopramide,prochlorperazine, ondansetron) • Fluid replacement; Intravenous fluids (0.9% sodium chloride, glucose solution, colloids); • Blood transfusion (and other blood products) **Obstetrics and gynaecology** • Female sex hormones; Oestrogens, progestogen, combined oral contraceptive • Oxytocic drugs; Prostaglandins, ergometrine, oxytocin **Skin, Eyes and ENT** • Drugs for allergic rhinitis; Antihistamines (e.g. cetirizine, chlorphenamine) • Drugs for the eyes; Hypromellose eye drops; Prostaglandin analogues (e.g. latanoprost) • Drugs for the skin; Emollients; Topical corticosteroids (hydrocortisone cream) • Acne (benzoyl peroxide, topical and systemic retinoids)
2.2 Medical history taking	Obtain, record and present accurate clinical history relevant to the clinical presentation • Obtain, record and present accurate clinical history relevant to the clinical presentation taking into consideration of potential clinical pharmacology issues • Obtain a relevant history in complex, chronic and multisystem disorders • Establish an accurate drug history, covering both prescribed and other medication • Elicit current and recent medicines, to support effective medicines reconciliation • Identify for each drug the original indication, formulation, dose, route, duration and effects • Ensure that over the counter, complementary medicines and the contraceptive pill are specifically included • Identify alternative sources of information about current treatment, understand the limits of information sources • Interpret the medication history so that allergies and ADRs can be identified (distinguish between a history of drug allergy and intolerance) • Identify common potentially important drug interactions
2.3 Physical Examination	• Conduct a systematic and structured physical examination relevant to the presentation and potential clinical pharmacological issues • Perform a problem-focussed physical examination relevant to clinical history, drug history and cultural context

	• Able to integrate findings on physical examination with history and investigation results to make diagnosis
2.4 Differential diagnosis	• Be aware of common presenting symptoms and signs in clinical pharmacology and the possible drug induced causes of symptoms and other presentations • Diagnose adverse drug reactions and differential diagnoses of causative agent
2.5 Common investigations	• Use of drug level testing to guide treatment • Investigation of potential drug toxicity
2.7 Management options	• Select appropriate pharmacological therapeutics forms of management for common diseases • Be aware or demonstrate awareness or understanding issues regarding choice and dose of drug prescribing in elderly, children, pregnant, breast feeding mother and patients with liver and kidney disease • Understand the role of therapeutic drug monitoring • Manage adverse drug reactions • Manage poisoning and drug overdose • Management of drug seeking patients
2.11 Prescribe	• Ensure legal, safe and appropriate prescribing of medications • Prescribe a new medicine • Establish therapeutic goal • Choose the therapeutic approach (in discussion with the patient) • Choose the drug • Calculate appropriate drug doses • Choose the route and frequency • Choose the duration of therapy • Write the prescription • Inform the patient • Monitor drug effects • Review/alter prescription in the light of further investigation • Learn the indications, contraindications, side effects, drug interactions and dosage of commonly used drugs and recognise the need to check this information when drugs are less well known to you • Recall range of adverse drug reactions to commonly used drugs, including complementary medicines • Recall drugs requiring therapeutic drug monitoring and interpret results • Perform comprehensive review of pharmacotherapy for each patient, making rational and where possible evidence based decisions to initiate, maintain, titrate or cease each drug • Defines the effects of age, body size, organ dysfunction and concurrent illness on drug distribution and metabolism • Makes appropriate dose adjustments following therapeutic drug monitoring, or physiological change • Prescribes appropriately in pregnancy, and during breast feeding • Recognises the benefit of minimising number of medications taken by a patient to a level compatible with best care • Review the patient's fluid and electrolyte status and where appropriate, make rational and evidence based decisions to use supplementary fluids, electrolytes and/or blood products. • Access appropriate resources to assist in rational prescribing such as the National Prescribing Service (NPS) and the Australian Medicine handbook

	• Recognises the importance of individualisation of therapy • Observes good practice to avoid errors when personally prescribing Including not using abbreviations
2.12 Recognise and assist in managing emergency presentations	• Manages common and serious ADRs, including anaphylaxis, appropriately. • Management of poisoned patients including: protection of staff and other patients, decontamination, resuscitation, monitoring, antidotes including for digoxin, iron, cyanide and cholinesterase inhibitors. • Manage poisoning with: paracetamol, aspirin and other salicylate, benzodiazepines, opioids, and other drugs of abuse, antidepressants, antipsychotic drugs, anticonvulsants, antidiabetic drugs, antihistamines, ß2 agonists, calcium channel blockers, chloroquine, digoxin, iron, lithium, NSAIDs, sedatives and hypnotics, thyroxine and tri-iodothyronine, and warfarin • Know the features, complications and management of substances of abuse including amphetamines and related drugs, cannabis, cocaine, GHB, LSD, opiates and opioids, solvents, volatile nitrites • Describe features of poisoning due to chemicals including acetone, ammonia, alcohols and glycols, carbon monoxide, chlorine, corrosives, cyanide, household products, hydrofluoric acid, hydrogen sulphide, isopropanol, nitrogen oxides, sulphur dioxide, and volatile substances. Recognise and respond to the manifestations of a patient's deterioration or lack of improvement (symptoms, signs, observations, and laboratory results) • Awareness of poisoning due to pesticides including insecticides, herbicides and rodenticides and know how to access management information e.g. poisons hotline
2.14 Place the needs and safety of patients at the centre of care	• Use a patient-centred approach in clinical pharmacology • Makes patient safety a priority in clinical practice • Display an empathetic approach to patients, relatives and carers • Share decision making by informing the patient, prioritising the patient's wishes, and respecting the patient's beliefs, concerns and expectations
2.15 Retrieve, interpret and record information in clinical data systems	• Appropriately select and interprets investigations • Interpret and develop evidence-based prescribing guidelines • Extract and critically evaluate drug information • Recall drugs requiring therapeutic drug monitoring and interpret results • Able to critically evaluate literature relevant to CPT including basic pharmacology, toxicology and phase I, II, III and IV clinical trials and meta-analyses • Understand methods of determining clinical efficacy from broad/ conflicting literature
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	• Promote, monitor and maintain health and safety in clinical pharmacology, understanding how errors can happen in prescribing and administering drugs • Maximises patient compliance by providing full explanations of the need for the medicines prescribed • Provide continuity of care to patients, including management of comorbidities • Provide effective health education to empower patients • Develops a self-management plan with the patient • Explore how other co-morbidities, personal/socio-economic/rural factors influenced management Involve other multidisciplinary team members in patient's care • Support patients, parents and carers where relevant to comply with management plans • Discuss with a patient the benefit/risk balance of therapeutic intervention • Adapt and adjust approaches according to the beliefs and preferences of the patient and/ or carers

	• Discusses risks of treatments with patients and is able to help patients make decisions about their treatment
3.5 Health screening and prevention	Integrate evidence-based prevention, early detection and health maintenance activities into practice • Educate patients in regard to their health issues and ways to enhance their health • Considers the risks and benefits of pharmacological prevention of common diseases • Applies quantitative data of risks and benefits of therapeutic intervention to an individual patient • Apply preventive medicine and general health promotion
3.7 Relationship between health agencies and equitable allocation of resources	• Be aware of the range of resources available to patients • Contribute to multi-disciplinary team care including effective discharge planning • Recognise the importance of resources when prescribing, including the role of a Drug Formulary and electronic prescribing systems • Participates in adverse drug event reporting mechanisms • Understand the role of drug and therapeutic committees
4.4 Principles of ethical practice	• Able to deal with ethical and legal issues related to clinical practice in clinical pharmacology • Ensure safety, privacy and confidentiality in patient care • Maintain appropriate professional boundaries • Advocate to increase access to quality health services for disadvantaged groups • Address the health care needs of culturally diverse and disadvantaged groups • Understand the role of the pharmaceutical industry in the public perception of drug use • Explain the legal categorisation of drugs into general sales list, pharmacy medicines, prescription only medicines and controlled drugs • Explain who is entitled to prescribe medicines and the legal requirements involved • Explain who is entitled to supply medicines and the legal requirements involved • Understand the legal requirements associated with prescribing controlled drugs • Explain the responsibilities of prescribing in a resource limited healthcare system • Describe the sometimes-conflicting responsibilities to individual patients and the wider community • Understand the importance of recognising limits of competence and to ask for help when needed • Understand the legal responsibility of all prescribers to update their knowledge
4.8 Roles and expertise of other health care professionals	• Role of primary, specialist care and other health care professionals in management of patients with complex problems • Understand and work within the current drug regulatory framework • Always seeks senior help when does not know answer to patient's queries • Recognise the importance of prompt and accurate information sharing especially the current medication list with Primary Care team following hospital discharge • Work within the multidisciplinary team and recognises when assistance is required from the relevant team member especially the pharmacist

PHYSIOLOGY

1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/ important presentations	**Cardiovascular** • The unique characteristics of cardiac muscle • Cardiac electrophysiology • Cardiac Function • The Cardiac cycle • Normal electrocardiogram (ECG) • Cardiac output • Arterial pressure and its regulation • Microcirculation and lymphatics • Local control of blood flow • Fetal and neonatal circulation • Haemorrhage and shock • Coronary circulation • Cerebral, splanchnic and peripheral circulation • Exercise physiology **Cell and general physiology** • Biological membranes and epithelia, membrane • Excitable cells, action potential, signal transduction • Cell volume regulation, cell pH and organelles • Regulation of cell function including signalling pathways, surface receptor structure and function • Cell motors **Endocrinology and Metabolism** • General Principles • Posterior and anterior pituitary gland and hypothalamus • Growth hormone • Thyroid Gland • Hormonal control of calcium and phosphate • Adrenal Gland • Endocrine functions of the pancreas • Endocrine regulation of metabolism and electrolytes • Thermoregulation • Male and Renal reproductive physiology • Pregnancy and Birth **Gastrointestinal system** • Functions and regulation of the GI tract, motility and enteric nervous system • Salivary Glands

	• Oesophagus including pressure, swallowing • Stomach and exocrine pancreaa • Hepatobiliary • Small and Large intestine • Nutrition **Muscle** • Characteristics of cardiac, skeletal and smooth muscle • Structure of muscle and mechanism of contraction • Control and energetics of skeletal muscle contraction **Neurophysiology** • Physiology of the neuron • Neurochemistry, synapse • Cerebrovascular system, CSF and blood brain barriers • Senses; somatosensory, visual, smell and taste, auditory and vestibular system • Autonomic nervous system • Control of movements • Spinal cord and brainstem functions • Roles of cerebral cortex, cerebellum, basal ganglia, limbic system • Sleep • Seizures • Higher cognitive functions • Physiological assessment of the nervous system: Nerve conduction, EMG, EEG, Brain imaging • Gait **Renal system** Body fluids Structure of kidney and nephrons Renal clearance GFR and renal blood flow Tubular transport Urine concentration and dilution Sodium balance and control of extracellular fluid volume Potassium, calcium and phosphate balance Acid base balance Hormonal functions of the kidney including roles in erythropoiesis Hypertension **Respiration** • Pulmonary mechanics and ventilation

	• Static and dynamic ventilatory parameters • Alveolar ventilation • Pulmonary circulation and gas exchange • Oxygen and carbon dioxide transport • Hypoxia • Respiratory control • Role of lungs in clearance **Blood and immune system** • General characteristics and functions of the blood • Components of blood (plasma, erythrocytes, erythropoiesis, normal balance of red blood cell synthesis and destruction, white blood cells and platelet • Haemostasis • Blood group, ABO system, Rhesus system, blood typing, blood transfusion, transfusion reactions • Innate defence mechanisms • Cellular immunity, humoral immunity, immunoglobulins (classification, structure and functions) • Complement disorders of the immune mechanisms
2.5 Common investigations	**Management** An appreciation of relevant physiology in relation to undertaking the following procedures: • Insertion of intravenous cannula • Arterial blood gas sampling Insertion of urinary catheters (male and female) • Insertion of nasogastric tubes • Management of airway obstruction • Undertake a 12 lead ECG • Peak flow meter and bed side spirometry measurement • Local and regional anaesthesia • Normal vaginal delivery • Application of slings: triangular, collar and cuff • Lower limb plastering and splintage • Upper limb plastering and splintage • Incision and drainage of abscesses An appreciation of physiology in relation to common conditions including: • Heart failure • Arrythmias • Congenital cardiac defects • Hypertension • Lymphoedema • Peripheral oedema • Myocardial ischaemia

