Rawalpindi Medical University, Rawalpindi

University Residency Program

MS General Surgery

(4 years Program)

Components of a curriculum

Components of the Curriculum

The surgical curriculum has been designed around four broad areas, which are common to all the surgical specialties:

- **Syllabus** - what trainees are expected to know, and be able to do, in the various stages of their training
- **Teaching and learning** - how the content is communicated and developed, including the methods by which trainees are supervised
- **Assessment and feedback** - how the attainment of outcomes are measured/judged with formative feedback to support learning
- **Training systems and resources** - how the educational programme is organized, recorded and quality assured

In order to promote high quality and safe care of surgical patients, the curriculum specifies the parameters of knowledge, clinical skills, technical skills, professional behavior and leadership skills that are considered necessary ***to ensure patient safety throughout the training process and specifically at the end of training***. ***The curriculum*** therefore provides the framework for surgeons to develop their skills and judgment and a commitment to lifelong learning in line with the service they provide.

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Nomenclature of the Proposed Course

The name of degree programme shall be MS General Surgery. This name is well recognized and established for the last many decades worldwide.

Course Title:

MS General Surgery

Training Centers

Departments of General Surgery in affiliated Hospitals of Rawalpindi Medical University.

Duration/Length of course

The duration of MS General Surgery course shall be four (4) with structured training in a recognized department under the guidance of an approved supervisor.

After admission in M.S. General Surgery Programme the resident will spend first 6 Months in the Department of Surgery as **Induction period** during which resident will get orientation

about the chosen discipline and will also undertake the **mandatory workshops** (Appendix E). The research project will be designed and the **synopsis** be prepared during this period.

On completion of Induction period the resident will start formal training in the Basic Principals of general surgery for 18 Months. During this period the resident shall get the research synopsis approved by ASRB. At the end of 2 years, the candidate will take up Intermediate Examination.

During the 3rd & 4th years of the program, there are two components of the training:-

1. Clinical Training in General Surgery

2. Research and Thesis writing

The candidate shall undergo clinical training to achieve educational objectives of M.S. General Surgery (knowledge & along with rotations in the relevant fields). The training shall be competency based. There shall be generic and specialty specific competencies which will be assessed by Continuous Internal assessment. Research Component and thesis writing shall be completed over the four years duration of the course. Candidates will spend total time equivalent on calendar year for research during the tanning. Research can be done as one block or it can be done in the form of regular periodic rotation over four years as long as total research time is equivalent one calculator year.

A similar framework of stages and levels is used by all the specialties. Trainees progress through the curriculum by demonstrating competence to the required standard for the stage of training. Within this framework each specialty has defined its structure and indicative length of training. Each individual specialty syllabus provides details of how the curriculum is shaped to the stages of training.

In general terms, by the end of training, surgeons have to demonstrate:

- Theoretical and practical knowledge related to surgery in general and to their specialty practice;
- Technical and operative skills
- Clinical skills and judgment
- Generic professional and leadership skills;
- An understanding of the values that underpin the profession of surgery and the responsibilities that come with being a member of the profession;
- The special attributes needed to be a surgeon;
- A commitment to their on-going personal and professional development and practice using reflective practice and other educational processes;
- An understanding and respect for the multi-professional nature of healthcare and their role in it.

Admission/Registration for MS general Surgery

Applications for admission to MS Training Programs of the Rawalpindi Medical University will be invited through advertisement in print and electronic media mentioning closing date of applications and date of Entry Examination.

Eligibility: The applicant on the last date of submission of applications for admission must possess the:

i) Basic Medical Qualification of MBBS or equivalent medical qualification recognized by Pakistan Medical & Dental Council.

ii) Certificate of one year's House Job experience in institutions recognized by Pakistan Medical & Dental Council Is essential at the time of interview. The applicant is required to submit Hope Certificate from the concerned Medical Superintendent that the House Job shall be completed before the Interview.

iii) Valid certificate of permanent or provisional registration with Pakistan Medical & Dental Council.

As per policy of Pakistan Medical & Dental Council the number of PG Trainees/ Students per supervisor shall be maximum 05 per annum for all PG programs including minor program (if any).

Beds to trainee ratio at the approved teaching site shall be at least 5 beds per trainee.

The University will approve supervisors for MS courses.

