CURTIN MEDICAL SCHOOL

SURGERY

SPECIFIC LEARNING OBJECTIVES

Curtin Medical School acknowledges that this document has been adapted from:

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with substantive revisions and input from the academic staff and adjunct staff of Curtin Medical School

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UNDERSTANDING WOUND HEALING – THE BASIS OF MEDICINE/SURGERY

A. KNOWLEDGE: Students should be able to:

Year 4

1	Describe the process and stages of wound healing.	Theme 1: Scientific Foundations of Medicine	1.1
2	Describe primary, secondary and tertiary wound healing.	Theme 1: Scientific Foundations of Medicine	1.1
3	Explain reasons for conducting a wound assessment.	Theme 1: Scientific Foundations of Medicine	1.2
4	Identify wound bed tissue types.	Theme 1: Scientific Foundations of Medicine	1.1
5	Describe the skin surrounding the wound and how this gives information about the underlying disease and the effectiveness of current treatments.	Theme 1: Scientific Foundations of Medicine	1.1
6	Outline the need to assess pain in wound care.	Theme 1: Scientific Foundations of Medicine	1.2
7	Explain factors which impact on wound healing (e.g. nutrition, infection).	Theme 1: Scientific Foundations of Medicine	1.1
8	State the basic principles and working classification of wound dressings.	Theme 1: Scientific Foundations of Medicine	1.1
9	Summarise pressure injury classification.	Theme 1: Scientific Foundations of Medicine	1.3
10	Explain the pathophysiology, classification and basic management of patients with chronic wounds.	Theme 1: Scientific Foundations of Medicine	1.3

B. SKILLS: Students should be able to:

Year 4

1	Assess a patient with a wound.	Theme 2: Patient & Doctor: Clinical Practice	2.6
2	Conduct assessment of sepsis.	Theme 2: Patient & Doctor: Clinical Practice	2.3
3	Conduct assessment of non-healing.	Theme 2: Patient & Doctor: Clinical Practice	2.3
4	Conduct peripheral examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
9	Identify patients at risk of pressure injury development.	Theme 1: Scientific Foundations of Medicine	1.3

ABDOMINAL PAIN/ACUTE ABDOMEN

A. KNOWLEDGE: Students should be able to:

Year 4

1	Describe the symptoms, signs, and differential diagnosis for patients presenting with acute abdominal pain.	Theme 1: Scientific Foundations of Medicine	1.2
2	Discuss the investigations and management of patients with acute abdominal pain (including conditions such as peritonitis, obstruction and pancreatitis).	Theme 1: Scientific Foundations of Medicine	1.2
3	Describe the pre and postoperative management of an acutely unwell patient who requires emergency surgery.	Theme 1: Scientific Foundations of Medicine	1.2
4	Discuss the difficulties with fluid management and electrolyte derangements (including oliguria and acute kidney injury).	Theme 1: Scientific Foundations of Medicine	1.2/ 1.3

5	Explain the essential pathology of: appendicitis, acute pancreatitis, acute cholecystitis, abdominal aortic aneurysm and diverticular disease.	Theme 1: Scientific Foundations of Medicine	1.3
6	Explain the appropriate imaging in the investigation of acute abdominal pain, including: plain radiography (erect chest X-ray and abdominal X-ray), abdominal ultrasound scan, CT scanning and contrast studies.	Theme 1: Scientific Foundations of Medicine	1.2

B. SKILLS: Students should be able to:

Year 4

1	Assess whether a patient is well or unwell.	Theme 2: Patient & Doctor: Clinical Practice	2.2
2	Demonstrate a sepsis assessment.	Theme 2: Patient & Doctor: Clinical Practice	2.6
3	Perform an abdominal examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
4	Elicit a detailed history to arrive at a differential diagnosis.	Theme 2: Patient & Doctor: Clinical Practice	2.4

ABDOMINAL DISTENTION

A. KNOWLEDGE: Students should be able to:

Year 4

1	Compare and contrast pathophysiological causes of abdominal swelling/distension and outline relevant investigations.	Theme 1: Scientific Foundations of Medicine	1.2
2	Describe the aetiology, presentation and management of intestinal obstruction.	Theme 1: Scientific Foundations of Medicine	1.2
3	Discuss the differential diagnosis, investigation and management of patients presenting with a left iliac fossa mass.	Theme 1: Scientific Foundations of Medicine	1.2
4	Describe the pathophysiological causes of a swelling in the epigastrium (including those arising from the liver).	Theme 1: Scientific Foundations of Medicine	1.2
5	Explain the appropriate imaging in the investigation of acute distended abdomen, including: plain radiography (erect chest X-ray and abdominal X-ray), abdominal ultrasound scan, CT scanning and contrast studies.	Theme 1: Scientific Foundations of Medicine	1.2
6	List differential diagnoses for small bowel obstruction.	Theme 1: Scientific Foundations of Medicine	1.2
7	Summarise complications that can result from small bowel obstruction, including: ischaemia, perforation and biochemical derangement.	Theme 1: Scientific Foundations of Medicine	1.2

B. SKILLS: Students should be able to:

Year 4

1	Perform a peripheral examination (i.e. hands, eyes, tongue, supraclavicular fossa and groin).	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Conduct an abdominal assessment, including inspection, palpation, percussion and auscultation.	Theme 2: Patient & Doctor: Clinical Practice	2.3
3	Elicit a detailed history to arrive at a differential diagnosis.	Theme 2: Patient & Doctor: Clinical Practice	2.4

CHANGE IN BOWEL HABIT/RECTAL BLEEDING

A. KNOWLEDGE: Students should be able to:

Year 4

1	Describe blood supply to the lower gastrointestinal tract.	Theme 1: Scientific Foundations of Medicine	1.1
2	List potential causes of change in bowel habit.	Theme 1: Scientific Foundations of Medicine	1.3
3	List potential causes of rectal bleeding.	Theme 1: Scientific Foundations of Medicine	1.3
4	Summarise the aetiopathology of the common causes of change in bowel habit, including: irritable bowel syndrome, coeliac disease, colorectal cancer, inflammatory bowel disease, thyroid disease, diverticular disease and bowel obstruction.	Theme 1: Scientific Foundations of Medicine	1.3
5	Explain the aetiopathology of the common causes of rectal bleeding including: colorectal cancer, diverticular disease, haemorrhoids, anal fissures and inflammatory bowel disease.	Theme 1: Scientific Foundations of Medicine	1.3
6	List the common causes of diarrhoea and constipation.	Theme 1: Scientific Foundations of Medicine	1.3
7	Recognise the signs and symptoms for colorectal cancer and its pathological development.	Theme 1: Scientific Foundations of Medicine	1.3
8	Explain the management for rectal bleeding, including relevant investigations and the indications for surgical intervention.	Theme 1: Scientific Foundations of Medicine	1.2

B. SKILLS: Students should be able to:

Year 4

1	Perform a perineal examination (i.e. visual inspection +/- PR if possible).	Theme 2: Patient & Doctor: Clinical Practice	2.3