	• Cardiac valvular abnormalities • Common conditions of hormonal deficiency or excess • Hormonal roles during pregnancy birth reproductive functions • Disorders of gastrointestinal motility such as diarrhoea and constipation • Hypothermia and heat stress • Epilepsy • Raised intracranial pressure • Movement disorders • Renal failure • Electrolyte, acid base and fluid disturbances • V/Q mismatch • Pulmonary function tests • Respiratory and ventilatory failure
4.4 Principles of ethical practice	An appreciation of the use of animals and human tissues in teaching and medical research and ethical and medico-legal considerations

PSYCHIATRY

1.1 Biological, clinical, epidemiological, social, and behavioural sciences	•
1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/important presentations	**Physiology, anatomy, pathophysiology, pathology and basic medical science** • The stages of normal biological, psychological and social development from infancy to old age • Factors which may be associated with vulnerability to mental health problems and mental illness and protective factors associated with resilience • Neuroanatomy, neurophysiology, neurochemistry, neuropharmacology, molecular genetics and other biological sciences which are relevant to understanding mental health problems and mental illness • The aspects of psychology, sociology, anthropology and other social sciences that are relevant to mental health problems and mental illness • The theoretical underpinnings of the major treatment modalities for mental health problems and mental illness • The phenomenology of mental health problems and mental illnesses, including definitions of psychiatric symptoms and their significance • Be familiar with contemporary ICD or DSM diagnostic systems and understand the advantages and limitations of each • The aetiology of mental illnesses **Common/important presentations** • Alterations in perception • Illusions • Hallucinations (Auditory, visual, olfactory, gustatory, somatic) • Disorders of the stream of thought: pressure of thought, thought blocking • Disorders of the form of thought: flight of ideas, perseveration • Delusions • Obsessions and compulsions • Phobias • Depersonalisation • Derealisation • Anxiety or panic • Depression • Amnesia • Short and long term memory loss • Clouding of consciousness • Stupor • Confusion • Disturbance of attention and concentration

	Common/important Conditions • Schizophrenia and Schizophrenia-like disorders • Schizophrenia • Schizophrenia-like disorders: delusional or paranoid disorders, brief psychotic disorders • Personality disorder • Obsessive-compulsive disorder • Paranoid personality disorder • Affective personality disorder • Schizoid personality disorder • Antisocial personality disorder • Impulsive personality disorder • Dependent personality disorder • Narcissistic personality disorder • Borderline personality disorder Neurosis • Anxiety disorders • Phobic anxiety disorders (social phobia, agoraphobia) • Panic disorder • Conversion and dissociative disorders Affective disorders • Depression • Major depression • Bereavement • Mania • Bipolar disorders Organic psychiatric syndromes • Delirium • Dementia • Amnestic disorder • Organic delusional disorder • Organic hallucinosis Eating disorders • Anorexia nervosa • Bulimia nervosa

	• Psychogenic vomiting Suicide and self-harm • Suicide • Deliberate self-harm Disorders due to alcohol use and substances abuse • Intoxication, hazardous use, harmful use, dependence syndrome, withdrawal state common substance include: alcohol, amphetamine, cannabis, cocaine, nicotine, opioids, phencyclidine, sedative/hypnotic/anxiolytics, hallucinogen **Specific psychiatric issues in elderly** **Development psychiatric disorders (see paediatric curriculum)** **Psychiatric disorders in childhood (see paediatric curriculum)**
2.2 Medical history taking	• Elicit thorough and relevant histories from people with mental health problems and mental illness • Assess the person's presentation in the context of his/her personality, developmental stage, resilience and coping mechanisms • Elicit a history from multiple sources including family and other members of the patient's social network, community mental health resources, old records • Take account of the person's indigenous or ethnic and cultural background in history taking • Take history to assess for accompanying medical illness
2.3 Physical examination	Perform comprehensive mental status examinations which included: • Behaviour • Speech • Mood • Depersonalization, derealization • Obsessional phenomena • Delusions • Hallucinations and illusions • Orientation • Attention and concentration • Memory • Insight Recognise physical signs and symptoms that accompany psychiatric disorders Recognise and identify the different types of mental distress and their phenomenology Perform additional neurological examination when an organic syndrome is suspected Able to detect abnormal signs when present and assess the significance of these findings Able to integrate findings on physical examination with history and investigation results to make diagnosis
2.4 Differential diagnosis	

	• Utilise a widely accepted diagnostic system to assist in making the diagnosis and differential diagnosis for patient presented with mental health problems • Formulate an appropriate differential diagnosis • Aware the advantages and limitations of using a diagnostic system • Understand the clinical reasoning behind diagnostic decisions
2.5 Common investigations	• Determine investigations which are necessary to confirm or reject a diagnosis of mental illness • Consider investigations which aid the management of the person with mental health problems and mental illness • Consider investigation, diagnosis and treatment of medical conditions, particularly those related to psychiatric illness • Consider appropriate imaging such as CT, MRI of the brain and nuclear medicine
2.6 Common procedures	• Develop skills in establishing and maintaining a therapeutic alliance with patient • Mini mental examination • Appreciate indications and procedure of ECT
2.7 Management options	• Develop, implement and maintain a clear, evidence based and appropriate management plans for patients with mental health problems and mental illnesses including: (a) physical and psychological investigations and assessments; (b) psychotherapeutic techniques; (c) social interventions; (d) psychopharmacological and other physical therapies; (e) situations in which referral to, or consultation with, colleagues in psychiatry and other disciplines is appropriate; (f) programs involving changes in lifestyle; and (g) rehabilitation programs • Understand the evidence base for physical and psychological therapies including common • forms of psychotherapies: brief therapy, cognitive behavioural therapy, psychodynamic • therapy, psychotherapy combined with psychopharmacology • Be able to explain to patients, families, carers and colleagues the process and outcome of assessment, investigation and treatment or therapeutic plan • Recognise and apply the principles of long-term care and rehabilitation for those people with chronic mental health problems • Understand the implications of co-existing medical illness to the treatment of patients with mental health problems and mental illness • Recognise the importance of patients' housing, employment, occupational opportunities, recreational activities, advocacy, social networks and welfare benefits in the treatment plan • Demonstrate an understanding of the effects of alcohol and illicit drugs on health and psychosocial wellbeing • Participate in multi-disciplinary care planning • Management of drug seeking patients • Understand and make appropriate use of the Mental Health Act in relation to capacity and consent
2.11 Prescribe	Ensure safe and appropriate prescribing of medications

	Review the pharmacotherapy for each patient, making rational and where possible evidence based decisions to initiate, maintain, titrate or cease each drug Show a clear understanding of common pharmacotherapy, including pharmacological action, clinical indication, side-effects, drug interactions, toxicities • antidepressants (SSRIs, SNRIs, serotonin receptor antagonist, TCAs) • benzodiazepines • mood stabilizers (carbamazepine, lithium, sodium valproate) • antipsychotics (olanzapine, quetiapine, risperidone, chlorpromazine, clozapine) • drugs used in treatment of alcoholism and opioid dependence (acamprosate, methadone, naltrexone) Be aware of the guidelines for appropriate use, dosing, limitations, side effects and interaction of common medications Access resources to assist in rational prescribing such as the National Prescribing Service (NPS)
2.12 Recognise critically unwell patients	Able to assess and document patient's risk self-harm or harm to others and suicide • knowledge of involuntary treatment standards and procedures • awareness of interventions to minimise risk • implement prevention methods against self-harm and harm to others Assess accurately situations where the level of disturbance is severe and risk of adverse events, such as injury to self or others, may be high Awareness of child protection issues when addressing psychiatric emergencies, has basic knowledge of child protection procedures Appreciation of the management and prevention and control of violence, hostage taking, self harm, suicide, absconsion, escape and recall of a restricted patient
2.14 Place the needs and safety of patients at the centre of care	• Use a patient-centred approach in psychiatrics • Demonstrate an empathic approach to the assessment of all people with mental health problems and mental illness • Form partnerships with people with mental health problems and mental illness in regards to their assessment and treatment • Seek the best possible care for people with mental health problems and mental illness • Share decision making by informing the patient and family, prioritising the patient's wishes, and respecting the patient's beliefs, concerns and expectations • Respect patients' dignity and confidentiality
2.15 Retrieve, interpret and record information in clinical data systems	• Appropriately select, manage and interprets investigations • Review relevant appropriate pathology tests • Review patient's past medical records and clinic letter • Interpret the mental health assessment report
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	Understand the influence of specific factors on assessment and care of mental health problems and mental illnesses, including: (a) age; (b) intellectual capacity; (c) medical illness;

	(d) gender; (e) culture; (f) spiritual beliefs; (g) socio-economic status; (h) drug use, including alcohol use. Understand the psychiatric disorder and its treatment impact on people with mental health problems and mental illness and their carers Aware the factors which influence the health care and social welfare systems Aware national strategies for the delivery of mental health services Provide effective health education to empower patients Ensure patient's understanding of condition and self-management Offer advice on the effects of alcohol and illicit drugs on health and psychosocial wellbeing Promote the just allocation of services, contribute to community education in mental health and try to minimise stigma in society
3.5 Health screening and prevention	Integrate evidence-based prevention, early detection and health maintenance activities into practice • The principles and application of the primary and secondary prevention of mental illness • Incorporate, as relevant, the influences of lifestyle, social, cultural and environmental factors in promoting health and preventing illness. • Recognise protective factors which contribute to psychological resilience in individuals or groups, and assist people with mental health problems and mental illness in the development of such factors.
3.7 Relationship between health agencies and equitable allocation of resources	• Be aware of the range of resources and referral options available to patients • Demonstrate an understanding of the importance of working with other Health and Social Care professionals and team working • Contribute to multi-disciplinary team care • Aware the impact of mental illness on carers and the wider community • Recognise and utilise the contributions of non-medical professionals in the care of people with mental health problems and mental illness • Use local drug and alcohol service • Demonstrate an appreciation of the importance of co-operation and collaboration with GP, other primary healthcare services, social care services, and non-statutory services
4.4 Principles of ethical practice	Demonstrates professional behaviour with regard to patients, carers, colleagues and others • Understand the contemporary mental health legislation and its local implementation in the assessment and treatment of patients with mental health problems and illness • Understand the principles of medical ethics as applied to psychiatric practice • Ensure safety, privacy and confidentiality in patient care

	• Develop an attitude of respect for the humanity and dignity of the individual with mental health problems • Understand the doctor's duties and the patient's rights under the appropriate mental health legislation and mental capacity legislation especially the legal requirement of detention and the potential conflict between legal requirements and the wishes of the patient. • Demonstrate an understanding of legislation with regards to illicit drugs • Understand the development of mental health problems in people who have experienced sexual abuse, forced migration, immigration detention, sexual violence and domestic violence • Advocate to increase access to quality mental health services for disadvantaged groups
4.8 Roles and expertise of other health care professionals	Role of primary, specialist care and other health care professionals in management of patients with complex problems

PUBLIC HEALTH

1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/ important presentations	• Epidemiology of common conditions encountered in Australia and worldwide • Awareness of the health needs of specific populations (eg elderly, young, men, women, • Aboriginal and Torres Strait Islander people, and refugees) • Principles and practice of health promotion and disease prevention • The social determinants of health from an individual and population perspective • Epidemiology, data handling, and public health skills in the practice of evidence-based clinical medicine • Principles and practice of population health needs assessment, health care planning, resource allocation, and health care evaluation • The achievements of public health • An appreciation of the local, national and international organisation of healthcare delivery • An appreciation of the principles of health screening and surveillance • Awareness of national health priorities, methods for assessing the health status of a community, and population health • Health inequalities in and between urban, remote and rural areas • The particular health challenges for Aboriginal and Torres Strait Islander and other disadvantaged people • An appreciation of population health and its application in primary care • The prevention of illness, injury and disability, reduction in the burden of illness and rehabilitation of those with a chronic disease • The organisational, financial, communication, IT, workforce, evaluation and research dimensions to delivering public and population health **Common/important presentations** • Strategies for the promotion of smoking cessation • Strategies for the management of obesity, alcohol and substance use • Strategic directions for mental health promotion **Common/ important Conditions** • Infectious disease epidemics • Disease screening; including mammography, cervical cancer screening, colorectal cancer screening • The common chronic diseases, causes of mortality at different ages and multi-morbidity • Vaccination; current schedules • Travel health • Humanitarian crises • Global warming • Novel and emerging pathogens • Environmental health threats
2.2 Medical history taking	• The role of social determinants of health for individual patients