Candidates selected for the courses after their enrollment at the relevant institutions shall be registered with RMU as per prescribed Registration Regulation.

Accreditations of Institutions other than Rawalpindi Medical University

A). Faculty

Properly qualified teaching staff in accordance with the requirements of Pakistan Medical and Dental Council (PMDC)

B). Adequate Space

Including class-rooms (with audiovisual aids), demonstration rooms, computer lab and clinical pathology lab etc.

C). Library

Departmental library should have latest editions of recommended books, reference books and latest journals (National and International

Accreditation of General Surgery training program can be suspended on temporary or permanent basis by the University, if the program does not comply with requirements for residents training as laid out in this curriculum.

▫ Program should be presented to the University along with a plan for implementation of curriculum for training of residents.

▫ Programs should have documentation of residents training activities and evaluation on monthly basis.

▫ To ensure a uniform and standardized quality of training and availability of the training facilities, the University reserves the right to make surprise visits of the training program for monitoring purposes and may take appropriate action if deemed necessary.

AIMS AND OBJECTIVES OF THE COURSE

The purpose of PG education is to create specialists who would provide high quality

Health care and advance the cause of science through research & training.

A post graduate specialist having undergone the required training should be able to

Recognize the health needs of the community, should be competent to handle effectively surgical problems and should be aware of the recent advances pertaining to his specialty. The PG student should be competent to provide professional services with empathy and humane approach. The PG student should acquire the basic skills in teaching of medical / para-medical students and is also expected to know the principles of research methodology and self-directed learning for continuous professional development.

SUBJECT SPECIFIC LEARNING OBJECTIVES

Clinical Objectives

At the end of postgraduate training, the PG student should be able to: -

1. Diagnose and appropriately manage common surgical ailments in a given situation.

2. Provide adequate preoperative, post-operative and follow-up care of surgical Patients.

3. Identify situations calling for urgent or early surgical intervention and refer at the Optimum time to the appropriate centers.

4. Counsel and guide patients and relatives regarding need, implications and problems Of surgery in the individual patient.

5. Provide and coordinate emergency resuscitative measures in acute surgical Situations including trauma.

6. Organize and conduct relief measures in situations of mass disaster including triage.

8. Discharge effectively medico-legal and ethical responsibilities and practice his Specialty ethically.

9. Must learn to minimize medical errors.

10. Must update knowledge in recent advances and newer techniques in the Management of the patients.

11. Must learn to obtain informed consent prior to performance of operative procedure.

12. Perform surgical audit on a regular basis and maintain records (manual and/or Electronic) for life.

13. Participate regularly in departmental academic activities by presenting Seminar, Case discussion, Journal Club and Topic discussion on weekly basis and maintain Logbook.

14. Demonstrate sufficient understanding of basic sciences related to his specialty.

14. Plan and advice measures for the prevention and rehabilitation of patients Belonging to his specialty.

Research:

The student should:

1. Know the basic concepts of research methodology, plan a research project and know How to consult library.

2. Should have basic knowledge of statistics.

Teaching:

The student should learn the basic methodology of teaching and develop competence in Teaching medical/paramedical students.

Professionalism:

1. The student will show integrity, accountability, respect, compassion and dedicated Patient care. The student will demonstrate a commitment to excellence and Continuous professional development.

2. The student should demonstrate a commitment to ethical principles relating to Providing patient care, confidentiality of patient information and informed consent.

3. The student should show sensitivity and responsiveness to patients' culture, age, Gender and disabilities.

SUBJECT SPECIFIC COMPETENCIES

By the end of the course, the student should have acquired knowledge (cognitive Domain), professionalism (affective domain) and skills (psychomotor domain) as Given below:

A. Cognitive domain

1. Demonstrate knowledge of applied aspects of basic sciences like applied Anatomy, physiology, biochemistry, pathology, microbiology and pharmacology.
2. Demonstrate knowledge of the bedside procedures and latest diagnostics and Therapeutics available.
3. Describe etiology, pathophysiology, and principles of diagnosis and management of Common surgical problems including emergencies, in adults and children.
4. Demonstrate the theoretical knowledge of general principles of surgery.
5. Demonstrate the theoretical knowledge of systemic surgery including disaster Management and recent advances.
6. Demonstrate the theoretical knowledge to choose, and interpret appropriate Diagnostic and therapeutic imaging including ultrasound, Mammogram, CT scan, MRI.
7. Demonstrate the knowledge of ethics, medico-legal aspects, and communication skills and leadership skills. The PG student should be able to provide professional Services with empathy and humane approach.