HAEMATEMESIS/VOMITING BLOOD

A. KNOWLEDGE: Students should be able to:

Year 4

1	State the aetiopathology of the common causes of upper GI bleeding, including: duodenal ulcer, gastric ulcer, gastric erosions, oesophageal varices, Mallory Weiss tear and oesphagogastric cancer.	Theme 1: Scientific Foundations of Medicine	1.3
2	Explain the role of oesophago-gastro-duodenoscopy (OGD) and colonoscopy in the management of GI bleeding.	Theme 1: Scientific Foundations of Medicine	1.3
3	List the risk factors for upper GI bleeding and the role of the GP in its prevention.	Theme 1: Scientific Foundations of Medicine	1.2
4	Discuss the role and indication for investigations, interventional radiology and surgery in the management of GI bleeding.	Theme 1: Scientific Foundations of Medicine	1.2

B. **SKILLS:** Students should be able to:

Year 4

1	Perform a cardiovascular examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Perform a peripheral examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
3	Assess and appropriately resuscitate a patient with acute GI haemorrhage.	Theme 2: Patient & Doctor: Clinical Practice	2.12
4	Perform an abdominal examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3

DIFFICULTY SWALLOWING/DYSPEPSIA/DYSPHAGIA

A. **KNOWLEDGE:** Students should be able to:

Year 4

1	Explain the terms dysphagia and dyspepsia.	Theme 1: Scientific Foundations of Medicine	1.1
2	Identify the different causes of dysphagia, including: strictures, malignancy, achalasia, and neurological causes.	Theme 1: Scientific Foundations of Medicine	1.3
3	Explain “red flag signs” and the role of blood tests, endoscopy and contrast studies in the assessment of dysphagia.	Theme 1: Scientific Foundations of Medicine	1.3
4	Explain the presentation of and risk factors for oesophageal cancer.	Theme 1: Scientific Foundations of Medicine	1.2
5	List the medical and surgical treatment of oesophageal cancer including palliative care.	Theme 1: Scientific Foundations of Medicine	1.3
6	State the NICE clinical guideline for managing new-onset dyspepsia.	Theme 1: Scientific Foundations of Medicine	1.3
7	List the different causes of dyspepsia and identify their risk factors.	Theme 1: Scientific Foundations of Medicine	1.3
8	Describe the different causes of gastro-oesophageal reflux disease.	Theme 1: Scientific Foundations of Medicine	1.3
9	Describe the Los Angeles classification of GORD.	Theme 1: Scientific Foundations of Medicine	1.3
10	Describe the conservative, medical and surgical treatment of GORD.	Theme 1: Scientific Foundations of Medicine	1.3
11	State how to investigate and treat H. pylori.	Theme 1: Scientific Foundations of Medicine	1.2
12	Describe the aetiology, pathogenesis and pathology of Barrett’s oesophagus.	Theme 1: Scientific Foundations of Medicine	1.3
13	Explain the management of Barrett’s oesophagus and its complications.	Theme 1: Scientific Foundations of Medicine	1.3
14	Describe a hiatus hernia.	Theme 1: Scientific Foundations of Medicine	1.3

B. **SKILLS:** Students should be able to:

Year 4

1	Perform a head and neck examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Perform an abdominal examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3

JAUNDICE

A. **KNOWLEDGE:** Students should be able to:

Year 4

1	Describe the physiology and anatomy of the liver and gallbladder.	Theme 1: Scientific Foundations of Medicine	1.1
2	List the causes and classification of jaundice.	Theme 1: Scientific Foundations of Medicine	1.1
3	Describe the presentation of a patient with obstructive jaundice.	Theme 1: Scientific Foundations of Medicine	1.2
4	Explain the investigation and management of obstructive jaundice.	Theme 1: Scientific Foundations of Medicine	1.2

B. **SKILLS:** Students should be able to:

Year 4

1	Perform a peripheral and abdominal examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Demonstrate a sclera and tongue examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
3	Conduct a rectal examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3

LUMPS - GROIN

A. **KNOWLEDGE:** Students should be able to:

Year 4

1	List possible causes of groin lumps, including: hernias, lymph nodes, saphena varix and femoral artery aneurysm.	Theme 1: Scientific Foundations of Medicine	1.3
2	Explain the anatomy of the inguinal canal with respect to the presentation and management of hernias.	Theme 1: Scientific Foundations of Medicine	1.2
3	List the different types and causes of hernias, and describe their surgical and non-surgical management.	Theme 1: Scientific Foundations of Medicine	1.2
4	Explain the basic principles of herniorraphy.	Theme 1: Scientific Foundations of Medicine	1.2
5	Discuss the complications of hernia surgery.	Theme 1: Scientific Foundations of Medicine	1.2

B. **SKILLS:** Students should be able to:

Year 4

1	Conduct a groin examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Conduct a peripheral vascular examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
3	Conduct a testicular examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
4	Conduct a lymph node examination of the groin and other lymph node drainage areas if indicated (e.g. neck, both axilla).	Theme 2: Patient & Doctor: Clinical Practice	2.3

LUMPS - SCROTUM

A. **KNOWLEDGE:** Students should be able to:

Year 4

1	Describe the anatomy of the testes, including blood supply and contents of the spermatic cord.	Theme 1: Scientific Foundations of Medicine	1.1
2	Diagnose the different causes of scrotal lumps/swelling/pain, including: varicocele, hydrocele, epididymal cysts, epididymo-orchitis, testicular torsion, hernias and cancer.	Theme 1: Scientific Foundations of Medicine	1.3
3	List the investigations that should be performed in patients presenting with scrotal lumps/swelling/pain.	Theme 1: Scientific Foundations of Medicine	1.2
4	Recognise testicular torsion as a urological emergency and understand its management.	Theme 1: Scientific Foundations of Medicine	1.2

B. **SKILLS:** Students should be able to:

Year 4

1	Conduct a scrotal examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Conduct a groin examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3

PAIN IN LOIN

A. **KNOWLEDGE:** Students should be able to:

Year 4

1	Describe the symptoms and signs that can be used to distinguish between the different causes of loin pain.	Theme 1: Scientific Foundations of Medicine	1.3
2	State the role of urine microscopy and bedside urinalysis in determining the cause of loin pain.	Theme 1: Scientific Foundations of Medicine	1.3
3	Describe the role of a CT KUB (Kidney, Ureters & Bladder) in identifying radio-opaque renal stones, and the role of ultrasound in identifying hydronephrosis.	Theme 1: Scientific Foundations of Medicine	1.3
4	Discuss the role of conservative management and interventions, including lithotripsy, in managing renal calculi.	Theme 1: Scientific Foundations of Medicine	1.2

5	List the risk factors, aetiology, treatment and complications of acute pyelonephritis.	Theme 1: Scientific Foundations of Medicine	1.3
6	Explain the diagnosis, assessment and treatment of tumours arising within the urinary tract.	Theme 1: Scientific Foundations of Medicine	1.3

B. **SKILLS:** Students should be able to:

Year 4

1	Conduct an abdominal examination relevant to the kidneys.	Theme 2: Patient & Doctor: Clinical Practice	2.3

URINARY RETENTION/FLOW OBSTRUCTION

A. **KNOWLEDGE:** Students should be able to:

Year 4

1	Explain the anatomy of the male urinary tract and the physiology of voiding.	Theme 1: Scientific Foundations of Medicine	1.1
2	Classify the causes of urinary outflow obstruction by the site of obstruction: i. Within the lumen; ii. Within the wall; and iii. Extrinsic compression.	Theme 1: Scientific Foundations of Medicine	1.1
3	Distinguish between the symptoms of upper and lower urinary tract obstruction.	Theme 1: Scientific Foundations of Medicine	1.2
4	Describe the range of laboratory tests and imaging techniques used in the investigation of patients with urinary outflow obstruction, in particular the role of the PSA test.	Theme 1: Scientific Foundations of Medicine	1.2
5	Explain the pathology of the following common causes of urinary tract obstruction, and their medical or surgical management: i. Urinary tract calculi; ii. Benign prostatic hyperplasia; and iii. Malignant tumours of the urinary tract.	Theme 1: Scientific Foundations of Medicine	1.3
6	State the complications of untreated urinary tract obstruction.	Theme 1: Scientific Foundations of Medicine	1.3