	• Travel, vaccination and screening history • Social history, occupational history, family history
2.4 Differential diagnosis	Assess risk factors of individual patients and the broader population
2.5 Common investigations	Local screening strategies Appreciation of the potential harms and benefits of screening and the evidence underpinning
2.6 Common procedures	Vaccination schedules and recommendations Conduct effective literature reviews
2.7 Management options	• The implementation of preventive health interventions including the modification of lifestyle risk factors • Ability to counsel patients about their health risks, especially the risk factors of smoking, nutrition alcohol and physical activity • Awareness of focused brief advice and other strategies such as cognitive behavioural therapy and motivational interviewing in consultations about the common lifestyle factors of smoking, nutrition alcohol and physical activity • Methods for infectious disease control including immunisation, basic hygiene measures (e.g. hand washing), quarantine, and control of disease vectors • Advocate for timely effective action in response to important threats to public health • Awareness of public health management of environmental health risks • Understand the investigation and management of infectious disease outbreaks • Understand the public health management of chronic diseases, mental illness
2.12 Recognise critically unwell patients	• Major disasters and health service responses and planning
2.14 Place the needs and safety of patients at the centre of care	• An appreciation of the potential benefits and harms in screening and prevention policies • Awareness of the risks of adverse outcomes in healthcare and methods to mitigate or reduce harm
2.15 Retrieve, interpret and record information in clinical data systems	• Awareness of local and national health and disease data systems • Appreciation of notifiable diseases and mechanisms of notification • Appreciation of use and interpretation of epidemiological data
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	• The impact of culture, social determinants of health, education level, risk behaviour and psychological factors on the presentation and history of disease • Awareness of how socioeconomic determinants of health are related to common illnesses and presentations and familiar with the evidence supporting this relationship and familiar with the evidence supporting this relationship • The high prevalence of specific diseases and premature mortality in indigenous people and its causes • Appreciation of the global burden of common diseases
3.5 Health screening and prevention	• An understanding of screening for disease and prevention
4.4 Principles of ethical practice	• Understand professional and ethical obligations to the patient and the broader community, for example, the rights of the individual versus the rights of the community, or patient confidentiality versus the public good • Adhere to principles of confidentiality, informed consent, freedom of choice, honesty and other ethical principles • Demonstrate a nonjudgmental approach to patients and their lifestyle choices
4.8 Roles and expertise of other health care professionals	• Liaise and work with other health professionals to optimise population healthcare outcomes and advocate on behalf of patients • Understanding of the role of other health care individuals, professional groups, services and programs in prevention of disease and health promotion • Contribute effectively to multidisciplinary teams

	• Advocate for health service needs of rural and remote areas

RADIOLOGY

1.1 Biological, clinical, epidemiological, social, and behavioural sciences	• Anatomy of major systems as they relate to imaging modalities: central and peripheral nervous systems, musculoskeletal, face and neck, thorax, abdomen, cardiovascular system • Basic principles of radiation biology, radiation protection and imaging physics • Risks, benefits and potential side effects of the different imaging modalities and contrast media • Principles of sonographic, magnetic resonance and tomographic reconstruction
1.2 Epidemiology	• The role of epidemiological data in radiological analysis • The epidemiology of complications of imaging studies - eg. cancer, nephrogenic systemic fibrosis, contrast induced nephropathy, over-diagnosis • Appreciation of test sensitivity, specificity, likelihood ratios, Bayes' Theorem
1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/ important presentations	• Social and individual determinants of engagement with diagnostic imaging • Disparities in equitable access to diagnostic and therapeutic radiological procedures across social, cultural and geographic range
1.4 Clinical indications and interpretations of important and/or common diseases of the various organ systems	***CXR and CT chest:*** To have an understanding of imaging patterns in chest radiology including consolidation, nodules, radiolucencies, hyperinflation To recognise and describe the imaging appearance of the following conditions: - pleural effusion, - respiratory infections especially pneumonia, - acute pulmonary oedema, - congestive heart failure, - pericardial effusion, - acute respiratory distress syndrome, - COPD, - lung mass/nodule, - pneumothorax, - pulmonary embolus ***AXR and abdominal CT:*** To recognise and describe typical imaging features of the following conditions: - bowel obstruction, - renal stone, - faecolith, - sentinel loop, - volvulus, - abdominal free gas/ perforation, - diverticulitis, - pancreatitis and its complications, - liver mass,

	- renal mass, - pancreatic mass, - ascites, - abscess, - aneurysm ***Gynaecological and obstetric imaging:*** • To describe typical imaging features of benign and malignant tumours of the female reproductive organs • To describe the typical imaging features of the most common disorders associated with pregnancy and delivery • Aware of the need to reduce exposure doses for radiographic and CT examinations of the female reproductive organs ***Musculoskeletal X-ray and CT:*** To recognise and describe the imaging appearance of common fractures (including pathological), primary bone tumour, metastatic malignancy, degenerative joint disease, inflammatory joint disease, osteomyelitis and osteoporosis ***CT and MRI head and spine:*** To recognise and describe the imaging appearance of the following common conditions: - haemorrhage (parenchymal, sub-arachnoid, sub-dural and extra-dural), - ischaemic stroke, - malignancy (primary and secondary), - hydrocephalus, - cerebral abscess, - demyelinating disorders To describe the MRI appearance of: - demyelinating disorders, - spinal cord injury, - spinal cord compression ***Ultrasound (including echocardiography):*** To recognise and describe the imaging appearance of complications of pregnancy, deep venous thrombosis, vascular stenosis, obstructive liver disease, cholecystitis, structural heart diseases, effusions ***Role of PET scanning***
2.4 Differential diagnosis	• Marrying clinical information to radiological results to formulate a diagnosis and differential diagnosis • Formulate a diagnostic plan for investigation of common clinical problems: chest pain, suspected pulmonary embolus, lung mass, suspected stroke, suspected fracture, acute abdomen, high impact trauma, spinal injury, injury due to suspected child abuse, neck and back pain, spinal cord compression, headache, haematuria, gastrointestinal bleeding, aneurysms, abnormal masses on physical examination • Explain clinical reasoning behind planned radiological interventions to patients and their families

	• Understand the existence and management of incidental findings
2.5 Common investigations	• Understand the role, limitations, risks and benefits of differing imaging modalities in different clinical situations: • Plain X-ray, including projection, dynamic views, and required positioning • Computed tomography including plain, contrast, phase of contrast enhancement (venous, arterial, delayed, pulmonary arterial), windows (lung, soft tissue, bone, brain), 2D reconstructed images • Magnetic resonance images including basic sequences (T1, T2, flair, diffusion weighted images) and gadolinium enhancement • Ultrasound including Doppler imaging • Nuclear medicine: technetium bone scan, gallium scan, labelled red cell scan, cardiac function scans, renal function scans, ventilation/perfusion scans, thyroid nuclear medicine scans • Angiography including cardiac angiography, cerebral angiography and formal lower limb arterial angiography • Avoiding futile investigations at the end-of-life, and which investigations might aid in providing comfort for a patient
2.6 Common procedures	Understand the role, limitations, risks and benefits of radiologically guided procedures: • Radiologically guided biopsy of mass lesions • Radiologically guided drainage of effusions and ascites • Ultrasound guided joint injections • Fluoroscopy-guided lumbar puncture • Radiologically guided embolisation procedures • Radiologically guided procedures for vascular access • Radiologically guided drain insertion for relief of biliary and renal obstruction • Understanding of follow-up up and monitoring required after radiologically guided procedures • Understanding of the potential symptomatic relief gained by some radiological procedures • Understand the process of consent in radiological procedures
2.12 Recognise critically unwell patients	Understand the management of contrast allergy including anaphylaxis
2.14 Place the needs and safety of patients at the centre of care	• Understand the role of substitute decision makers in consenting for radiological procedures • Employ shared decision making by informing the patient, prioritising the patient's wishes, and respecting the patient's beliefs, concerns, expectations and goals • Ability to communicate potential risks and benefits of radiological procedures to patients and their families • Effective management of uncomfortable symptoms associated with radiological interventions
2.15 Retrieve, interpret and record information in clinical data systems	• Show competence in conveying clinical data to radiology staff by means of request forms, phone calls, presentations at radiology meetings and face-to-face communication • Interpret radiological reports in the light of clinical information • Ensure that the right scan happens for the right patient at the right time through appropriate handover and communication
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	• Cultural differences in acceptability for different radiological procedures • Effects of aging on interpretation of radiological investigations • Social, economic and cultural factors relating to access to radiology services with particular emphasis on rural, remote and indigenous populations
3.5 Health screening and prevention	Describe radiological screening programs, their roles, benefits to populations and balance with potential over-diagnosis: - Mammographic screening for breast cancer

	- Low dose CT chest in patients who have smoked - Hepatoma screening in patients with cirrhosis
3.7 Relationship between health agencies and equitable allocation of resources	• The role of radiologist in a multi-disciplinary team • The role of public vs private radiology services in Australia • The cost-effectiveness of radiological procedures for certain indications and understanding of low-value tests (e.g. CT or MRI for low back pain) • Understanding the concepts of justice and equitable allocation of resources as it applies to the population level screening, investigation and procedures in radiology
4.4 Principles of ethical practice	• Ethical issues surrounding access, equity and resource allocation • Understanding of consent as it applies to radiological procedures • Understanding of the potential harms caused by over-diagnosis and incidental findings
4.8 Roles and expertise of other health care professionals	Learn to engage effectively in multi-disciplinary team The roles of radiographers and sonographers in radiological procedures

REHABILITATION

1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/ important presentations	***Aetiology*** • Describe the potentially disabling consequences of disease, disorders and injury • Understanding of modifiable and non-modifiable risk factors in cardiac disease • Understanding of modifiable and non-modifiable risk factors in cerebrovascular disease • Understanding of modifiable and non-modifiable risk factors in respiratory disease • Understanding the aetiology of chronic pain • Recall basic anatomy and physiology of the musculoskeletal system ***Clinical Features*** • Clinical features of chronic pain disorders • Clinical features of neurological dysfunction ***Natural History/Prognosis*** • Determine the nature and extent of disability and activity limitation • Understanding of the role of rehabilitation in various disease or disability states • Understanding what goals can be realistically achieved by rehabilitation in different clinical situations • Understanding of disease states that act as a significant barrier to successful rehabilitation • Appreciation of the common diseases and issues which can have important functional consequences and disabilities • Including stroke, dementia, arthritis, cardiorespiratory diseases, cancer, congenital disorders, learning and intellectual disability, spinal cord injury, lower limb amputation, lymphoedema • Traumatic and occupational injury • Provide a comprehensive assessment of a patient presenting with above conditions and evaluate the potential for rehabilitation ***Common/important conditions:*** - cardiac disease - chronic pain - illness and injury in the elderly - musculoskeletal disease and injury - neurological dysfunction, including: - cerebrovascular disease (CVD) - multiple sclerosis (MS) - motor neurone disease (MND) - Guillain-Barre syndrome - myopathy and neuropathy - Parkinson’s disease - occupational injury - paediatric disease and trauma