B. Affective domain

1.Should be able to function as a part of a team, develop an attitude of cooperation With colleagues, and interact with the patient and the clinician or other colleagues To provide the best possible diagnosis or opinion.
2. Always adopt ethical principles and maintain proper etiquette in dealings with Patients, relatives and other health personnel and to respect the rights of the Patient including the right to information and second opinion.
3. Develop communication skills to word reports, obtain a proper relevant history And professional opinion as well as to interact with patients, relatives, peers and Paramedical staff, and for effective teaching.
4 Obtain informed consent for any examination/procedure and explain to the patient And attendants the disease and its prognosis with a humane approach.
5 Provide appropriate care that is ethical, compassionate, responsive and cost Effective and in conformation with statutory rules.

C. Psychomotor domain

1. Perform a humane and thorough clinical examination including internal Examinations and examinations of all organs/systems in adults and children
2. Write a complete case record with all necessary details.
3. Arrive at a logical working diagnosis / differential diagnosis after clinical

Examination.
5. Order appropriate investigations keeping in mind their relevance (need based).
6. Choose, perform and interpret appropriate imaging in trauma - ultrasound FAST (Focused Abdominal Sonography in Trauma).

7. Perform minor operative procedures and common general surgical operations Independently and the major procedures under guidance.
8. Provide basic and advanced life saving support services in emergency situations
9. Provide required immediate treatment and comprehensive treatment taking the Help of specialist as required.
10. Perform minimally invasive surgery in appropriate clinical settings. Must have Undergone basic training in operative laparoscopy related to general and GI Surgery.
11. Undertake complete patient monitoring including the preoperative and post Operative care of the patient.
12. Write a proper discharge summary with all relevant information

Basic Sciences relevant to the surgical diseases and their management

A trainee should have a sound practical knowledge and skill of basic sciences as follows

Principles of Wound Healing – knowledge of collagen synthesis-stimulating and inhibitory factors primary and secondary intention prevention and treatment of dehiscence management of chronic wounds

▫ Suturing techniques

▫ Fluid/Electrolyte and Acid/Base Physiology with understanding of the normal physiology of body water and minerals, common derangements and principles of treatment

▫ Critical Care: know the basic principles of hemodynamic monitoring, acid/base physiology, oxygen consumption, oxygen delivery, respiratory failure, ventilation support and nutrition

▫ Trauma: know the systematic approach to managing multiply injured patients, indications for operative and non-operative management and the pathophysiology of injury

▫ Surgical Oncology: understand the basic principles of solid tumor management, the role of surgery in the multidisciplinary approach to diagnosis and treatment and the natural history of the most common malignancies (breast cancer, colon and other GI cancers, melanoma)

▫ Emergent Non-traumatic Surgical Problems: know the approach to evaluation of acute abdominal pain, indications for emergent surgical intervention and the diagnosis, natural history and treatment of the most common conditions that present as surgical emergencies

Surgical Infections: understand the microbiology, predisposing factors, and treatment of nosocomial infection, post-operative wound infection and intra-abdominal abscess

▫ Surgical Diseases: be familiar with the natural history, diagnosis, pre-operative work-up, intra-operative approaches, post-operative management, and the recognition and treatment of post-operative complications of those diseases most commonly encountered by General Surgeons. These include:

▫ Patients presenting with an acute abdomen

▫ Assessment of the acute abdomen;

▫ Peritonitis;

▫ Acute appendicitis;

▫ Acute presentation of gynaecological disease;

▫ Acute intestinal obstruction

▫ Manage infections of the skin and superficial tissues:

▫ Superficial sepsis, including necrotizing infections

▫ Manage primary and recurrent hernia of the abdominal wall in the acute or elective situation:

▫ Obstructed hernia

▫ Strangulated hernia

▫ Manage the patient with multiple injuries: the assessment of the multiply injured patient, including children

▫ Blunt and penetrating injuries

▫ Abdominal injuries especially splenic, hepatic and pancreatic injuries;

▫ Injuries of the urinary tract;

▫ Vascular injury

▫ Provide specialist surgical support in the management of conditions affecting the reticulo-endothelial and haemopoetic systems:

▫ Manage benign and malignant lesions of the skin and subcutaneous tissue

▫ Manage perforated peptic ulcer

▫ Manage acute GI haemorrhage

▫ Gastroscopy; Endoscopy for lower GI problems

▫ Manage the patient presenting with upper gastrointestinal symptoms, including dysphagia and dyspepsia:

▫ Elective oesophagogastric disorders

▫ Manage the patient presenting with symptoms referable to the biliary tract, including jaundice:

▫ Acute gallstone disease;

▫ Acute pancreatitis;

▫ Elective HPB disorders

▫ Manage patients with symptoms of lower gastrointestinal disease such as change in bowel habit:

▫ Benign colon conditions

▫ Colorectal neoplasia

▫ inflammatory bowel disease

▫ Manage acute breast infection and recognize common breast conditions:

▫ Manage varicose veins

▫ Recognize the acutely ischemic limb.

Surgical subspecialties/ components of general surgery

A general surgeon should be familiar with the management of the most common symptom patterns, differential diagnosis, investigation and management of surgical conditions related to the following subspecialties

1. **Elective General Surgery**

▫ A variety of conditions are managed within elective general surgery:

o All the various types of hernia

o Certain skin and subcutaneous conditions

o Surgical support for the management of hematopoietic and reticulo-endothelial conditions

▫ Elective General Surgery also includes the clinical assessment, diagnosis, investigation and treatment of a wide variety of conditions, as detailed in the curriculum, which are referred to general surgical outpatient clinics. It is recognized that referral of some of these patients to more specialized or experienced surgeons is sometimes appropriate.

Emergency General Surgery

▫ Patients presenting with acute and elective problems are fundamentally different and often require different approaches particularly with regard to investigation, decision making, optimization of clinical condition and choice of operation. Emergency General Surgery is not simply elective surgery performed out of hours.

▫ All general surgeons need to be competent to manage an unselected emergency take at the end of training. In the context of the curriculum, "manage" indicates being responsible for the patient's care from start to finish, including operative intervention, recognizing when referral to more specialized or experienced surgeons is appropriate.

▫ Gastrointestinal conditions comprise the largest component of Emergency General Surgery.

▫ Emergency General Surgery also involves a significant caseload of conditions not directly related to adult gastrointestinal practice. For example pediatrics, hernia surgery, some urological emergencies, superficial sepsis and trauma.

▫ Surgeons may be involved in the management of relatively rare occurrences such as major incidents, stabbings, gunshot wounds and multiple trauma. This necessitates an understanding of the principles of care for the emergency patient.

▫ Training in Emergency General Surgery should take place throughout the programme for all trainees and take place in blocks of a week or longer to ensure attainment of non-operative and operative skills as well as decision making skills which come with continuity of care .

Upper Gastrointestinal Surgery

▫ Upper Gastrointestinal Surgery includes Oesophago-Gastric (O-G) and Hepato-Pancreato-Biliary disease (HPB). This special interest involves treatment of patients with benign and malignant conditions. This includes surgery for gastro-oesophageal reflux, obesity, gallstones, complex benign biliary and pancreatic conditions, disorders of the spleen as well as for malignancies of the oesophagus, stomach, liver, biliary tree and pancreas.

▫ Medium sized hospitals will have on staff general surgeons who offer an elective service that deals with most of the common conditions affecting the upper GI and biliary tract.

▫ The service for the treatment of upper gastrointestinal tract cancers is based on multidisciplinary teams working in Cancer Networks with specialist surgeons working in Cancer Centres

▫ Within each Network there are one or two Centres providing a specialist service for complex benign and malignant oesophago-gastric and hepato-pancreato-biliary conditions

Colorectal Surgery

▫ Colorectal surgery includes diseases of the small bowel, colon, rectum and anal canal. The work involves close collaboration with medical gastroenterologists, radiologists, oncologists and physiological measurement staff.

▫ A significant part of the workload is accounted for by the large numbers of patients suffering from large bowel cancer.

▫ For this reason most medium sized district general hospitals have several surgeons with a colorectal special interest.

Oncoplastic Breast Surgery

▫ Breast surgeons deal with both benign and malignant breast conditions in women and to a lesser extent men and the majority of the workload is accounted for by the management of breast cancer (screen detected and symptomatic).