B. **SKILLS:** Students should be able to:

Year 4

1	Conduct a PR examination.	Theme 2: Patient & Doctor: Clinical Practice	**2.3**
2	Conduct an abdominal examination.	Theme 2: Patient & Doctor: Clinical Practice	**2.3**
3	Conduct a bone examination.	Theme 2: Patient & Doctor: Clinical Practice	**2.3**

HAEMATURIA

A. KNOWLEDGE: Students should be able to:

Year 4

1	Define and classify microscopic and macroscopic haematuria, and be able to describe the common causes of each.	Theme 1: Scientific Foundations of Medicine	1.3
2	State the NICE urgent referral guidelines for haematuria.	Theme 1: Scientific Foundations of Medicine	1.3
3	Interpret the results of a urine dipstick test in a patient with haematuria.	Theme 2: Patient & Doctor: Clinical Practice	2.5
4	Discuss the range of laboratory tests and imaging techniques used in the investigation of patients with haematuria, with their specific indications.	Theme 1: Scientific Foundations of Medicine	1.3
5	Explain the pathology of the following common causes of haematuria, as well as their medical and surgical management: i. Infective (cystitis, pyelonephritis, prostatitis, urethritis); ii. Urinary tract calculi; iii. Benign prostatic hyperplasia; iv. Malignant tumours of the urinary tract; v. Glomerular diseases; and vi. Polycystic kidney diseases.	Theme 1: Scientific Foundations of Medicine	1.3

B. SKILLS: None specified for this topic.

LEG ULCERATION

A. KNOWLEDGE: Students should be able to:

Year 4

1	List causes of chronic leg ulcers and describe differences in appearance.	Theme 1: Scientific Foundations of Medicine	1.3
2	Compare and contrast the presentation of venous and arterial leg ulcers.	Theme 1: Scientific Foundations of Medicine	1.3
3	Describe the pathogenesis of ischaemic, venous and diabetic ulcers.	Theme 1: Scientific Foundations of Medicine	1.3
4	Discuss appropriate investigations and treatment options for a patient with chronic leg ulcers, including: Wound assessment, vascular work-up, Doppler studies, Ankle:Brachial index, Computed Tomographic vascular imaging.	Theme 1: Scientific Foundations of Medicine	1.2
5	Explain the management of underlying causes.	Theme 1: Scientific Foundations of Medicine	1.2
6	Describe the principles of wound dressings and the concept of gradated pressure bandaging.	Theme 1: Scientific Foundations of Medicine	1.2
7	Explain vascular reconstruction.	Theme 1: Scientific Foundations of Medicine	1.2
8	Describe the gangrene associated with chronic ischaemia.	Theme 1: Scientific Foundations of Medicine	1.3
9	Describe the details of chronic leg ulcers.	Theme 1: Scientific Foundations of Medicine	1.3

B. **SKILLS:** Students should be able to:

Year 4

1	Conduct an arterial examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Conduct a venous examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
3	Perform 4 layer compression bandaging.	Theme 2: Patient & Doctor: Clinical Practice	2.6

PAINFUL AND/OR PARALYSED LIMB

A. **KNOWLEDGE:** Students should be able to:

Year 4

1	Chronic Limb Ischaemia: i. Describe the symptoms and signs of chronic limb ischaemia; ii. Describe the pathogenesis of peripheral vascular disease; iii. List risk factors for the development of peripheral vascular disease and describe how each of these can be looked for and controlled; iv. Describe the investigations that should be performed to determine the presence and severity of peripheral vascular disease; v. Discuss with a patient on improving symptoms, slowing progression and preventing complications of peripheral vascular disease; vi. List indications for percutaneous transluminal angioplasty and arterial reconstruction surgery; vii. Describe the percutaneous transluminal angioplasty and arterial reconstruction surgery to a patient, including risk of complications; viii. Discuss indications for limb amputation; ix. Describe types and process of limb amputation and list possible complications; x. Discuss rehabilitation for patients following limb amputation and list mobility aids available; and xi. Explain the options available for pain control and palliative support in a patient with intractable limb ischaemia.	Theme 1: Scientific Foundations of Medicine	1.3
2	Acute Limb Ischaemia: i. Describe the symptoms and signs; ii. Discuss mechanisms leading to acute limb ischaemia; iii. Explain the nature and timing of pathological changes that will occur in an acutely ischaemic limb if the ischaemia is not relieved; iv. Describe the emergency investigation of a patient with acute limb ischaemia; and v. Discuss the options available for emergency management of acute limb ischaemia including anticoagulation, thrombolysis, angioplasty and embolectomy.	Theme 1: Scientific Foundations of Medicine	1.3

3	Compartment Syndrome: i. Explain symptoms, signs, pathogenesis and management.	Theme 1: Scientific Foundations of Medicine	1.3

B. **SKILLS:** Students should be able to:

Year 4

1	Perform arterial examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Perform venous examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
3	Perform spinal examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
4	Perform a peripheral nerve examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3

LUMPS - NECK (Optional)

A. **KNOWLEDGE:** Students should be able to:

Year 5

1	Describe the aetiology and pathology of common benign and malignant lumps occurring in the neck, including those arising from the salivary/thyroid/parathyroid glands and lymph nodes.	Theme 1: Scientific Foundations of Medicine	1.3
2	Identify which lumps require referral (non-urgent and urgent) to ENT (and which can be left alone).	Theme 1: Scientific Foundations of Medicine	1.3
3	Recognise high-risk symptoms (e.g. dysphagia, voice change and throat/mouth/neck pain).	Theme 1: Scientific Foundations of Medicine	1.3
4	Describe investigations, including ultrasound, CT, MRI, nasoendoscopy, video contrast swallow and tissue biopsy.	Theme 1: Scientific Foundations of Medicine	1.2
5	Explain different treatment modalities, including antibiotics, surgery and chemotherapy/radiotherapy.	Theme 1: Scientific Foundations of Medicine	1.2

B. **SKILLS:** Students should be able to:

Year 5

1	Perform neck examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Perform thyroid examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
3	Perform lymph node examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3

NOSE BLEEDS

A. KNOWLEDGE: Students should be able to:

Year 5

1	List local and systemic causes (including drugs) as well as common anatomical sites of nasal bleeding.	Theme 1: Scientific Foundations of Medicine	1.3
2	Perform first aid measures to reduce or stop bleeding, including nose pinching and patient positioning.	Theme 2: Patient & Doctor: Clinical Practice	2.6
3	State possible options for treating more persistent bleeding, including nasal packing and cautery.	Theme 1: Scientific Foundations of Medicine	1.2
4	Summarise when to refer for specialised intervention/assessment (recognising that patients with severe epistaxis may require surgical ligation of the sphenopalatine artery).	Theme 1: Scientific Foundations of Medicine	1.2