	- spinal cord injury (SCI) and disease - traumatic brain injury (TBI) - upper limb and lower limb prosthetics
2.2 Medical history taking	• Obtain an accurate clinical history that reflects contextual issues including: presenting problems, occupation, family, gender, culture and geographic location - with a focus on function • Obtain a relevant history pertaining to rehabilitation goals and expectations • Obtain a history from a patient with communication difficulties
2.3 Physical examination	• Conduct a systematic and structured physical examination • Perform a problem-focussed physical examination relevant to clinical history, epidemiology and cultural context • Able to integrate findings on physical examination with history and investigation results to make diagnosis • Able to perform the following focused examinations, with a focus on functional implications: - Gait examination - Examination of the shoulder in stroke - Assessment of spasticity, rigidity and contractures - Musculoskeletal examination - spine, shoulder, hand, hip, knee and foot - Cognitive and higher cortical function assessment including executive, memory and visuospatial function - Speech and language assessment - Assessment of capacity - Assessment of fitness to drive (basic) - Depression and anxiety assessments - Vascular examination of the lower limbs - Swallowing assessment - Standardised functional outcome measures
2.4 Differential diagnosis	• Formulating differential diagnosis for neurological presentations (including motor, sensory and cognitive) • Formulating differential diagnosis for pain states • Formulating differential diagnoses / contributors to falls and fragility fractures • Formulate diagnostic reasoning for barriers to rehabilitation
2.5 Common investigations	• Determine appropriate choice of investigations, consider the risks and benefits of the investigations • Understanding of electrophysiological tests • Order and interpret appropriate blood tests • Order and interpret appropriate imaging (plain Xray, ultrasound, CT, MRI, DEXA)
2.6 Common procedures	• The role of nerve blocks for different causes of pain • The role of intra-articular injections for pain • The role of surgical interventions in disability • The role of prosthetics and orthotics in managing disability
2.7 Management options	• Develop, implement and maintain an evidence based and realistic management plan that is • problem oriented, goal-driven, time-limited for the common clinical problems encountered • in rehabilitation

	• Develop patient centred consulting skills in considering patient's ideas, beliefs, concerns, expectations, effects on life and feelings of the illness • Appreciation of complex discharge planning for safety and independence • Communicating the meaning of unexpected poor outcomes, diagnoses, prognostic information to patients appropriately • Understanding of the clinical situations where rehabilitation is no longer the best setting for patient care • The role of physical interventions for pain • Formulate appropriate secondary prevention as appropriate, including stroke, vascular disease and fragility fractures • Appreciation of the role of rehabilitation in common clinical presentations including stroke , acute brain injury spinal cord injury, fragility fracture, cardiac disease, chronic pain, respiratory disease, multimorbidity, lower or upper limb amputation, lymphoedema
2.11 Prescribe	• The pharmacology of analgesia, tolerance and dependence • Be aware of the guidelines for appropriate use, dosing, limitations, side effects and interaction of common medications • The pharmacology of medications for spasticity • The pharmacology of medications for osteoporosis
2.12 Recognise critically unwell patients	• Assist in the diagnosis, assessment and management of common emergencies encountered within a rehabilitation setting: • E.g. sepsis, myocardial infarction, stroke, seizure, pulmonary embolus, trauma, autonomic dysreflexia
2.14 Place the needs and safety of patients at the centre of care	• Use a patient-centred approach in rehabilitation • Makes patient safety a priority in clinical practice • Display an empathetic approach to patients, relatives and carers • Employ shared decision making by informing the patient, prioritising the patient's wishes, and respecting the patient's beliefs, concerns, expectations and goals
2.15 Retrieve, interpret and record information in clinical data systems	• Appropriately select, manage and interprets investigations • Review relevant appropriate pathology tests • Review patient's past medical records, in order to frame current clinical plan • Synthesise clinical information in order to frame a functional assessment of the patient
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	• Social determinants of health in relation to disability • Effect of health literacy on engagement and self-management • The cultural significance of disability on body image • The individualised and varied experience of disability in relation to identity, self and mental health and how this relates to functional outcomes • Cultural differences in how concepts of health, illness, disease and disability are understood • The varied experience of disease and disability in the context of aging • The relevance of all of the above in reference to particular social and cultural groups, focusing particularly on rural, remote and indigenous populations
3.5 Health screening and prevention	• Describe preventive strategies with regard to diseases and injuries that may cause significant disability • Describe national major preventive health programs relevant to rehabilitation • Understanding of patient factors and environmental factors that represent a risk of further disability • Understanding at risk populations for certain disability by occupational group, age, gender, fitness and lifestyle

3.7 Relationship between health agencies and equitable allocation of resources	• Understanding the role of inter-disciplinary and multi-disciplinary care in rehabilitation • Understanding the role of government and non-government agencies in the provision of disability services, including the implications of a National Disability Insurance Scheme • Understanding the concepts of justice and equitable allocation of resources as it applies to the population level management of disability • Understanding the concepts of cost effectiveness, cost/benefits, and opportunity costs as it applies to rehabilitation
4.4 Principles of ethical practice	Demonstrates professional behaviour with regard to patients, carers, colleagues and others • The legal and ethical considerations around driving assessment • The legal and ethical considerations around informed consent, guardianship and capacity • Ethics of medical care at the end of life, and how this interacts with disability • The ethical basis of shared decision making
4.8 Roles and expertise of other health care professionals	• How to engage effectively in multi-disciplinary rehabilitation environment • Understanding the role of doctor within a rehabilitation team • The roles of allied health professionals in disability care – e.g. Psychologists, physiotherapists, social workers, occupational therapists, dieticians and speech pathologists • The roles of different medical specialties at different times in the management of disability

RENAL / UROLOGY

1.1 Biological, clinical, epidemiological, social, and behavioural sciences	• Anatomy of the kidney, ureter, bladder, prostate and urethra • The renal circulation • Glomerular ultrafiltration • Urine concentration and dilution • Renal handling of water, sodium, potassium, calcium and glucose • Renal control of acid/base balance • Endocrine functions of the kidney • Role in blood pressure control • Physiology of penile erection and ejaculation
1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/ important presentations	**Common/important presentations** • Haematuria • Proteinuria • Clinical presentations and importance of fluid, electrolyte and acid base abnormalities • Oliguria • Oedema • Hypertension • Symptoms of advanced chronic kidney disease (uraemic symptoms): Weight loss, nausea and vomiting, pruritis • Dysuria • Polyuria • Acute scrotal pain or swelling • Urinary retention • Incontinence • Erectile dysfunction • Renal colic, loin pain • Raised PSA • Renal mass including incidental finding on imaging **Renal pathophysiology** • Microscopic and macroscopic haematuria • Proteinuria and nephrotic syndrome • Sodium, potassium, calcium, acid base imbalance and dysregulation of water homeostasis • Pathophysiology of AKI in different clinical scenarios especially AKI and glomerulonephritis • Pathophysiology of CKD • Hypertension • Pathophysiology of urinary calculi • Pathophysiology of penile erection and ejaculation

Common/important Condition

- Common causes of haematuria
- Common causes of proteinuria
- Fluid overload and dehydration
- Hypernatraemia and hyponatraemia
- Hyperkalamia and hypokalaemia
- Acidosis and alkalosis
- Hypercalcaemia and hypocalcaemia
- Nephrotic syndrome: definition, common causes (Membranous nephropathy, FSGS,
- minimal change disease) and complications

Acute Kidney Injury (AKI)

- Definition
- Pre-renal, renal and post-renal causes

Glomerulonephritis

- Common types of glomerulonephritis including IgA nephropathy, membraneous
- nephropathy, FSGS, minimal change disease, aetiology, pathology and clinical
- manifestations
- Systemic diseases causing glomerulonephritis especially vasculitis, SLE, multiple myeloma,
- amyloidosis and thrombotic microangiopathies

Chronic kidney disease (CKD)

- The classification (stages) of CKD
- The formula used to calculate estimated glomerular filtration rate (eGFR)
- Natural history, aetiologies, epidemiology and prognosis of CKD
- Calcium, phosphate, bone and mineral metabolism and renal bone disease
- Renal anaemia and the use of erythropoietic stimulating agents (ESAs)
- The importance of cardiovascular disease morbidity and mortality in patients with CKD
- The renal causes of hypertension including renovascular disease

Inherited Renal Diseases

- Common genetic causes of renal disease such as APKD, thin membrane nephropathy and
- Alport's syndrome

	Diabetic nephropathy • Diabetic nephropathy: its epidemiology, predisposing factors, pathophysiology, stage, • nature history, progression, screening and available treatment to slow the progression **Urinary Tract Infection (UTI)** • Common bacteriological causes of UTI and pyelonephritis • Underlying predisposing causes of UTI especially recurrent UTI • Common presentations of UTI including in elderly and pregnant patients • Prostatitis **Urological Conditions** • Renal trauma, Ureteric, bladder and urethral injury • Renal cell carcinoma and renal cysts • Bladder cancer • Benign prostatic hyperplasia and prostate cancer • Testicular tumours • Renal, ureteric and bladder calculi • Testicular torsion and torsion of testicular appendices • Epididymitis, acute orchitis, hydrocele • Vasectomy and circumcision
2.2 Medical history taking	• A complete nephrologic and urological history including risk factors relevant to renal and urological disease
2.3 Physical examination	• Perform focused examination relevant to renal and urological disease • Able to elicit abnormal signs such as enlarged urinary bladder, ballotable kidneys, signs of vasculitis, SLE, atheroembolic disease • Urine dipstick examination • Interpreting Urinalysis for potential Infection in the ... • Blood pressure measurement • Assessment of hydration statue of patient • Determining fluid & electrolyte loss in unwell patients • Digital rectal examination to screen for prostate cancer • Male and female genital examination
2.4 Differential diagnosis	• The differential diagnosis for causes of AKI and CKD • The differential diagnosis for causes of nephrotic syndrome • The differential diagnosis for causes of nephritic syndrome • The differential diagnosis for causes of common electrolytes disturbance

2.5 Common investigations	• Interpretation of urine analysis and urine microscopy • Assessment of patient's fluid or volume status • The basic investigations for fluid, electrolyte, and acid base abnormalities • The investigations of a patient with suspected glomerulonephritis • Appropriate investigations including imaging for a patient with AKI • Investigations used to assess the cause, severity and reversibility of CKD • Formula used to calculate estimated glomerular filtration rate (eGFR) • Appropriate investigation for recurrent UTIs • An understanding of the renal risks of radiological investigations • An understanding of the common radiological investigations in renal disease including the • use of ultrasound, CT, nuclear medicine and contrast including the risk of contrast nephropathy and nephrogenic systemic fibrosis • Identify the role of ultrasound, CT, MRI, plain Xray and nuclear medicine in the diagnosis and management of common urological conditions • Understanding of the role urodynamic studies • Metabolic workup for patients with recurrent urinary stone disease • Urethral swab • Indications for and role of cystoscopy
2.6 Common procedures	• Bladder catheterization • Urinary analysis • Spin urine and microscopic examination • Observe kidney biopsy • Observe cystoscopy
2.7 Management options	• Able to identify a management plan for a patient with haematuria • Understand the different treatment options (including potential adverse effects) available for proteinuria and/or nephrotic syndrome • Kidney Stone Archives - R.E.B.E.L. EM - Emergency Medicine ... • Understand appropriate management for patients with disorders of fluid, electrolyte, and acid base and post operatively • Able to describe the available management strategies (both specific and nonspecific) for glomerulonephritis including immunosuppression • Outlines treatment options including general supportive measures and renal replacement • therapy for a patient with acute kidney injury (AKI) • Able to identify hospital patients at high risk of AKI and institutes preventative measures such as prevention of contrast induced nephropathy • Appropriate treatment strategies for CKD especially to ensure that reversible causes are identified and treated • Management of the common complications of CKD including anaemia and secondary hyperparathyroidism