▫ Breast surgeons have a heavy outpatient workload due to the high volume of breast clinic referrals and breast cancer follow up.

▫ Surgery remains the mainstay of breast cancer treatment and most medium sized district general hospitals require several breast surgeons most of whom now exclusively manage breast conditions.

▫ The breast surgeon is a key member of the diagnostic, oncoplastic and oncology multidisciplinary teams, working with plastic surgeons, radiologists, pathologists, oncologists and specialist nurses.

▫ Modern specialist breast surgeons/units now offer an oncoplastic philosophy of care, combining the best cancer surgery with the best aesthetic techniques. The majority of oncoplastic breast surgery is performed by general surgeons trained in oncoplastic breast surgery or in collaboration with local plastic surgeons (the oncoplastic MDT).

▫ The small number of breast emergencies are increasingly managed by the breast and radiology teams rather than the general surgery on-call team

Transplant Surgery

▫ Kidney transplant surgeons are primarily responsible for deceased donor and living donor kidney transplantation, and vascular and peritoneal access for dialysis.

▫ They will also care for transplant related emergencies and common elective surgical conditions that occur in patients with renal failure. There is close working within multi-professional teams in renal and transplant units.

▫ Liver transplant surgeons are primarily responsible for all aspects of liver transplantation. Some surgeons will be liver transplant surgeons who also undertake kidney/pancreas transplantation, while others will be hepato-pancreato-biliary surgeons who also undertake liver transplant. A small number will have a major commitment to paediatric transplantation

Anesthesiology / Perioperative Care

▫ To introduce concepts of perioperative medicine including preoperative evaluation and intra- and post-operative management of the surgical patient

▫ To gain experience in the management of critical incidents, such as airway and vascular access.

▫ How to perform a preoperative evaluation of a patient including medical condition, physical status, airway examination, appropriate preoperative testing and the impact of anesthesia and surgery on their condition.

▫ General tenets of intraoperative medicine including monitoring (selection, steps in placement and basic interpretation of invasive monitors) and anesthetic options.

▫ How to recognize and manage common post-operative complications including pain, hypotension, respiratory depression, and myocardial ischemia.

▫ The pharmacology of anesthetic, sedative, narcotic and vasoactive medications.

iii.) Burn Service

▫ Understand early emergency care of burn patients including assessment of:

▫ Airway, breathing, circulation

▫ Extent and depth of burn

▫ Need for burn center referral

▫ Comprehend fluid resuscitation in burn patients with respect to:

▫ Fluid composition

▫ Calculating fluid requirements

▫ Monitoring adequacy of resuscitation

▫ Understand the pathophysiology, diagnosis and treatment of inhalation injury.

▫ Understand general principles of wound management including:

▫ Topical antimicrobials

▫ Skin grafting techniques

▫ Use of skin substitutes and biologic dressings.

▫ Develop a basic knowledge of the rehabilitation needs of burn patients.

iv.) Orthopaedic Surgery

▫ Demonstrate ability to take a history and perform the appropriate physical examination for a patient with a musculo-skeletal problem.

▫ Demonstrate the ability to organize the information obtained from a history and physical examination, formulate a differential diagnosis, and recommend options for treatment

▫ Understand what types of diagnostic imaging studies are useful in the evaluation of musculoskeletal problems. Understand how to interpret basic findings on plain radiographs, such as normal anatomy, common types of fractures, arthritis.

▫ Participate in the preoperative evaluation, surgical procedure, and postoperative care of patients undergoing surgical treatment of musculoskeletal problems.

▫ Understand the clinical and radiographic findings & the treatment options and objectives of common musculoskeletal problems including:

▫ Bone and joint injury

▫ Fractures & dislocations

▫ Acute soft tissue injury

▫ Ligament, tendon, nerve injuries

▫ Chronic soft tissue problems

▫ Tendonitis/bursitis

▫ Nerve compression/entrapment

▫ Joint instability

▫ Arthritis-degenerative and inflammatory

▫ Metabolic bone disease-osteoporosis

▫ Infection-bone (osteomyelitis) and joints (septic arthritis)

▫ Neoplastic bone disease

v.) Thoracic and Cardiovascular Surgery

▫ Learn the natural history and pathophysiology of cardiothoracic surgical diseases

▫ Be able to apply knowledge of cardiothoracic surgical diseases to the preoperative evaluation and postoperative care of a patient undergoing cardiothoracic surgery

▫ Develop a general understanding of surgical techniques and equipment specific to the specialty including the use of the cardiopulmonary bypass pump, hypothermia and tissue protection methods

▫ Learn about counseling activities to promote health

▫ The students should develop an appreciation of the procedures involved in the care of TCV patients, such as chest tubes, lines, monitoring,
wound management, intubation, tracheostomies, gastrostomies, and VAC sponge treatment of wounds.