B. SKILLS: Students should be able to:

Year 5

1	Conduct head and neck examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Conduct oropharygeal examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
3	Demonstrate control of haemorrhage.	Theme 2: Patient & Doctor: Clinical Practice	2.6

EAR DISCHARGE/PAIN

A. KNOWLEDGE: Students should be able to:

Year 5

1	Describe the management of otitis externa.	Theme 1: Scientific Foundations of Medicine	1.2
2	List the different types of otitis media and their management, including tympanic membrane perforations.	Theme 1: Scientific Foundations of Medicine	1.2
3	Describe risk factors for significant disease (e.g. diabetes and immunocompromise, i.e. over-weight, recurrent chest infections/sepsis events).	Theme 1: Scientific Foundations of Medicine	1.3
4	List local complications of ear infections, including mastoiditis, meningitis and brain abscess.	Theme 1: Scientific Foundations of Medicine	1.3
5	List the complications of cholesteatoma and its surgical management.	Theme 1: Scientific Foundations of Medicine	1.3
6	Explain the principles of managing ‘glue ear’ (otitis media with effusion).	Theme 1: Scientific Foundations of Medicine	1.2
7	Recognise common sources of referred otalgia.	Theme 1: Scientific Foundations of Medicine	1.2

B. SKILLS: Students should be able to:

Year 5

1	Conduct head and neck examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Conduct ear examination and use otoscope.	Theme 2: Patient & Doctor: Clinical Practice	2.3

DEAFNESS

A. KNOWLEDGE: Students should be able to:

Year 5

1	Explain the difference between conductive and sensorineural deafness, with common examples of each.	Theme 1: Scientific Foundations of Medicine	1.1
2	List the implications of hearing loss with children, (e.g. behaviour issues, disordered speech and language development), with adults and with the elderly (e.g. effect on dementia).	Theme 1: Scientific Foundations of Medicine	1.2
3	Describe possible strategies to aid hearing loss, which may be surgical or non-surgical.	Theme 1: Scientific Foundations of Medicine	1.2
4	Explain the basic pathophysiology, diagnosis and management of presbycusis, otosclerosis, noise-induced hearing loss, Ménière's syndrome, impacted wax, tinnitus and acoustic neuroma.	Theme 1: Scientific Foundations of Medicine	1.3
5	Summarise effective approaches to the prevention of deafness.	Theme 1: Scientific Foundations of Medicine	1.2

B. SKILLS: Students should be able to:

Year 5

1	Demonstrate the simple assessment/examination of the ear and hearing.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Conduct head and neck examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
3	Conduct ear examination and use an otoscope.	Theme 2: Patient & Doctor: Clinical Practice	2.6

ACUTE AIRWAY OBSTRUCTION

A. KNOWLEDGE: Students should be able to:

Year 5

1	Summarise the aetiology and treatment of acute airway obstruction in adults and children.	Theme 1: Scientific Foundations of Medicine	1.3

B. SKILLS: Students should be able to:

Year 5

1	Conduct resuscitation examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Conduct head and neck examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
3	Perform Heimlich manoeuvre.	Theme 2: Patient & Doctor: Clinical Practice	2.6

UPPER AIRWAY INFECTION AND RHINO-SINUSITIS

A. KNOWLEDGE: Students should be able to:

Year 5

1	Summarise management of infection of the upper airway and its complications.	Theme 1: Scientific Foundations of Medicine	1.2
2	State the aetiology and management of acute and chronic rhino-sinusitis.	Theme 1: Scientific Foundations of Medicine	1.2

B. SKILLS: Students should be able to:

Year 5

1	Conduct head and neck examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Conduct respiratory examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3

FRACTURES OR DISLOCATIONS (WITH DISPLACEMENT OR OPEN WOUND)

A. KNOWLEDGE: Students should be able to:

Year 5

1	State the general principles of fracture management.	Theme 1: Scientific Foundations of Medicine	1.2
2	Describe and classify different types of fractures.	Theme 1: Scientific Foundations of Medicine	1.1
3	Describe radiological principles in fracture diagnosis.	Theme 1: Scientific Foundations of Medicine	1.2
4	List complications from fractures.	Theme 1: Scientific Foundations of Medicine	1.3
5	Describe the basic surgical management of particular fractures, including femoral neck fractures.	Theme 1: Scientific Foundations of Medicine	1.2
6	Describe the management of a dislocated joint.	Theme 1: Scientific Foundations of Medicine	1.2
7	Explain the management of open fractures and soft-tissue injury necessitating reconstructive surgery.	Theme 1: Scientific Foundations of Medicine	1.2

B. SKILLS: Students should be able to:

Year 5

1	Conduct limb examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Conduct vascular examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
3	Perform immobilisation of a limb.	Theme 2: Patient & Doctor: Clinical Practice	2.6

FRACTURES
(WITHOUT DISPLACEMENT)

A. KNOWLEDGE: Students should be able to:

Year 5

1	Describe the cellular process of fracture healing.	Theme 1: Scientific Foundations of Medicine	1.1
2	Describe the principles behind the general management of a fracture.	Theme 1: Scientific Foundations of Medicine	1.2
3	Explain the differences between different types of undisplaced fractures (e.g. stress, paediatric).	Theme 1: Scientific Foundations of Medicine	1.1
4	Summarise the concept of 'stability' of a fracture; explain that undisplaced fractures may not be benign fractures.	Theme 1: Scientific Foundations of Medicine	1.1
5	Describe the soft tissue component of a fracture.	Theme 1: Scientific Foundations of Medicine	1.1

B. SKILLS: Students should be able to:

Year 5

1	Conduct limb examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Conduct vascular examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
3	Perform immobilisation of a limb.	Theme 2: Patient & Doctor: Clinical Practice	2.6

SWOLLEN PAINFUL JOINT

A. KNOWLEDGE: Students should be able to:

Year 5

1	Describe the differential diagnosis of a swollen joint, including: osteoarthritis; gout; pseudo gout; rheumatoid arthritis; neuropathic arthritis; septic arthritis and traumatic causes.	Theme 1: Scientific Foundations of Medicine	1.3
2	List the common pathological processes of a swollen joint.	Theme 1: Scientific Foundations of Medicine	1.3
3	Describe the systematic manifestations with some swollen joints.	Theme 1: Scientific Foundations of Medicine	1.3
4	State the logical assessment and principal investigations for patients with swollen joints.	Theme 1: Scientific Foundations of Medicine	1.2
5	Explain the emergency nature of an infected joint.	Theme 1: Scientific Foundations of Medicine	1.2
6	Describe the different management approach for native and prosthetic joints with infections.	Theme 1: Scientific Foundations of Medicine	1.2
7	Describe the principal non-operative and operative treatments of a swollen joint.	Theme 1: Scientific Foundations of Medicine	1.2
8	Summarise common complications of joint replacement surgery and how they might present.	Theme 1: Scientific Foundations of Medicine	1.3

B. **SKILLS:** Students should be able to:

Year 5

1	Conduct septic examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Conduct limb examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
3	Conduct vascular examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3