	• General principles of haemodialysis and peritoneal dialysis, their roles in managing patients • with renal failure and the role of conservative and palliative care options • The role of renal transplantation in the management of patients with end-stage renal • disease and an understanding of immunosuppression • Intravenous fluid prescribing • Blood pressure control targets in different clinical situations • Non-pharmacological measures in achieving blood pressure targets • Role and importance of lifestyle factors, diabetic and blood pressure control to slow progression of diabetic nephropathy • Treatment of urinary incontinence • Initial management of renal colic, indications for urgent intervention and expectant • management, pain management • Treatment plan for a patient with urological malignancy in both early and late stages of disease, including the role of a multidisciplinary approach • Management of urine retention and benign prostate hypertrophy
2.11 Prescribe	• To safely prescribe medications in the presence of renal impairment • The pathophysiology of renal anaemia and the use of erythropoietic stimulating agents (ESAs) • The mechanisms of action and potential side effects of common antihypertensive drugs • An understanding of those medications which can cause renal impairment • An understanding of those medications which require dose alterations, monitoring or are contraindicated in renal disease • Appropriate use of analgesics in patient presenting with renal colic and in patients with renal impairment • Intravenous fluid prescription especially in the context of post obstruction diuresis • Antibiotics, anticholinergics, medications for BPH and prostate cancer treatment, medications for treating recurrent urinary stones
2.12 Recognise critically unwell patients	• The treatment of hyperkalaemia • The management of advanced uraemia • The indications of urgent haemodialysis • The recognition and management of an acutely unwell immunocompromised patient • Recognise urologic emergencies requiring immediate treatment including testicular torsion, acute urinary retention, priapism, acute urinary tract obstruction, paraphimosis
2.14 Place the needs and safety of patients at the centre of care	• Awareness of the consequences of renal failure and the common complications of urological surgery • To safely prescribe medications in the presence of renal impairment • Risks and benefits of therapeutic immunosuppressive medications • Risks and benefits of kidney transplant

2.15 Retrieve, interpret and record information in clinical data systems	• Interpret a complete blood count • Interpret common chemistry measurements • Calculate creatinine clearance • Interpret results of a urinalysis, microscopy of urine sediment and culture • Interpret quantitative estimates of proteinuria (dipstick, spot protein or albumin to creatinine ratio, 24- hour collection) microalbumin/creatinine ratio • Interpret measurements of serum electrolytes and osmolality, urine electrolytes and osmolality • Prescribe scheduled drugs • Prescription writing in hospital practice • Writing medications in national hospital drug chart • Writing fluid orders for patient
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	• The role and importance of lifestyle factors, diabetic and blood pressure control to slow • progression of diabetic nephropathy • The impact of culture, social determinants of health, education level, risk behaviour and • psychological factors on the presentation and history of a renal disease • An understanding of the common genetic causes of renal disease such as pathophysiology • and genetics of APKD • Cardiovascular risk factors and their modification in patients with CKD • The high prevalence of renal disease in indigenous people and its causes • Understanding of the epidemiology of benign and malignant prostate disease
3.5 Health screening and prevention	• An understanding of screening for diabetes, renal disease and hypertension • Understand the controversy surrounding the use of serum PSA as a screening tool for prostate cancer • Implement effective lifestyle change in the prevention of common urological disorders such as recurrent UTI • Stone prophylaxis
3.7 Relationship between health agencies and equitable allocation of resources	• The ethical considerations underpinning allocation of transplant organs • Appreciate the disparities between Indigenous and non-Indigenous patients with end-stage kidney disease in access to kidney transplantation, dialysis and health care
4.4 Principles of ethical practice	• The principles of renal transplantation, and the medical, surgical, ethical, and social • considerations
4.8 Roles and expertise of other health care professionals	• The importance of multi-disciplinary team in management of CKD and the indications for specialist referral • Role of incontinence nurses • Contribute to multidisciplinary team care plan

REPRODUCTIVE & SEXUAL MEDICINE

1.1 Biological, clinical, epidemiological, social, and behavioural sciences	• Anatomical and functional aspects of the hypothalamus, hypothalamo-hypophyseal portal circulation and target cells of the pituitary • Site of production, biological action and control of secretion of oxytocin, vasopressins and neurophysins • Neuroendocrine regulation of the menstrual cycle • Production, physiology and metabolism of androgens in normal women • Abnormal hormone production related to PCOS • Cyclic changes in endocrine activities within the ovary • Synthesis and secretion of hormone substances by the various compartments and cell types of the ovary • Normal growth and development/ambiguous genitalia/genital anomalies • Mechanism of sexual determination, differentiation and the developmental stages to achieve reproductive competence • Anatomy and histology of ovary, uterus, cervix and vagina • Testicular anatomy and histology: various stages of normal and abnormal spermatogenesis • Understand physiology, pathophysiology, epidemiology of menopause • Understand implantation, embryonic development • Maintenance of pregnancy and the initiation of parturition, including physiology, pathophysiology, and pharmacology of the prostaglandins and related compounds • Neuroendocrine and general endocrine changes in the mother during pregnancy and the puerperium including thyroid function • Neuroendocrine function of the fetus and placenta • General understanding of the epidemiology of infertility
1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/ important presentations	**Common/important presentations** • Infertility • Anovulation • Menopause • Hirsutism • Obesity • Recurrent miscarriage • Contraception • Genital tract infection • Sexually transmitted infection • Sexual dysfunction including dyspareunuia, erectile and ejaculatory dysfunction • Sexual violence and coercion

	Reproductive endocrinology disorders • Hypogonadotropic hypogonadism • Hyperprolactinaemia • Kallman syndrome • Polycystic ovary syndrome • Disorders of androgen secretion • Anorexia nervosa • Developmental disorders • Disorders of sexual development/Turner syndrome • Precocious puberty and delayed puberty • Primary amenorrhoea • Fertility control **Contraception** • Barrier methods, combined oral contraception, long acting contraceptive, intrauterine device • Termination of pregnancy • Male and Female Sterilisation **Menopause and premature ovarian failure** • Management of the postmenopausal woman, HRT • Premature ovarian failure • Sexuality and menopause **Assisted reproduction** • Counselling, assessment and management of subfertility and infertility • Ovulation induction • Intrauterine insemination • In vitro fertilisation (IVF) **Common infections in reproductive medicine** • Common vaginal infections • Human papilloma virus infection • STDs • Pelvic inflammatory disease and its sequelae in relation to infertility • Infections impacting on pregnancy outcomes

	Others • Endometriosis and infertility • Recurrent miscarriage • Abortion • Disorders of the menstrual cycle
2.2 Medical history taking	• Obtain an accurate clinical history in reproductive medicine and sexuality • Take a non-judgemental sexual history • Take appropriate history from an infertile couple
2.3 Physical examination	• Conduct a systematic and structured physical examination relevant to reproductive medicine • Undertake a genital examination • Undertake a pelvic examination • Able to detect abnormal signs when present and assess the significance of these findings • Able to integrate findings on physical examination with history and investigation results to make diagnosis
2.4 Differential diagnosis	• Differential diagnosis of infertility
2.5 Common investigations	• Arrange investigations for subfertile or infertile couple • Determine appropriate choice of investigations, consider the risks and benefits of the investigations • The role of medical imaging including ultrasound, CT, MRI in reproductive medicine • Common investigations for recurrent miscarriage • Basic understanding of dynamic endocrine tests
2.6 Common procedures	• Speculum exam • High vaginal swab • Semen analysis • Understanding of vasectomy • Understand indications for laparoscopy, hysteroscopy, hysterosalpingography
2.7 Management options	• Develop, implement and maintain an evidence based management plan for the common clinical problems encountered in Reproductive Medicine • Basic understand of IVF, indications and contraindications, the choice of hyperstimulation regimes, timing and methods of oocyte collection, methods of gamete and embryo transfer • Management of PCOS including anovulation, hyperandrogenism, obesity, metabolic syndrome • Basic understanding of Assisted Reproductive Treatment (ART) • Menopausal hormone therapy • Management of common infections in genital tract
2.11 Prescribe	• Be familiar with prescribing of combined oral contraceptive pill, progesterone-only pill, depot, implants

	• Understand the clinical use of GnRH agonists in assisted reproduction
2.12 Recognise critically unwell patients	• Ectopic pregnancy, threatened abortion
2.14 Place the needs and safety of patients at the centre of care	• Use a patient-centred approach in Reproductive Medicine • Display an empathetic approach to patients presented with reproductive and sexuality problems • Share decision making by informing the patient, prioritising the patient's wishes, and respecting the patient's beliefs, concerns and expectations
2.15 Retrieve, interpret and record information in clinical data systems	• Interpret dynamic endocrinological testing • Interpret semen analysis • Interpret endocrine profile testing results
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	• Awareness of religious or cultural beliefs and medical conditions relevant when considering fertility control • Provide effective health education to empower patients • Provide competent, evidence-based and balanced advice to patients/clients requesting • advice as to reducing the risk of sexual and reproductive tract infections • Promote sexual safety and wellbeing • Recognise signs of and provide support to victims of sexual abuse • Address the health risks and problems in reproductive medicine among culturally diverse and disadvantaged groups including Aboriginal and Torres Strait Islander
3.5 Health screening and prevention	• Integrate evidence-based prevention, early detection and health maintenance activities into practice • Implement effective lifestyle change in patients with PCOS, menopause, obesity • Awareness of screening, immunisation and partner notification for STDs
4.4 Principles of ethical practice	• Understand ethical principles in reproductive medicine • Gamete storage and donation • Surrogacy • Fertility control • Termination of pregnancy • Fetal reduction • Pre-implantation diagnosis • Ethical issues in the advanced reproductive technologies • Overview the of laws regulating assisted reproduction • Awareness of different sexual preferences and behaviours

RESPIRATORY

1.1 Biological, clinical, epidemiological, social, and behavioural sciences	• Lung anatomy • Gas exchange • Pulmonary circulation • Respiratory control centre, chemoreceptors • Respiratory muscles • Chest wall • Lung function testing • The pharmacology of the airways • Normal sleep
1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/ important presentations	**Respiratory pathophysiology** • Respiratory failure; types and its causes • Pulmonary fibrosis • Lung and pleural malignancies • Pulmonary hypertension • Consequences of smoking • The main microbiological causes of pneumonia • Allergy, atopy and inflammatory pathways in relation to asthma **Common/important presentations** • Dyspnoea • Cough • Haemoptysis • Chest pain • Wheeze • Snoring and sleepiness • Abnormal findings on chest imaging • Environmental and occupational exposures • Common/important Conditions • Upper respiratory tract infection including pharyngitis, laryngitis, epiglottitis, bronchitis, sinusitis • Chronic obstructive pulmonary disease (COPD) • Asthma • Bronchiectasis • Cystic fibrosis • Primary and secondary lung malignancies • Pleural effusion • Pneumonia- community acquired

	• Pneumonia-hospital acquired • Empyema and lung abscess • Pulmonary tuberculosis, mycobacterial infections • Respiratory infection in immunosuppressed patients • Occupational and environmental lung disease, malignant mesothelioma • Asbestos related lung disorders • Interstitial lung disease (ILD) • Pulmonary embolism • Pulmonary hypertension • Common sleep disorders including Insomnia and obstructive sleep apnoea • Pneumothorax • Lung cancer • Sarcoidosis • Type I and type II respiratory failure • Acute respiratory distress syndrome
2.2 Medical history taking	• Be able to take a relevant focused history from patients with respiratory illness • Recognise importance of different elements of history, including the role of smoking, occupational, environmental and domestic exposures
2.3 Physical examination	• Be able to perform a focused, relevant and accurate clinical examination in patients with respiratory illness • Be able to relate physical findings to history to establish diagnosis and formulate a management plan • Assessment of severity of patients with pneumonia • Assessment of the airway and its patency • Assessment of severity of patients with asthma or COPD
2.4 Differential diagnosis	• The differential diagnosis of patients with cough, pleuritic chest pain, haemoptysis, acute and chronic breathlessness
2.5 Common investigations	• Pulse oximetry • Mantoux testing • Arterial blood gas analysis and interpretation • Chest X-Ray and chest CT: normal findings and common abnormalities • Investigation of patients with suspected pulmonary embolism • Lung function tests including peak expiratory flow and abnormalities in common respiratory conditions • 6-minute walk test • Perform and interpret spirometry • Chest CT, HRCT and CTPA • V/Q scan • MRI and PET scan