Hepatobiliary Surgery

▫ Comprehend surgery of the liver and biliary tract as it relates to:

▫ Surgical anatomy of the liver and biliary tract

▫ Hepatic resections for benign and malignant liver lesions

▫ Bile duct reconstruction or bypass for benign and malignant strictures.

▫ Whole organ, split liver, and live donor liver transplants

▫ Pancreas transplantation for type I DM

▫ Understand portal hypertension in terms of:

▫ Anatomy and pathophysiology of the portal venous system

▫ Evaluation, treatment, and resuscitation of hemodynamically significant upper gastrointestinal bleed

▫ Medical and non-shunt surgical therapy

▫ Non-selective, selective and TIPSS shunt therapy

▫ Principles of management of complex, post-operative patients recovering from major hepatobiliary surgery

▫ Evaluation of hepatic masses/ Liver imaging

viii.) Urology

▫ The students should learn the pathophysiological basis of all urological diseases that they encounter in the hospital.

▫ General surgical problems arising in the renal failure patients

▫ Participation in the care of all urological inpatients.

▫ Insertion of a Foley's catheter in a male and female patient.

▫ The evaluation, work-up and management of patients with urolithiasis, prostate cancer, bladder cancer, renal carcinoma, carcinoma of the testes and scrotal masses, female urology– including incontinence and prolapse and the management of bladder outlet obstruction

▫ Additionally, students should understand how to read imaging as it pertains to Urology including CT scan of the abdomen and pelvis – with specific reference to the retro peritoneum, kidneys, ureters, bladder, retroperitoneal lymph nodes, prostate, and have a basic understanding of renal ultrasound and MRI.

▫ Understand fundamentals of renal transplantation

▫ Indications for dialysis and transplantation

ix.) Vascular Surgery

▫ To become proficient in the initial evaluation of patients with cerebrovascular, arterial occlusive, aneurysmal and venous disease.

▫ To understand the basic pathophysiology and treatment options for patients with cerebro-vascular, arterial occlusive, aneurysmal and venous disease.

▫ To become familiar with non-invasive testing for vascular disease.

x.) Gastrointestinal Surgery

▫ Demonstrate proficiency in the assessment and management of:

▫ The acute abdomen

Gastro-oesophageal reflux and its complications

▫ Hiatus hernia

▫ Peptic ulceration and its complications

▫ Radiation enteritis
▫ Infantile pyloric stenosis
▫ Diagnostic upper GI endoscopy
▫ Swallowed foreign bodies
▫ Gastrointestinal bleeding
▫ Appendicitis and right iliac fossa pain
▫ Abdominal pain in children
▫ Peritonitis
▫ Acute intestinal obstruction
▫ Intestinal pseudo-obstruction
▫ Strangulated hernia
▫ Intestinal ischaemia
▫ Toxic megacolon
▫ Superficial sepsis and abscesses
▫ Acute ano-rectal sepsis
▫ Ruptured aortic aneurysm
▫ Neoplasms of the GI tract

xi.) Plastic Surgery

▫ Student should be able to conduct a basic physical exam and recognize important physical signs.
▫ Students should be competent in closure of cutaneous wounds.

▫ Specific items of knowledge that should be acquired during this rotation:
▫ Diagnosis of congenital anomalies of the head and neck including clefting and craniofacial anomalies.
▫ Physical diagnosis of hand injuries and disease.
▫ Diagnosis and treatment of skin cancers.
▫ Physiology of flaps and grafts.
▫ Breast cancer treatment including reconstructive options.

xii.) Head & Neck surgery

▫ Maintenance of airway, Tracheostomy.
▫ Salivary gland disease.
▫ Lymph nodes
▫ Swellings of the neck
▫ Swellings of scalp and face
▫ Surgical flaps
▫ Oral malignancies

xiii.) Neurosurgery

▫ The student will acquire a fundamental knowledge including basic principles of Neurosurgery, along with recognition and surgical treatment of diseases of the central and peripheral nervous system.

xiv.) Ophthalmologic Surgery

▫ Students should be able to generally describe the basic organization/structures of the eye and the various ophthalmic subspecialties.

xv.) Otolaryngology

▫ Improve understanding of otolaryngologic pathology and normal variants.