BACKPAIN AND/OR SCIATICA

A. **KNOWLEDGE:** Students should be able to:

Year 5

1	List the common causes of back pain.	Theme 1: Scientific Foundations of Medicine	1.3
2	Describe red and yellow flag signs.	Theme 1: Scientific Foundations of Medicine	1.3
3	Discuss the causes of back pain, including mechanical, non-mechanical, inflammatory and other causes, as well as vertebral fractures and neoplasia.	Theme 1: Scientific Foundations of Medicine	1.3
4	Describe the clinical examination and investigations for back pain, including where there is nerve involvement.	Theme 1: Scientific Foundations of Medicine	1.2
5	Identify patients who may need referral to physiotherapy or similar therapy.	Theme 1: Scientific Foundations of Medicine	1.2
6	Describe the indications for imaging and for surgical management of back pain, particularly emergency surgical management of back pain.	Theme 1: Scientific Foundations of Medicine	1.2
7	Discuss the impact of chronic back pain on the individual, their family and society.	Theme 1: Scientific Foundations of Medicine	1.2

B. **SKILLS:** Students should be able to:

Year 5

1	Perform back examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Perform neurological examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3

PERIPHERAL NERVE INJURIES/PALSIES

A. **KNOWLEDGE:** Students should be able to:

Year 5

1	Describe the cellular process of peripheral nerve injuries.	Theme 1: Scientific Foundations of Medicine	1.1
2	List the different causes of peripheral nerve palsies and describe the Seddon Classification of peripheral nerve injury.	Theme 1: Scientific Foundations of Medicine	1.3
3	Compare and contrast symptoms and management of different mechanisms of peripheral nerve injury (e.g. the difference between upper and lower motor neuron lesions).	Theme 1: Scientific Foundations of Medicine	1.2

4	Describe the anatomy of the brachial plexus and its terminal branches.	Theme 1: Scientific Foundations of Medicine	1.1
5	Describe the dermatomal arrangement and corresponding terminal branches of sensory innervation to upper and lower limbs.	Theme 1: Scientific Foundations of Medicine	1.1
6	Explain compartmental motor innervation of the upper and lower limbs and important exceptions.	Theme 1: Scientific Foundations of Medicine	1.1
7	Describe physical features of radial, ulnar, medial and brachial plexus injuries, carpal tunnel syndrome and cubital tunnel syndrome.	Theme 1: Scientific Foundations of Medicine	1.3
8	Describe physical features of peroneal injuries and other causes of foot drop.	Theme 1: Scientific Foundations of Medicine	1.3

B. **SKILLS:** Students should be able to:

Year 5

1	Perform neurological examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Conduct muscle power examination/Grip strength.	Theme 2: Patient & Doctor: Clinical Practice	2.6

RAISED INTRACRANIAL PRESSURE /INTRACRANIAL BLOOD CLOTS AND INTRACRANIAL MASS

A. **KNOWLEDGE:** Students should be able to:

Year 5

1	List the symptoms and signs of raised intracranial pressure (e.g. vomiting).	Theme 1: Scientific Foundations of Medicine	1.1
2	Describe the pathophysiology of raised intracranial pressure (including the Munro-Kelly doctrine).	Theme 1: Scientific Foundations of Medicine	1.3
3	Explain the assessment of a patient with possible raised intracranial pressure, intracranial blood clot or mass lesion.	Theme 1: Scientific Foundations of Medicine	1.2
4	Describe monitoring and interventions that may be possible, including decompressive craniotomy.	Theme 1: Scientific Foundations of Medicine	1.2
5	Describe hydrocephalus, its causes and treatment including shunts and external drainage.	Theme 1: Scientific Foundations of Medicine	1.3
6	Summarise sub arachnoid haemorrhage.	Theme 1: Scientific Foundations of Medicine	1.1

B. **SKILLS:** Students should be able to:

Year 5

1	Conduct neurological examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Conduct eye examination and retinal examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
3	Locate site of bore hole entry.	Theme 2: Patient & Doctor: Clinical Practice	2.6

LIMPING CHILD

A. KNOWLEDGE: Students should be able to:

Year 4

1	Discuss the differential diagnosis of musculoskeletal causes of limp.	Theme 1: Scientific Foundations of Medicine	1.2
2	Describe the common neurological conditions that cause limp.	Theme 1: Scientific Foundations of Medicine	1.2
3	Explain the significance of referred pain.	Theme 1: Scientific Foundations of Medicine	1.2
4	Discuss the reasons why a child may limp with reference to age.	Theme 1: Scientific Foundations of Medicine	1.2
5	Explain the genetics of the muscular dystrophies and the common hereditary ataxias.	Theme 1: Scientific Foundations of Medicine	1.2
6	Describe presentations of non-accidental injury in relation to the musculoskeletal system.	Theme 1: Scientific Foundations of Medicine	1.2
7	Describe the investigations required to differentiate causes of limp in children.	Theme 1: Scientific Foundations of Medicine	1.2
8	Describe the causes of limp associated with joint or bony problems and their treatments.	Theme 1: Scientific Foundations of Medicine	1.2
9	Describe the developmental anatomy of epiphyses and bones in the limbs.	Theme 1: Scientific Foundations of Medicine	1.1
10	Explain issues around consent and children.	Theme 4: Professional & Personal Development	4.10

B. SKILLS: Students should be able to:

Year 4

1	Perform a musculo-skeletal examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Perform a back examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
3	Perform a septic examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3

GROIN LUMP - CHILD

A. KNOWLEDGE: Students should be able to:

Year 4

1	Assess and initiate management of a child presenting with groin pathology (including undescended testis, hernia, hydrocele and painful swellings of the genitalia), including appropriate communication with relevant family or carers.	Theme 1: Scientific Foundations of Medicine	1.2
2	Explain the descent of the testicles from the abdomen into the scrotum with the anatomical structures in this path of descent (e.g. tunica vaginalis, epididymis).	Theme 1: Scientific Foundations of Medicine	1.1
3	Describe the anatomy of the inguinal canal.	Theme 1: Scientific Foundations of Medicine	1.1

B. **SKILLS:** Students should be able to:

Year 4

1	Perform a groin examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Perform a peripheral vascular examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
3	Perform a testicular examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
4	Perform a lymph node examination.	Theme 2: Patient & Doctor: Clinical Practice	2.3
5	Through the history, physical examination and laboratory testing, distinguish testicular torsion, torsion of testicular appendices, epididymitis, testicular tumour, scrotal trauma and hernia.	Theme 2: Patient & Doctor: Clinical Practice	2.3
6	Appropriately order imaging studies to make the diagnosis of acute scrotal conditions.	Theme 2: Patient & Doctor: Clinical Practice	2.5
7	Determine which acute scrotal conditions require emergency surgery and which may be handled less urgently or electively.	Theme 2: Patient & Doctor: Clinical Practice	2.7
8	Differentiate a testicular tumour from a mass of inguinal origin, a cystic lesion (by trans-illumination), and a varicocele (by easier palpation with patient erect).	Theme 2: Patient & Doctor: Clinical Practice	2.4

CONSENT FOR SURGERY (INCLUDING MENTAL CAPACITY)

A. **KNOWLEDGE:** Students should be able to:

Year 4

1	Explain the need for informed consent.	Theme 4: Professional & Personal Development	4.10
2	Describe the elements necessary for mental capacity to give informed consent.	Theme 4: Professional & Personal Development	4.10
3	State the importance of written documentation, both for giving consent and documenting the information given to the patient and their supporters.	Theme 4: Professional & Personal Development	4.10
4	List the exceptional circumstances for relying on oral consent, and the need to document this.	Theme 4: Professional & Personal Development	4.10
5	List the common risks associated with all surgery (e.g. blood loss, infection and reaction to drugs used in surgery).	Theme 1: Scientific Foundations of Medicine	1.3
6	Discuss issues with consent in children, how to assess competence and what steps to take if the parents' wishes are not in the best interests of the child.	Theme 4: Professional & Personal Development	4.10