2.6 Common procedures	• Administer oxygen therapy • Spirometry • Arterial blood gas sampling and interpretation • Needle thoracentesis • Principles of chest drain insertion • Observe bronchoscopy and endobronchial ultrasound (EBUS) • Pleural fluid aspiration and analysis
2.7 Management options	• Non invasive and invasive ventilation • Continuous positive airway pressure (CPAP) • Management of patients with pneumonia including antibiotic usage • Management of patient with acute asthma • Management of chronic asthma including asthma action plans • Management of pulmonary emboli including anticoagulation therapies • Management of pneumothorax • Management of COPD including acute exacerbations • Management of lung nodule • Management of obstructive sleep apnoea • Role of exercise in chronic respiratory conditions • The role of pulmonary rehabilitation • The management of respiratory malignancies including an understanding of the roles of diagnostic biopsies, staging, surgery, chemotherapy and radiotherapy
2.11 Prescribe	• Be able to prescribe, review and monitor appropriate therapeutic interventions • To safely prescribe oxygen therapy • The effective use of inhalers and nebulisers • The mechanisms of action and potential side effects of common respiratory drugs. • An understanding of those medications which can cause respiratory side effects • The indications and complications of corticosteroids in respiratory illness • Prescribing scheduled drugs including inhalers and nebulisers • Prescription writing in hospital practice • Writing medications in national hospital drug chart
2.12 Recognise critically unwell patients	• The treatment and management of acute breathlessness, respiratory failure and respiratory arrest • The management of pneumothorax, acute asthma and acute exacerbations of COPD • The management of severe pneumonia • Recognise superior vena cava (SVC) syndrome
2.14 Place the needs and safety of patients at the centre of care	• The appropriate use of antibiotics in respiratory infection • Support patient self-management in chronic conditions: COPD, asthma
2.15 Retrieve, interpret and record information in clinical data systems	• Interpret ABG results • Interpret pulmonary function tests

	• Interpret CXR, chest CT • Able to obtain evidence-based guideline
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	• The role and importance of smoking, occupation, obesity, environmental pollution in respiratory diseases • The impact of culture, social determinants of health, education level, risk behaviour and psychological factors on the presentation and history of respiratory diseases • An understanding of the commoner genetic causes of respiratory disease such as cystic fibrosis • The role of asbestos exposure in respiratory diseases
3.5 Health screening and prevention	• An understanding of strategies for smoking cessation • The prevention of DVT and PE
3.7 Relationship between health agencies and equitable allocation of resources	• The indications for home oxygen therapy
4.4 Principles of ethical practice	• The principles of critical care and ventilation in patients with chronic respiratory disease including ethical considerations
4.8 Roles and expertise of other health care professionals	• The importance of multi-disciplinary team in management of chronic respiratory conditions and the indications for specialist referral • Adopt a team approach, acknowledging and appreciating the efforts and contributions of others

RURAL & REMOTE

1.2 Apply core medical and scientific knowledge to individual patients, populations and health systems	• Understand the definition of remote Australia and remote populations • Demonstrate the principles of evidence-based patient management within the constraints of low resource clinical environments • Quality and safety cannot be considered context-void but rather must consider the alternatives to no access to care
1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/ important presentations	• Demonstrate the capacity to consider nature history of a presentation when timing medical transfers • Recognise the need to adapt evidence-based guidelines to take into account patient access (travel and cost) and health service resources (human and infrastructure) **Common/important presentations** • Triage and transfer of patients • Telemedicine through video conferenced/phone patient consultations • Telemedicine through video/phone support of rural generalists from tertiary hospital based • Consultants **Common/important Conditions** • Demonstrate capacity to consider patient safety during transport from remote and rural • contexts • Manage common conditions in remote and rural areas including: diabetes, heart disease, chronic kidney disease, mental health illness, cancers
2.2 Medical history taking	• Undertake an appropriate history for a patient from a remote or rural community including presenting problems, epidemiology, culture and geographic location, social supports and access to services • Be familiar with distance technologies which enable history taking
2.3 Physical examination	• Perform a detailed/comprehensive problem-focussed physical examination relevant to clinical history and risks, epidemiology and cultural context • Be familiar with the use a portable ultrasound to complement secondary survey
2.4 Differential diagnosis	• Apply diagnostic reasoning to arrive at one or more provisional diagnoses, considering uncommon but clinically important differential diagnoses in the remote areas such as TB, melioidosis • Utilise store-and-forward technologies in radiology, dermatology, ophthalmology and other disciplines
2.5 Common investigations	• Order and/or perform diagnostic tests where diagnostic resources are limited required to confirm a diagnosis, monitor medical care and/or exclude treatable serious conditions • Demonstrate the capacity to perform and interpret point-of-care investigations available in remote settings including urinalysis, blood glucose, iStat, INR, blood gases

2.6 Common procedures	• Be able to describe your own competence at procedures in order that you can be supported to make decisions about whether to perform these with remote supervision over distance technology • Collect a blood sample for “cross-matching”, including labelling of patient and sample and safe handling and disposal of the needle
2.7 Management options	• Recognise bradycardia, asystole, ventricular fibrillation and broad and narrow-complex tachycardias and be able to follow the appropriate advanced cardiac life support protocols or Australian Resuscitation Council (ARC) guidelines. Able to assemble a “Miniject” system to administer adrenaline, atropine, etc, and to use any defibrillator safely and effectively • Assess and manage acute pain after major and ambulatory surgery, including administration of opioids by intravenous, subcutaneous and intramuscular injection and intravenous patient-controlled analgesia (PCA) • Able to outline to patients the major differences between general anaesthesia, spinal anaesthesia, epidural anaesthesia, local infiltration and regional or nerve block • Effectively use equipment commonly found on wards for bedside diagnosis and treatment, including pulse oximeters, NIBP, oral and aural temperature, infusion pumps • Identify and manage serious complications seen after anaesthesia and surgery, including unrelieved pain, opioid-induced respiratory depression or sedation, hypotension, oliguria, confusion or delirium, nausea or vomiting, and breathlessness • Explain to patients what is needed in preparation for anaesthesia including fasting and which medications for co-existing illnesses should be continued or ‘held • The management of fluid and electrolytes during and after surgery • The management of common chronic conditions • Refer, facilitate and coordinate access to specialised medical and diagnostic and other health and social support services
2.11 Prescribe	• Prescribing scheduled drugs • Prescription writing in hospital practice • Writing medications in national hospital drug chart • Able to safely prescribe analgesic medications after surgery • Describe the indications and complications of different analgesics • Prescribe and administer oxygen effectively in common emergency and postoperative situations
2.12 Recognise critically unwell patients	• Recognise and respond early to the deteriorating patient, in particular, the recognition of an obstructed airway, impaired conscious level and life threatening cardiac rhythms • Undertake initial assessment and triage of patients with acute or life-threatening conditions • Assist to stabilise, prepare, evacuate or retrieve critically ill patients when needed
2.14 Place the needs and safety of patients at the centre of care	• Understand the potential complications of surgery and anaesthesia • Aware of operating safety checklists

2.15 Retrieve, interpret and record information in clinical data systems	• Understanding of observations during surgery and anaesthesia • Able to interpret common investigation results performed in the remote area • Analyse the health status and epidemiology of the remote community
3.2 Explain factors that contribute to health, illness, disease and treatment of populations	• Demonstrate knowledge of unique health concerns of Australians living in rural and remote areas that relate directly to their living conditions, social isolation, socioeconomic disadvantage and/or distance from health services • Provide continuity and coordination of care for remote populations • Demonstrate knowledge of death rates due to injury being 1.5 times the urban rate, death rates from road accidents are double, and the death rate among aged people who fall is triple the urban rate • Understand the public health issues relevant to remote communities, including: • infrastructure, public health surveillance and procedures • disease control initiatives, environmental health issues • water supply, sewerage systems, water testing • power supply and generator maintenance
3.4 Health Aboriginal and Torres Strait Islander peoples	• Aboriginal and Torres Strait Islander peoples make up approximately 16 percent of the total 'remote' population of Australia and 48 percent of the 'very remote' population. Awareness of poor health status of many Indigenous Australians and the factors underlying this including distance, isolation, lower incomes, poor educational opportunities, meagre housing, minority status, and lack of services
3.5 Health screening and prevention	• Consider access to screening programs and diagnostic services for rural and remote patients
3.7 Relationship between health agencies and equitable allocation of resources	• Rural people have lower access to health care compared with their metropolitan • counterparts because of distance, hospital funding models, time factors, costs, and • availability of transport. This disadvantage increases with geographical remoteness • Understand the access to medical services in remote areas: • telehealth • fly-in fly-out medical, emergency, evacuation and primary care services • Indigenous primary health care services • small communities with clinics and small hospitals with no full time Medical Officers on site • primary care services provided by medical practitioners based in remote communities on islands, ships, expeditions, or in the ADF
4.4 Principles of ethical practice	• Rural and remote areas both in Australia and overseas are providing an increased range of procedural, emergency and other advanced care services. The complexity and scope of the practitioner's tasks increase as the degree of geographical remoteness increases. Demonstrate capacity to self-assess one's own competence and consider the relative

	patient risk of access to broad scope care provision vs travelling to access more specialised care • Maintain a personal and professional balance in a remote small community
4.5 Demonstrate awareness of factors that affect doctor's health and wellbeing	• Recognising the negative impact of professional isolation and high work demands, demonstrate strong self-care skills and capacity to maintain a supportive social and professional network • Demonstrate capacity to seek feedback from peers and your own GP to monitor and manage your own health
4.8 Roles and expertise of other health care professionals	• Awareness of the provision of healthcare in remote and rural areas • Demonstrate commitment to teamwork, collaboration, coordination and continuity of care • Understand and respect for the extended clinical roles of all other health care professionals in remote community

CORE SKILLS

Communications Skills	Communication skills include traditional doctor-patient consultation, all communication between doctors and patients outside of the traditional consultation e.g. specific explanation of treatment options and seeking of consent, intra-professional and interprofessional communications and communication between the medical profession and the public, such as in health education and advocacy. Demonstrate by listening, sharing and responding, the ability to communicate clearly, sensitively and effectively with patients, their family/carers, doctors and other health professionals Elicit patients' questions and their views, concerns and preferences, promote rapport, and ensure patients' full understanding of their problem(s) and the role of shared decision making Able to discuss potentially sensitive and stigmatizing topics/issues, conducting consultations within emotionally laden situations Demonstrates cultural safety through respect and responsiveness to the cultural context of individuals during consultation Involve patients in decision-making and planning their treatment, especially communicating risk and benefits of management options Demonstrate culturally competent communication, including with an interpreter, with patients, their families and carers, who have a first language other than English Provide information to patients, and family/carers where relevant, to enable them to make a fully informed choice among various diagnostic, therapeutic and management options Retrieve, interpret and record information effectively in clinical data systems (both paper and electronic) Communicate effectively with patients and colleagues by phone conversations, emails, fax, letters and other electronic media Oral communication skills including oral case presentation, requesting consultations, oral handover using ISBAR, presenting in the unit journal clubs, multidisciplinary, radiology and histopathology meetings Written communication skills: documentation in the case note, referral letter, discharge summary, investigation request Communicate effectively in wider roles including health advocacy, teaching, assessing and appraising
History taking skills	Obtain an accurate, organised, detailed and problem-focused medical history, including family, social, occupational, psychiatric and lifestyle features, from the patient, and other sources. • Seek both positive and negative features • Focus on the patient's concerns and what may be causing their symptoms

	• Incorporate both the medical and patient perspectives into history taking • Modify history taking to fit the clinical context especially in medical emergency • Take a history in more challenging circumstances such as from cognitively impaired patients • Able to sort relevant from irrelevant information • Efficiently process information to formulate differential diagnoses
Examination Skills	• Perform a full and accurate physical examination, including a mental state examination, or a problem-focused examination as indicated • Recognise and assess deteriorating and critically unwell patients • Recognise and describe normal and abnormal findings • Clarify the problem(s) by adapting the examination according to the history obtained and clinical context • Cardiovascular system examination • Respiratory system examination • Abdominal examination including digital rectal examination • Thyroid examination • Examination of lymph nodes and lumps • Musculoskeletal examination • Neurological examination including cranial and peripheral nerves • Skin examination • Breast examination • Penis, scrotum, testes examination • Peripheral vascular system examination • Ear, nose and throat examination including use of an auroscope/otoscope • Eye exam including visual acuity, visual fields, pupillary function, eye movements, optic fundus and disc using, eyelid retraction/eversion and slit lamp examination • Gynaecological examination including bimanual vaginal and speculum examination • Examination of the pregnant woman • Examination of newborns, babies and children including developmental assessment • Mental status examination • Assess suicide risk, violence risk • Assess pain status
Procedural Skills	***Obtain core competencies for the following skills:*** • Administration of injections: IV, IM, SC • Blood glucose monitoring • Vaccinations of infants and children • Venepuncture including blood culture technique • Insertion of intravenous cannula, set up an intravenous infusion • Arterial blood gas sampling Insertion of urinary catheters (male and female) • Insertion of nasogastric tubes • Oxygen administration, nebuliser administration