▫ Improve diagnostic skills for otolaryngologic pathology.

▫ Be able to perform a general head and neck exam.

▫ Establish evaluation and treatment for otolaryngologic pathology, including need for surgical options.

xvi.) Surgical diseases of Reproductive System and Breast

▫ Surgical diseases of Prostate gland

▫ Pain and swelling in the scrotum

▫ Testicular diseases

▫ Principles of Endo Urology

▫ Gynaecological Surgery related to General Surgery, Pelvic inflammatory diseases, ectopic Pregnancy, ovarian cyst.

▫ Benign breast diseases

▫ Carcinoma breast

▫ Gynaecomastia

▫ Breast reconstruction

▫ Newer investigations in Pathology & Radiology

Syllabus

The syllabus is at that time is not a complete curriculum that gives a structured educational plan but

Provides a crude orientation and a framework around which preparation for MS general surgery.

The syllabus should not be viewed as static but will be continuously revised and updated by the members of the committee. It is noted, that research and changes in medicine may lead to significant changes in theory and clinical practice and by that will influence the content of the syllabus. New topics will be introduced and obsolete topics may be deleted. The candidates are expected to update

Their level according to the recent surgical practice and scientific literature.

Overview and Objectives of the General Surgery Curriculum

Trainees in general surgery will undergo Core Surgical Training (PG1 & PG2) followed by a period of 2 years of specialty training in general surgery (PG3 & PG 4)).

The aim is to train general surgeons who will be able to work independently to the standard of a consultant in elective and emergency general surgery and who have started developing an interest in one or more of the components of general surgery as defined in the curriculum.

In order to gain the CCT in general surgery all trainees will gain knowledge, clinical and technical skills to the competency levels defined for PG 4 in elective and emergency general surgery. They will all gain knowledge, clinical and technical skills to the competency levels defined for ST6 in gastrointestinal surgery (upper and lower). They will all gain knowledge, clinical and technical skills to the competency levels defined for PG 3 in breast, transplant, vascular and endocrine surgery.

During PG1 and PG 2 all trainees will complete one year in gastrointestinal surgery (mixture of upper and lower), six months in vascular surgery and a further six months in either breast, transplant or gastrointestinal surgery.

During PG 3 and PG 4 all trainees will complete one year in gastrointestinal surgery (either upper, lower or a mixture) and one year in their special interest.

Emergency general surgery training will continue for all trainees throughout the four years. Working within rotas in emergency and elective general surgery should aim to give trainees the opportunity to learn continuity of care, judgment, decision making, and prioritization and to see how symptoms, signs and associated pathology develop over time.

Trainees may have the opportunity to gain competencies to PG 4 level in the general surgery of childhood or in endocrine, advanced trauma or remote and rural surgery.

Assessment will be monitored by the Annual Review of Competence Progression (ARCP) system and carried out by Workplace Based Assessment and by the MS surgery examination.

Definitions

All training durations referred to throughout the syllabus are indicative.

Throughout the curriculum the term “manage” indicates competence in clinical assessment, diagnosis, investigation and treatment (both operative and non-operative), recognizing when referral to more specialized or experienced surgeons is required for definitive treatment.

All competencies defined in the syllabus are the minimum required.

Index procedures have previously been defined as operations which are either common or represent important areas of technical expertise. They are used in logbook analysis to assess experience and in Procedure Based Assessments to assess competence.

The Specialty of General Surgery

General Surgery is one of the two largest surgical specialties in Pakistan.

The full remit of general surgery includes surgical conditions of the GI tract from esophagus to anus, the breast, transplantation (kidney, pancreas, liver), trauma (abdomen, thorax and general management), endocrine surgery, hernia, some skin conditions, and initial assessment of patients with peripheral vascular disease and the general surgery of childhood.

Training in these areas is set within the context of learning general professional skills, NHS management and governance structures and gaining a grounding in academic surgery.