B. **SKILLS:** Students should be able to:

Year 4

1	Select and know how to complete the appropriate consent form for adults, children, patients lacking capacity and local anaesthetic cases.	Theme 2: Patient & Doctor: Clinical Practice	2.15
2	Use mental scoring tools.	Theme 2: Patient & Doctor: Clinical Practice	2.3

3	Apply the principles of informed consent.	Theme 2: Patient & Doctor: Clinical Practice	2.2
4	Check for mental capacity, and recognise when an individual does not have capacity to give consent.	Theme 2: Patient & Doctor: Clinical Practice	2.2
5	Describe the potential risks and benefits for common surgical procedures. Be able to change your explanation to ensure patient understanding.	Theme 2: Patient & Doctor: Clinical Practice	2.9

CARING FOR THE POST-OPERATIVE PATIENT

A. KNOWLEDGE: Students should be able to:

Year 4

1	Describe the major fluid compartments of the body, the effect of osmolality and explain what may happen in common conditions (e.g. acute blood loss, dehydration, and excessive fluid replacement).	Theme 1: Scientific Foundations of Medicine	1.1
2	Describe the clinical (bedside) assessment of hypovolaemia and hydration.	Theme 1: Scientific Foundations of Medicine	1.2
3	Discuss the rationale for routine intravenous fluid replacement in surgical patients and describe the commonly prescribed intravenous fluids.	Theme 1: Scientific Foundations of Medicine	1.2
4	Discuss the principles of blood transfusion of a surgical patient.	Theme 1: Scientific Foundations of Medicine	1.2
5	Describe the management of postoperative pain.	Theme 1: Scientific Foundations of Medicine	1.2
6	Explain the common complications of surgery.	Theme 1: Scientific Foundations of Medicine	1.2
7	Identify the deteriorating postoperative patient.	Theme 1: Scientific Foundations of Medicine	1.2

B. SKILLS: Students should be able to:

Year 4

1	Conduct assessment of the post-operative patient in an orderly manner: rapid clinical assessment and viewing charts, drug charts, parameters which necessitate a medical emergency alert and treatment call.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Perform history taking where appropriate.	Theme 2: Patient & Doctor: Clinical Practice	2.2

TRAUMA

A. KNOWLEDGE: Students should be able to:

Year 5

1	List the interventions that may be required for head injury.	Theme 1: Scientific Foundations of Medicine	1.3
2	Explain the importance of nerve or vessel injury in trauma.	Theme 1: Scientific Foundations of Medicine	1.1
3	Describe the physiological response to injury.	Theme 1: Scientific Foundations of Medicine	1.1

4	State the principles of surgical treatment in a multi-injured patient.	Theme 1: Scientific Foundations of Medicine	1.3
5	Assess priorities during all phases of management following ATLS principles.	Theme 1: Scientific Foundations of Medicine	1.2
6	Explain the importance of re-assessment of the patient with regards to earlier interventions.	Theme 1: Scientific Foundations of Medicine	1.2
7	Explain the meaning and significance of a patient with polytrauma.	Theme 1: Scientific Foundations of Medicine	1.2
8	Discuss issues of missed injuries, management and documentation.	Theme 1: Scientific Foundations of Medicine	1.2
9	Explain primary and secondary survey.	Theme 1: Scientific Foundations of Medicine	1.2
10	Define triage and its importance.	Theme 1: Scientific Foundations of Medicine	1.2
11	State the importance of analgesia in the management of trauma patients.	Theme 1: Scientific Foundations of Medicine	1.2
12	Explain the different mechanisms of trauma injury (blunt vs penetrating vs crush vs blast).	Theme 1: Scientific Foundations of Medicine	1.2
13	Discuss the importance of a continuum of care for the injured patient by a multidisciplinary team in which responsibility is actively shared.	Theme 1: Scientific Foundations of Medicine	1.2
14	Explain the importance of the ATLS strategy and systematic approach: rapid primary survey, concurrent resuscitation, secondary survey, continued re- evaluation and monitoring, investigation and definitive care.	Theme 1: Scientific Foundations of Medicine	1.2
15	Explain the role of radiological investigations (e.g. CT scanning) and interventions.	Theme 1: Scientific Foundations of Medicine	1.2
16	Explain the role of investigation and treatment is dependent on the haemodynamic status of the patient.	Theme 1: Scientific Foundations of Medicine	1.2
17	Pre-operative Investigations: i. Identify the essential pre-operative investigations required for all surgical patients, including: blood tests (FBC, U+Es, creatinine) and ECG, also pregnancy test, sickle cell test and chest x-ray if appropriate; ii. Identify and explain the more specific pre-operative investigations required for individual patients according to condition, comorbidities or procedure being performed; iii. Describe the basic fasting guidelines for children and adults; and iv. Explain the essential management of associated medical conditions, especially pertaining to the following conditions: a. Difficult airway; b. Obesity; c. Cardiac disease; d. Respiratory disease; e. Gastrointestinal disease; f. Renal failure; g. Diabetes; h. Haematological disorders; i. Obstructive jaundice; j. Anaemia; k. Sickle cell anaemia; l. Allergic reaction and those rendering patients at high risk; and	Theme 1: Scientific Foundations of Medicine	1.2

	m. Appropriate additional investigations for specific illnesses (e.g. cardiopulmonary exercise testing to evaluate both cardiac and pulmonary function; and survival prediction indices e.g. age, socioeconomic status and aerobic fitness).		

B. SKILLS: Students should be able to:

Year 5

1	Conduct a DR ABCDE assessment.	Theme 2: Patient & Doctor: Clinical Practice	2.3
2	Perform resuscitation.	Theme 2: Patient & Doctor: Clinical Practice	2.6
3	Establish IV access.	Theme 2: Patient & Doctor: Clinical Practice	2.6
4	Insert a catheter (both male and female).	Theme 2: Patient & Doctor: Clinical Practice	2.6

SEPSIS AND INFECTION

A. KNOWLEDGE: Students should be able to:

Year 5

1	Define the following terms: systemic inflammatory response syndrome (SIRS), sepsis, severe sepsis, septic shock, and acute respiratory distress syndrome (ARDS).	Theme 1: Scientific Foundations of Medicine	1.1
2	Differentiate between SIRS, sepsis, severe sepsis and septic shock.	Theme 1: Scientific Foundations of Medicine	1.2
3	Explain the seriousness of sepsis.	Theme 1: Scientific Foundations of Medicine	1.3
4	Describe the typical clinical presentation, including signs, symptoms, vital signs, haemodynamic measures and laboratory tests, for each condition above.	Theme 1: Scientific Foundations of Medicine	1.2
5	Describe the microbiological causes of sepsis.	Theme 1: Scientific Foundations of Medicine	1.3
6	Describe the pathophysiology and mechanism of sepsis.	Theme 1: Scientific Foundations of Medicine	1.3
7	Describe the priorities for treatment of sepsis.	Theme 1: Scientific Foundations of Medicine	1.2
8	Describe a patient with sepsis and the most appropriate treatments.	Theme 1: Scientific Foundations of Medicine	1.2
9	Determine appropriate fluid resuscitation for sepsis with colloids or crystalloids.	Theme 1: Scientific Foundations of Medicine	1.2
10	Recommend an appropriate antibiotic regimen for treatment of sepsis based on patient characteristics and site of primary infection.	Theme 1: Scientific Foundations of Medicine	1.2
11	Explain the role of vasoactive agents in supporting the physiological function of a patient with sepsis, and be able to select the appropriate agent, given details of a patient's condition.	Theme 1: Scientific Foundations of Medicine	1.2
12	Describe an appropriate monitoring programme for patients with sepsis.	Theme 1: Scientific Foundations of Medicine	1.3
13	List the principles of diagnosis and management of sepsis.	Theme 1: Scientific Foundations of Medicine	1.2
14	State when to involve the infection control team.	Theme 1: Scientific Foundations of Medicine	1.3