	• Recognise an obstructed airway and secure and maintain a clear airway using basic life support (BLS) measures and Guedel airway • Recognise inadequate breathing and effectively artificially ventilate an unconscious patient using a self-inflating resuscitator (e.g. Laerdal bag) • Insert a laryngeal mask airway (LMA) for artificial ventilation • Understand the indications and steps in endotracheal intubation • Urine dipstick, microscopy examination, urine pregnancy test, explain and obtain MSU specimen • Faecal occult blood testing • Undertake a 12 lead ECG • Peak flow meter and bed side spirometry measurement, inhaler/spacer use • Throat and nasopharyngeal swab • Endocervical & vaginal swab • Urethral swab • Cervical smear • Hand hygiene, infection control, no touch, surgical scrub and gown and aseptic/sterile technique. Universal precautions including use of sharps, safe clean up and disposal • Wound swab, wound dressings, clean and debride a wound • Incision and drainage of abscesses • Use of local anaesthetic • Primary wound closure, using steristrips, tissue adhesive and sutures removal of sutures and staples • Skin biopsy and simple skin lesion excision • Application of slings: triangular, collar and cuff • Bandaging • Lower limb plastering and splintage (precautions and after care) • Upper limb plastering and splintage • Eye drop/ointment administration, fluorescein staining, eye bandage application/padding • Normal vaginal delivery ***Observe and understand the following procedures:*** • Abdominal paracentesis • Joint aspiration and injection • lumbar puncture • Thoracentesis • Prescribe, check and administer blood products • Reduction of joint dislocation • CPAP administration • Suprapubic catheterisation and catheter exchange • Remove simple eye foreign body and corneal foreign body, eye irrigation • External auditory canal irrigation, ear wick insertion

	• Epistaxis management, anterior rhinoscopy and anterior nasal pack insertion
Clinical Reasoning and Management Skills	***Clinical Reasoning and Management Skills*** Clinical reasoning incorporates the skills and processes from initial inquiry and data gathering and through ongoing critical analysis, evaluation, and synthesis, to gather and use relevant information and evidence to translate a patient's presentations into a coherent diagnostic formulation or diagnosis and management plan. ***Common Clinical Presentations*** The following is a list of the common clinical presentations that students should see and be familiar with: Abdominal pain Abdominal swelling or mass Abnormal vaginal bleeding Abnormal Pap smear Aphasia / Dysphasia (Receptive, expressive, articulation) Anorexia Anxiety and panic Back pain Balance or gait disorder Behavioural problem (adult and child) Bone pain Burns and scalds Chest pain Claudication Collapse (conscious and unconscious) Confusion and/or disorientation Constipation Cough Delirium Developmental delay in child Diarrhoea (acute and chronic) Dizziness Dyspepsia Ear pain and/or discharge Epistaxis Eye- Vision loss (acute and chronic) Eye- Red eye Eye- Painful eye Faecal incontinence Fall (recurrent falls) Fatigue Fever Goitre

	Groin swelling or pain Haematemesis Haematuria Haemoptysis Headache Hearing Impairment Heart – Cardiac arrest Indigestion/Reflux Irritable infant Itch (generalised and local) Jaundice Joint pain (generalised and local) Joint swelling or red, hot, painful joints Lacerations and abrasions Limb pain Loss or altered conscious state Lump – Breast, neck and other sites Lymphadenopathy (generalised and local) Melaena Mood disorders Movement disorders Myalgia Nausea and vomiting Neck pain Neurological dysfunction or deficit (motor) Neurological dysfunction or deficit (sensory) Obesity Pallor Pelvic pain Peripheral oedema Pruritus Psychotic episode Rash Rectal bleeding Scrotal swelling or pain Seizure Shock Shortness of breath, dyspnoea Skin infection or infestation Skin lesions Snoring Spasticity

	Speech disorder Suicide (including drug overdose) Swallowing difficulty / Dysphagia Syncope Throat – Pain, mass Tinnitus Trauma Tremor Ulceration (specify site) Upper airway obstruction Upper or lower limb fracture Urinary Symptom – Dysuria and frequency Urinary Symptom - Incontinence Urinary Symptom- Voiding difficulties Urinary Symptom– Nocturia Urinary Symptom– Oliguria and anuria Urinary Symptom– Polyuria Urinary Symptom– Proteinuria Vertigo Visual Disturbance Weakness Weight change Wheeze
Care Planning Skills	• Integrate and interpret findings from the history and examination, to arrive at an initial assessment including a relevant differential diagnosis • Discriminate between possible differential diagnoses, justify the decisions taken and describe the processes for evaluating these • Make clinical judgments and decisions based on the available evidence. Identify and justify relevant management options alone or in conjunction with multi-disciplinary colleagues including the formulation of an appropriate management plan • Integrate prevention, early detection, health maintenance and chronic condition management where relevant into clinical practice • Demonstrate a patient-centred approach using strategies to support patient management and self-care • Explain the pathogenesis of common and critical diseases and how these manifest as symptoms and signs • Explain the scientific basis of medical investigations for common and critical conditions.
Diagnostic Skills	• Select and justify common investigations, with regard to the pathological basis of disease, utility, safety and cost effectiveness, and interpret the following common investigation results • Interpretation of plain chest and abdominal X-ray • Interpretation of basic CT scan (head, chest, abdomen and pelvic) • Interpretation of ultrasound associated with common medical, surgical, obstetric, gynaecological conditions

	• Interpretation of ECG • Understand the basic echocardiogram report • Interpretation of ABGs • Interpretation of pulmonary function tests • Interpret common investigations including full blood count and blood file, coagulation study, iron study, biochemistry, liver function tests and thyroid function tests • Interpret common microbiology, immunology, and histopathology results
Medical Emergencies Skills	• Recognise and assess deteriorating and critically unwell patients who require immediate care. Perform common emergency and life support procedures, including caring for the unconscious patient and performing CPR. • Basic life support • Advanced life support • Management of acute asthma • Management of acute myocardial infarction (STEMI and NSTEMI) • Management of acute pulmonary oedema • Management of arrhythmias (rapid atrial fibrillation, heart block, supraventricular tachycardia, ventricular tachycardia & fibrillation) • Management of anaphylaxis • Management of convulsion • Management of acute respiratory failure • Management of acute abdomen • Management of large GI bleeding • Management of shock • Management of hypoglycaemia • Management of sepsis • The principles of acute poisoning management • Management of acute psychosis and of self-harm • Understand the principles of the management of obstetric emergencies and newborn resuscitation
Prescribing Skills	• Prescribe medications safely, effectively and economically using objective evidence • Safely administer other therapeutic agents including fluid, electrolytes, blood products and selected inhalational agents • Knowledge of pharmacology of commonly prescribed medications and safe therapeutic practice in the selection, monitoring and application of drug therapy • Prescription writing in ambulatory care or general practice • Prescription writing in hospital practice including national hospital drug chart • Discharge medications • Drug level monitoring • Prescribing regulations & drug subsidy schemes • Prescribing scheduled drugs
Professionalism and Teamwork Skills	• Place the needs and safety of patients at the centre of the care process

	• Demonstrate safety skills including infection control, blood product safety, adverse event reporting and effective clinical handover • Accept responsibility to protect and advance the health and wellbeing of individuals, communities and populations • Provide care to all patients according to "Good Medical Practice: A Code of Conduct for Doctors in Australia" • Demonstrate professional values including commitment to high quality clinical standards, compassion, empathy, confidentiality and respect for all patients. Exhibits professional conduct that conforms with registration authority standards • Demonstrate the qualities of integrity, honesty, leadership and partnership to patients, the profession and society and act to ensure safe patient care • Describe the principles and practice of professionalism and leadership in health care • Demonstrate awareness of factors that affect doctors' health and wellbeing, including fatigue, stress management and infection control, to mitigate health risks of professional practice • Recognise your own health needs, when to consult and follow advice of a health professional and identify risks posed to patients by your own health • Identify the boundaries that define professional and therapeutic relationships and demonstrate respect for these in clinical practice • Demonstrate awareness of and explain the options available when personal values or beliefs may influence patient care, including the obligation to refer to another practitioner • Understand the nature of teams and teamwork • Describe and respect the roles and expertise of other health care professionals, and demonstrate ability to learn and work effectively as a member of an inter-professional team or other professional group • Self-evaluate your own professional practice; demonstrate lifelong learning behaviours and fundamental skills. Adapt to new technologies and systems • Recognise own limitations as a medical student and ask for help when needed • Identify personal behaviours important for patient safety and quality and involve other professionals as needed to contribute to patient care
Cultural Competency Skills	• Explain factors that contribute to the health, illness, disease and success of treatment of populations, including issues relating to health inequities and inequalities, diversity of cultural, spiritual and community values, and socio-economic and physical environment factors • Understand and describe the factors that contribute to the health and wellbeing of different peoples notably Aboriginal and Torres Strait Islander peoples and/or Māori, including history, spirituality and relationship to land, diversity of cultures and communities, epidemiology, social and political determinants of health and health experiences • Describe health and illness models across diverse cultures • Demonstrate effective and culturally competent communication and care for Aboriginal and Torres Strait Islander peoples and/or Māori • Understand and practice the principles of cultural safety
Medicolegal and Ethics Skills	• Explain factors that contribute to the health, illness, disease and success of treatment of populations, including issues relating to health inequities and inequalities, diversity of cultural, spiritual and community values, and socio-economic and physical environment factors. Describes the social, economic, geographical, and political factors that affect health • care system design and delivery.

	• Communicate effectively in wider roles including health advocacy, teaching, assessing and appraising. • 3.8 Describe the attributes of the national systems of health care including those that pertain to the health care of Aboriginal and Torres Strait Islander peoples and/or Maori. • Explain the main principles of ethical practice and apply these to scenarios in clinical practice. Communicate effectively about ethical issues with patients, family and other health care professionals. • 4.10 Describe and apply the fundamental legal responsibilities of health professionals especially those relating to ability to complete relevant certificates and documents, informed consent, duty of care to patients and colleagues, privacy, confidentiality, mandatory reporting and notification. Demonstrate awareness of financial and other conflicts of interest. Describe situations that override the duty of confidentiality, including mandatory reporting and notifiable diseases. Explain the challenges of balancing available limited resources with safe quality health care for patients.
Health Care System	• 3.6 Describe a systems approach to improving the quality and safety of health care • 3.7 Understand and describe the roles and relationships between health agencies and services, and explain the principles of efficient and equitable allocation of finite resources, to meet individual, community and national health needs • 3.8 Describe the attributes of national systems of health care including those that pertain to the health care of Aboriginal and Torres Strait Islander peoples and/or Maori • 3.9 Demonstrate and understanding of global health issues and determinants of health and disease including their relevance to health care delivery in Australia and New Zealand and the broader Western Pacific region • 5.4 Describes how public health approaches can be used to evaluate and manage community health • 5.5 Describes the structure and function of the Australian health care system • 5.6 Describes the social, economic, geographical, and political factors that affect health care system design and delivery • 5.7 Explains the challenges of balancing available limited resources with safe quality health care for patients • 5.8 Understands the health system sufficiently to advocate for patient needs, including patients from rural and remote communities • 5.9 Analyses how continuity of care within the health systems affects the quality of patient care and health outcomes • 5.10 Describes health system mechanisms for ensuring patient safety and quality
Research Skills	• 1.4 Access, critically appraise, interpret and apply evidence from the medical and scientific literature including how epidemiological knowledge can be derived and used to determine best practice for prevention and treatment of disease • 1.5 Apply knowledge of common scientific methods to formulate relevant research questions and select applicable study designs in medical scientific and social research. • 1.6 Demonstrate a commitment to excellence, evidence-based practice and the generation of new scientific knowledge. • 1.3.2 Explains the ethical requirements of research, including research involving Aboriginal peoples.

RESEARCH

1.1 Biological, clinical, epidemiological, social, and behavioural sciences	• Understanding of the different types of medical research and their use in different • bioscience, clinical and community contexts • Understanding of the placebo effect • Analyse, interpret and critically appraise research • Principles of evidence based medicine • Appreciation of specificity, sensitivity, number needed to treat • Understanding of disease incidence, prevalence, risk factors • Understand the concept of absolute versus relative risks • Appreciation of different levels of evidence and their classification • Understanding of strategies to gather and retrieve evidence • Able to retrieve research evidence • Understanding of searching methods, evidence summaries and clinical guidelines • Understanding of clinical trials and drug development process • Discuss categories of clinical research studies including: - randomised controlled trial - observational study - meta-analysis - registry - case reports • Principles of randomisation, blinding and controls • The role of clinical trials in development of new treatments, investigations and management • Understanding of the principles of audit
2.6 Common procedures	• Principles in undertaking a systematic review • Able to undertake a Pubmed based search to find quality evidence • Able to access relevant evidence summaries and clinical guidelines to inform practice • Understand basic statistical analyses applied to clinical research studies • Critically review published research on a selected topic and present to department journal club
3.5 Health screening and prevention	• The research underpinning health screening strategies
4.4 Principles of ethical practice	• Issues around consent in medical research and role of ethics committees • Understand and apply ethical responsibilities in the conduct of research

SOCIAL / LEGAL / ETHICAL

1.1 Biological, clinical, epidemiological, social, and behavioural sciences	• Appreciation for the value and dignity of human life • Understand and appropriately provide care according to the applicable state and federal laws and current standard of medical care • Demonstrate personal ethical standards that reflect adherence to the Australian Health Practitioner Regulation Agency (AHPRA) Code of Medical Ethics • Understand the following principles of ethics: - Autonomy: Patients' rights and physicians' rights - Responsibilities and duties of patients and physicians - Beneficence: Acting in the best interest of patients - Non-malfeasance: To do no harm (or the least harm possible) - Confidentiality - Informed consent including ethical and legal considerations - Patient competency and capacity including surrogate decision making - The role and causes of social determinants of health
1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/ important presentations	***Common/ important presentations*** Avoidance of potential ethical conflicts with the pharmaceutical industries Avoidance of potential ethical conflicts with third-party payers and other health industry providers Avoidance of economic self-interest Appropriate medical charges, billing practices, and coding for services Disclosure to patients and audiences of conflicts of interest Role of ethics committees ***Common/important Conditions*** HIV and STD testing Ethical issues in genetics tests Ethical issues in contraception and abortion Organ donation Persistent vegetative state Autopsy Medical futility Euthanasia and physician-assisted suicide Blood transfusion in Jehovah's Witness Refusal of treatment Discharge against medical advice Care for patients with a poor prognosis, including patients who are terminally ill Ethics codes and oaths including the Declaration of Geneva (Physician's Oath) Research in human subjects Legal and ethical issues in child protection

	Sexual harassment in the medical profession: legal and ethical responsibilities Certification of death and referral to coroner Medical Registration and role of AHPRA
2.2 Medical history taking	• Take details of history including the ethical issues of a case • Social history, occupational history, family history
2.3 Physical examination	• Understand the principle and process of mental and decision-making capacity assessment
2.5 Common investigations	• Obtain informed consent before investigations, cost, implications for individuals other than the patient • Consider potential harm, cost, and implications for individuals other than the patient
2.6 Common procedures	• Understand how to obtain a valid informed consent or a valid refusal of treatment • Appreciation of consent to treatment in patients who lack capacity
2.7 Management options	• Advance directives and living wills • Power of attorney for health care • Management of human reproductive issues: contraception and abortion, genetic testing and counselling, sterilisation • Management of terminally ill patients • Presentation of priorities and options to the patient and his or her support group (e.g., family, legal guardian) when dealing with conflicting ethical issues • Manage appropriately if a patient refuses treatment
2.11 Prescribe	• Ensure safe and appropriate prescribing of medications • Understand the legal requirements underpinning prescribing • Legal-ethical issues of prescribing opioids • Ethical issues in prescribing off-label medications
2.12 Recognise critically unwell patients and perform CPR	• Ethics issues in resuscitation • Decide when it is ethically justified to breach confidentiality in medical emergency
2.14 Place the needs and safety of patients at the centre of care	• Act as an effective patient advocate • Makes patient safety a priority in clinical practice
3.7 Relationship between health agencies and equitable allocation of resources	• Fair allocation of resources based on individual patient needs • Fair allocation of resources at the state and national level • Appreciation of the high costs and accessibility of some treatments
4.4 Principles of ethical practice	• Understand professional and ethical obligations to the patient and the broader community • Self-monitor one's own professional behaviour • Ethical issues in physician error (identification and coping with one's own and others) • Ethical issues in reporting and manage colleagues with substance abuse • Act appropriately when aware of unethical conduct by a colleague
4.8 Roles and expertise of other health care professionals	• Role of institutional ethics committee

SURGERY

1.1 Biological, clinical, epidemiological, social, and behavioural sciences	**Physiology and anatomy** • Anatomy underpinning common surgical procedures • Knowledge of physiology, pharmacology, microbiology and pathology relevant to surgical • practice • Principles of fluid and electrolyte balance Principles of anaesthesia and technique **Pathophysiology** • Shock • Wounds and healing • Pathophysiology of trauma, surgery and anaesthesia • Fluid management, oliguria and AKI • Nutrition and metabolism following surgery • Wound infection
1.3 Aetiology, pathology, clinical features, natural history, and prognosis of common/ important presentations	**Common/important presentations** • Abdominal pain • Abdominal swelling • Breast lumps and nipple discharge • Burn • Change in bowel habit • Dysphagia/dyspepsia • Haematemesis • Jaundice • Lumps in groin, hernias • Lumps in neck • Leg ulceration • Limb pain and claudication • Pancreatitis • Rectal bleeding • Trauma and multiple injury • Consent for surgery • Pre-operative assessment • Surgical safety (WHO checklist, minimising complications, errors, communication and team-working) **Common/important conditions** • Wound infection • Acute abdomen • Peritonitis

	• Abdominal hernias • Appendicitis • Liver cancer: primary and secondary • Liver abscess • Portal hypertension • Cholecystitis, gallstones and cholecystectomy • Acute and chronic pancreatitis • Pancreatic cancer • Bowel obstruction • Diverticular disease • Ischaemic bowel • Colorectal cancer • Anorectal disorders including: haemorrhoids, anal fissure, anal incontinence, rectal prolapse, anorectal abscess, pilonidal sinus • Reflux oesophagitis and Barrett's oesophagus • Hiatus hernia • Oesophageal cancer • Peptic ulceration • Gastric cancer • Goitre, solitary thyroid nodules, thyroid cancers and thyroidectomy • Peripheral vascular disease including amputation • Aortic aneurysm and dissection • Acute limb ischaemia • Varicose vein • Venous and arterial leg ulcers • Lymphoedema • Venous thromboembolism • Pulmonary embolism • Compartment syndrome • Principles of surgical oncology • Breast cancer, benign breast tumour, mastitis • Head and neck cancers • Surgery for skin cancers including melanoma • Surgery for benign skin and soft tissue lesions: cysts, dermoid cyst, ganglion, lipoma, disorders of nails • Infections of hand • Other neck swellings: thyroglossal cyst, branchial cysts, salivary gland infections and tumours, sialolithiasis, lymphadenopathy • Trauma • Systemic inflammatory response syndrome (SIRS), sepsis, severe sepsis, septic shock, and acute respiratory distress syndrome (ARDS).
2.2 Medical history taking	• Take and record a patient’s history that is relevant, concise, accurate and appropriate to the patient’s problem

	• Assessment of fitness for surgery • Appreciation of ASA (American Society of Anaesthesiologists) Classification its use in prediction of morbidity and mortality • Assessment of medical co-morbidities • Assessment of prior anaesthetic and surgical complications

2.3 Physical examination	• Perform a full physical examination in patients with confirmed or suspected surgical conditions
	• Perform a focus examination in the following system:
	  ○ Wound examination
	  ○ Examination of a lump (e.g. its size, consistency, location, mobility and whether it is tender, pulsatile or transilluminates)
	  ○ Examination of a patient with abdominal pain including digital rectal examination
	  ○ Examination of abdominal herniae
	  ○ Breast examination
	  ○ Peripheral vascular examination
	  ○ Examination of hip, knee and shoulder
	  ○ Examination of the spinal, low back
	• Assessment of the patient with bleeding or shock
	• Assessment of the patient for fluid status
	• Assessment of the patient with oliguria
	• Appropriate pre and post-operative observations
	• Trauma assessment: primary and secondary patient surveys

2.4 Differential diagnosis	• The differential diagnosis for causes of abdominal pain • The differential diagnosis of post-operative fever • The differential diagnosis of abdominal mass
2.5 Common investigations	• Appropriate pre-operative investigations • Blood cross matching and transfusion • Appropriate post-operative investigations • Use of CT scanning, plain abdominal and chest X-Rays, Ultrasound and MRI in the assessment of patients with common surgical conditions • Upper and lower GI endoscopy • ERCP
2.6 Common procedures	• Aseptic technique • Hand hygiene, infection control, no touch, surgical ‘scrubbing’ and sterile technique • Use of personal protective equipment (gloves, gowns, masks) • Safe disposal of clinical waste, needles and other ‘sharps’ • Use of local anaesthetics • Wound suturing • Incise and close superficial tissues accurately • Tie secure knots • Basic wound dressing • Removal of stitches and staples

	• Insertion and indications for nasogastric tubes • Parenteral feeding and percutaneous and nasogastric feeding tubes • Urethral catheterisation • Venepuncture • Peripheral venous cannulation • Arterial blood sampling • Bowel preparation and its indication prior to procedures • Abdominal paracentesis • Maintaining the airway
2.7 Management options	• Indications for surgical interventions • Surgical options including open and endoscopic procedures • Management of common post-operative complications including wound infections, thromboembolism, chest infections, ileus, oliguria • Management of routine surgical incisions eg Laparotomy, Sternotomy, Craniotomy, TKR/ THR • Immediate post op and post discharge management for surgical patients • Recognition and resuscitation of patient with sepsis and shock • Optimisation of fluid administration • Identify patients in need of nutritional optimisation and use of enteral and parenteral feeding • Observe management of major trauma
2.11 Prescribe	• Antibiotic prophylaxis • Thromboembolism prophylaxis • Intravenous fluids • Analgesia • Drugs used in anaesthetic pre-medication
2.12 Recognise critically unwell patients	• The treatment and management of cardiac arrest • The recognition, treatment and management of patients with life threatening causes of abdominal pain and shock including peritonitis, ischaemic bowel, aortic aneurysm and dissection, critical limb ischaemia, compartment syndrome, severe pancreatitis, sepsis
2.14 Place the needs and safety of patients at the centre of care	• Surgical safety (WHO checklist, minimising complications, errors, communication and team-working) • Mortality and morbidity (M&M) meetings • Surgical site marking • Awareness of the risks and benefits of commonly undertaken surgical procedures and possible alternatives • Appreciation of administrative steps to book a patient into the operating theatre and requirements including anaesthetic assessment investigation results, drug chart and consent forms • Identification of patients at high risk of complications • Optimisation of health prior to surgery • Understand the importance of infection control

3.2 Explain factors that contribute to health, illness, disease and treatment of populations	• Appreciation of the role of diet, obesity, smoking, activity, genetics in the common surgical conditions including cancers
3.5 Health screening and prevention	• An understanding of screening for pre-malignant and malignant conditions including breast cancer, colorectal cancer, Barrett' s oesophagus, aortic aneurysms • An appreciation of potentially preventable surgical conditions such as peripheral vascular disease
3.7 Relationship between health agencies and equitable allocation of resources	• Awareness of the global variability in access to surgical services • Awareness of limited surgical service in remote areas
4.4 Principles of ethical practice	• Awareness of informed consent as it pertains to surgical procedures
4.8 Roles and expertise of other health care professionals	• The importance of multi-disciplinary team in pre and post-operative management of surgical patients and the indications for specialist referral • Roles of anaesthetists, theatre nurses, ward nurses, wound care specialists, dietitians, stoma nurses, physiotherapists in care of surgical patients