15	State when to take appropriate microbiological specimens.	Theme 1: Scientific Foundations of Medicine	1.3
16	Follow local guidelines/protocols for antibiotic prescribing.	Theme 2: Patient & Doctor: Clinical Practice	2.11

B. **SKILLS:** Students should be able to:

Year 5

1	Demonstrate resuscitation technique.	Theme 2: Patient & Doctor: Clinical Practice	2.12
2	Carry out a system examination and sepsis recommendations within the first hour to reduce mortality B – blood cultures U – urine output F – fluid A – antibiotics L – lactate (and haemoglobin) O – oxygen	Theme 2: Patient & Doctor: Clinical Practice	2.12

SURGICAL SAFETY

A. **KNOWLEDGE:** Students should be able to:

Year 5

1	Discuss the importance of a culture of safety: WHO checklist, minimising complications, learning from errors, communication and team-working, mortality and morbidity (M&M) meetings and how to manage a complication with the patient and family.	Theme 1: Scientific Foundations of Medicine	1.6
2	Explain the principles of surgical safety (e.g. consent, Swiss cheese model and the principle of avoidance of error).	Theme 1: Scientific Foundations of Medicine	1.6

B. **SKILLS:** None specified for this topic.

CARING FOR THE PATIENT BEFORE AND AFTER SURGERY (INCLUDING FITNESS)

A. **KNOWLEDGE:** Students should be able to:

Year 5

1	Fluid Optimisation: i. Identify patients in need of fluid optimisation, especially pertaining to: a. Acute presentations with diarrhoea and vomiting; b. Acute presentations where the patient has been immobile / debilitated for a prolonged period prior to admission (which has decreased fluid intake); c. Elderly patients with reduced renal function	Theme 1: Scientific Foundations of Medicine	1.3

	that makes fluid balance maintenance more challenging; d. Drugs that lower renal fluid exchange functions; and e. Low BMI patients in whom 'normal' fluid loss volumes will be more significant. ii. Recognise the different types of fluid used for optimisation, especially Hartmann's, Normal 0.9% Saline and Dextrose; iii. Determine the correct volume and rate of administration; iv. Assess the volume of body fluid depletion, and how to administer fluid resuscitation to patients, especially according to them being elderly / unfit / with impaired cardiac and/or renal function; and v. Monitor the progression of fluid optimisation.		
2	Nutritional Optimisation: i. Identify patients in need of nutritional optimisation, especially pertaining to BMI, serum albumin, frailty or triceps skin fold thickness; ii. List the physiological effects of protein–calorie malnutrition; iii. Identify the different types of nutritional support, e.g. oral, nasogastric, gastro/jejunostomy and parenteral; and iv. Describe what total parenteral nutrition (TPN) entails, its associated risks, and the additional and particular parameters of care for these patients.	Theme 1: Scientific Foundations of Medicine	1.3
3	Safety issues and booking patients for surgery: i. List the administrative steps to book a patient into the operating theatre and most recent investigation results (as well as drug chart and consent form details); ii. Describe the details of operative site marking; iii. Explain details of any specific patient preparation including whether cross matched blood is needed; iv. List the different types of bowel preparation indicated for operations to the large bowel or its surrounding tissues; and v. Describe the principles of and drugs used for anaesthetic premedication.	Theme 1: Scientific Foundations of Medicine	1.3
4	Antibiotic and Thromboprophylaxis: i. Explain the principles behind antibiotic prophylaxis (including the specifics relating to high-risk patients) and the typical course duration; ii. State the standard prophylactic regimens established for particular operative procedures, and appreciate that these may be specific to the individual hospital trust policies and protocols; iii. Identify the types of thromboprophylaxis – mechanical, drugs (heparin / LMWH + doses), and antiplatelet or indirectly acting medications; iv. Identify the group of patients at highest risk for deep vein thrombosis; and v. Discuss the factors such as the specific procedure as well as the specific comorbidities that increase	Theme 1: Scientific Foundations of Medicine	1.3

	risk, and subsequently categorise patients according to these as low, medium or high risk.		
5	The aims of pre-operative assessment: i. Explain procedures, their associated risks and aftercare so that patients can make informed decisions; ii. Identify co-existing medical conditions and how to optimise the patient's health, while appreciating the urgency of their operation; iii. Discuss improvable factors to help support patients to be as fit as possible (including smoking cessation, reducing alcohol, better nutrition and taking regular moderate physical exercise); iv. Identify patients with a high risk of perioperative complications and identifying their appropriate level of postoperative care; v. Describe the process of discharge planning; and vi. Identify the variables that provide prognostic information for all patients planning to undergo surgery.	Theme 1: Scientific Foundations of Medicine	1.3
6	Explain the details of the preoperative anaesthetic history and assessment, including airway assessment, previous anaesthesia exposure (and any adverse reactions): i. List the basics of the ASA (American Society of Anaesthesiologists) classification especially pertaining to individual comorbidities (such as angina, hypertension, diabetes, COPD, asthma) and understand that this accurately predicts morbidity and mortality or more broadly the 'fitness of patients' prior to surgery; and ii. State the basics of assessing functional capacity and mouth opening.	Theme 1: Scientific Foundations of Medicine	1.3
7	Pre-operative Investigations: i. Identify the essential pre-operative investigations required for all surgical patients, including: blood tests (FBC, U+Es, creatinine) and ECG, also pregnancy test, sickle cell test and chest x-ray if appropriate; ii. Identify and explain the more specific pre-operative investigations required for individual patients according to condition, comorbidities or procedure being performed; iii. State the basic fasting guidelines for children and adults; and iv. Explain the essential management of associated medical conditions, especially pertaining to the following conditions: a. Difficult airway; b. Obesity; c. Cardiac disease; d. Respiratory disease; e. Gastrointestinal disease; f. Renal failure; g. Diabetes; h. Haematological disorders; i. Obstructive jaundice;	Theme 1: Scientific Foundations of Medicine	1.3

	j. Anaemia; k. Sickle cell anaemia; and l. Allergic reaction and those rendering patients at high risk.		
8.	Appropriate additional investigations for specific illnesses (e.g., cardiopulmonary exercise testing to evaluate both cardiac and pulmonary function as well as survival prediction indices – age, socioeconomic status and aerobic fitness).	Theme 2: Patient & Doctor: Clinical Practice	2.5

B. SKILLS: Students should be able to:

Year 5

1	Explain procedures, their associated risks and aftercare in patient-friendly language so that patients can make informed decisions.	Theme 2: Patient & Doctor: Clinical Practice	2.9

PROFESSIONAL BEHAVIOURS

Students are expected to demonstrate professional behaviours, including the following:

- Behave according to ethical and legal principles;
- Demonstrate caring and respect when interacting with patients and their families;
- Learn and work effectively in multi-disciplinary teams and show respect to all members;
- Reflect, learn from others and respond appropriately to feedback regarding own learning and performance;
- Demonstrate ongoing commitment to self-directed learning.

PROCEDURES

Students should be able to demonstrate the following skills:

Year 4

1	Apply gown and gloves and use aseptic technique.	Theme 2: Patient & Doctor: Clinical Practice	2.6
2	Perform IV cannulation and set up an infusion.	Theme 2: Patient & Doctor: Clinical Practice	2.6
4	Select appropriate suture type.	Theme 2: Patient & Doctor: Clinical Practice	2.6
5	Perform basic suturing technique.	Theme 2: Patient & Doctor: Clinical Practice	2.6
6	Perform urinary catheterisation (female).	Theme 2: Patient & Doctor: Clinical Practice	2.6

Year 5

1	Use of local anaesthetics: i. Safe use of drugs that produce numbness and prevent pain, either applied directly to the skin or injected into skin or body tissues; ii. Awareness of toxic doses; iii. Ability to deal with anaphylaxis; and iv. Awareness of allergy, including to latex.	Theme 2: Patient & Doctor: Clinical Practice	2.6
2	Skin suturing: i. Closing wounds in the skin by inserting stitches; and ii. Removal of stitches and staples.	Theme 2: Patient & Doctor: Clinical Practice	2.6
3	Wound care and basic wound dressing: i. Providing basic care of surgical or traumatic wounds and applying dressings appropriately.	Theme 2: Patient & Doctor: Clinical Practice	2.6
4	Giving information about the procedure, obtaining and recording consent, and ensuring appropriate aftercare procedure: i. Awareness of the risks and benefits of procedures and possible alternatives; ii. Communicate in a variety of ways to individualise the discussion with the patient or their supporters; iii. Recognition of the barriers to communication inherent in a hospital/clinic setting with which patients are not familiar, including heightened stress levels for the patient, which often impedes communication; and iv. Recognising the importance of written documentation.	Theme 2: Patient & Doctor: Clinical Practice	2.9
5	Hand washing (including surgical “scrubbing up”): i. Following a sequence to ensure clean hands and gloving without contamination.	Theme 2: Patient & Doctor: Clinical Practice	2.6
6	Use of personal protective equipment (gloves, gowns, masks): i. Following a sequence to fit mask, scrub, gown and gloves without contamination; ii. Behaviour while using equipment; and iii. Appropriate doffing procedures to avoid contamination of self or environment.	Theme 2: Patient & Doctor: Clinical Practice	2.6

7	Infection control in relation to procedures: i. Demonstrating the importance of minimising infection risk and avoiding contamination; and ii. Appreciating team dynamics, commanding respect and adhering to local protocols.	Theme 2: Patient & Doctor: Clinical Practice	2.6
8	Safe disposal of clinical waste, needles and other “sharps”. Ensuring that these materials are handled carefully and placed in a suitable container for disposal.	Theme 2: Patient & Doctor: Clinical Practice	2.6
9	Perform urinary catheterisation (male).	Theme 2: Patient & Doctor: Clinical Practice	2.6
10	Carry out safe and appropriate blood transfusion.	Theme 2: Patient & Doctor: Clinical Practice	2.6

EXAMINATION AND OTHER PRACTICAL SKILLS

Students should be able to demonstrate the following skills:

Year 4

1	Practical skills: i. Removal of stitches and staples; and ii. Applications of dressings and bandages.	Theme 2: Patient & Doctor: Clinical Practice	2.6
2	Examination skills: i. Examination of a lump (e.g. its size, consistency, location, mobility and whether it is tender, pulsatile or transilluminates); ii. Assessment of a wound; iii. Examination for fitness for surgery (chest, heart, neck and mouth opening); iv. Examination of the abdomen; v. Digital rectal examination; vi. Examination of the groin; vii. Examination of the scrotum; viii. Examination of the soft tissues of the neck; ix. Examination of pulses; x. Examination of the breast; xi. Examination of the hip; xii. Examination of the knee; xiii. Examination of the back; xiv. Examination of the ear; xv. Examination of the nose; and xvi. Examination of the throat.	Theme 2: Patient & Doctor: Clinical Practice	2.3

APPENDIX 1: LIST OF CONDITIONS

Key in table:

Gen = General surgery	Vasc= Vascular surgery
T&O = Trauma and Orthopaedics	Neuro = Neurosurgery
Urol = Urology	PaedS = Paediatric surgery
ENT = Ear, nose and throat	MaxF = Maxillofacial surgery
Plast = Plastic Surgery	Cardio = Cardiothoracic surgery

	Condition	**Usually seen**	**Also seen**	**Notes**
1.	Abdominal pain	Gen		
2.	Abdominal swelling	Gen		
3.	Change in bowel habit / rectal bleeding	Gen		
4.	Vomiting blood	Gen		
5.	Difficulty swallowing / dyspepsia / dysphagia	Gen		
6.	Jaundice	Gen		
7.	Lumps in groin	Gen		
8.	Lumps in scrotum / scrotal pain	Urol		
9.	Pain in loin	Urol		
10.	Urinary retention or flow obstruction	Urol		
11.	Haematuria (including stones and tumours)	Urol		
12.	Leg Ulceration	Vasc	Neuro, T&O	
13.	Painful and/or paralysed limb	Vasc	Neuro, T&O	
14.	Breast lumps and nipple discharge	Gen (Breast)	Plast	
15.	Lumps in the neck (optional)	ENT (not available all hospitals)	MaxF	Also seen in GP setting
16.	Nose bleeds (epistaxis)	ENT (not available all hospitals)	MaxF	Also seen in GP setting
17.	Ear discharge / pain	ENT (not available all hospitals)	MaxF	Also seen in GP setting
18.	Deafness	ENT (not available all hospitals)	MaxF	Also seen in GP setting
19.	Acute airway obstruction in adults and children	ENT (not available all hospitals)	MaxF	Also seen in GP setting
20.	Upper airway infection and rhino-sinusitis	ENT (not available all hospitals)	MaxF	Also seen in GP setting
21.	Fractures or dislocations with displacement or wound	T&O (not available all hospitals)	Plast	
22.	Fractures without displacement	T&O (not available all hospitals		
23.	Swollen painful joint	T&O (not available all hospitals		

24.	Back pain and / or sciatica (including cauda equina)	Neuro (not available all hospitals)	T&O	
25.	Peripheral nerve injuries/palsies	Neuro (not available all hospitals)	Plast	
26.	Raised intracranial pressure / intracranial blood clots and intracranial mass legions	Neuro (not available all hospitals)		
27.	Limping child	PaedS (not available all hospitals)	T&O	Also seen in GP setting or Paediatrics
28.	Groin lump in child	PaedS (not available all hospitals)		Also seen in GP setting or Paediatrics
29.	Consent for surgery including mental capacity	ALL		
30.	Caring For the postoperative patient	ALL		
31.	Understanding wound healing	ALL	Plast	
32.	Trauma including head injury	ALL		
33.	Sepsis and infection	ALL		
34.	Surgical safety	ALL		
35.	Caring for the patient before and after surgery, including fitness.	ALL	Cardio	

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