The central definition of a general surgeon is a surgeon who is competent to independently manage an unselected emergency general surgical take and who has developed an interest in one of the areas within general surgery

Emergency General Surgery typically comprises 50% of total general surgery workload and as such is the largest single component of the specialty. Those providing Emergency General Surgery need to be trained, to be supported and to have regular and sufficiently frequent experience in the broad range of cases presenting as emergencies to maintain competence in their management.

During recent years there has been a trend towards the development of special interests within general surgery, driven by improvements in clinical management, patient and professional expectations and NHS service provision.

The main areas of special interest to have developed are:

Upper Gastrointestinal Surgery (including specialised oesophago-gastric and hepato-pancreato-biliary surgery)

Colorectal Surgery

Oncoplastic Breast Surgery

Transplant Surgery (Renal, Hepatic and Pancreatic)

Other areas of special interest, generally practiced alongside one of the above are:

Endocrine Surgery

General Surgery of Childhood

Two other areas within general surgery with specific training and service requirements are:

Advanced Trauma Surgery (for Military Surgery and trauma centres)

Remote and Rural Surgery

The curriculum emphasizes the need for all trainees to train in Emergency General Surgery to the same level.

Principles of the Curriculum

The general surgery curriculum is designed to meet the local needs and to match the requirements and workload of a general surgeon in large and small hospitals. It sets defined competence levels so that patient care and safety are ensured.

It is recognised throughout the curriculum that competence in highly specialised, low volume procedures may not be completed by the end of training although the trainee will have the basic competencies to develop these in post MS experience.

All surgeons with a MS in General Surgery will be:

able to manage patients admitted through a general surgical emergency take

able to manage patients with elective general surgical conditions

developing an interest in one of the components of general surgery – upper gastrointestinal, colorectal, oncoplastic breast or transplant

given the option during their training of gaining competencies in endocrine surgery (thyroid, parathyroid, adrenal or neuro-endocrine tumors), general surgery of childhood, advanced trauma surgery (for trauma centres or the Military) or remote and rural surgery

The curriculum defines the level of knowledge, clinical skill and technical skill to be attained during and by the end of training for each of these areas.

The curriculum includes the competencies described in the Core Surgical Training curriculum.

The curriculum is intended to produce a competent general surgeon with the skills, knowledge and professional judgment to fulfil the requirements of a consultant. With this background, the surgeon will have the range and levels of expertise to change in response to demands of the service, personal aspirations, career developments, the needs of patients and the developments in the specialty

Following appointment as a consultant, some will wish to maintain a broad portfolio of practice and emergency care; others may seek to practice exclusively in a special interest. It should be understood that as a surgical career develops following the qualification, the range and levels of expertise will change in response to the demands of the service, personal aspirations and the needs of patients.

Stages of the Curriculum

Core Surgical Training

- PG 1 and PG 2 (Initial Stage)

Two indicative years within which trainees complete one year in General Surgery and gain experience in at least two other surgical specialties.

- By the end of CT2 the trainee will have gained the knowledge, clinical and technical skills to complete Basic Surgical Training, to pass the Intermediate examination and to meet the essential Criteria for training into General Surgery specialty training

Advanced Training (PG 3 and PG 4)

- The curriculum defines competences to be reached for each stage so that by the end of PG 4, trainees will have achieved the skills necessary to pass the MS surgery examination.

PROFESSIONAL SKILLS

This part of the syllabus concentrates on the behavior and professional skills required of all surgeons and is common to all specialties. Professional behavior and values are guided by the framework for Good Medical Practice and PMDC code of ethics. In order to function to the level expected of a consultant general surgeon.

Good Medical Practice

Good Medical Practice identifies seven key principles and values on which good practice is founded:

Good clinical care

Maintaining good medical practice

Teaching and training, appraising and assessing,

Relationships with patients

Working with colleagues

Probity

Health

Clinical Judgment and Decision Making

These are skills which will be acquired throughout training and which will continue to be Refined after training. They combine all aspects of the curriculum (knowledge, clinical skills and technical skills) with clinical experience and professionalism and allow the practitioner to reach conclusions and make decisions in the patient's best interests. These skills are important in (but are not limited to) decisions over case selection for operative or non-operative treatment, when to refer patients for second opinions, recognition of limitations of skill and end of life care.

Research

Trainees will be expected to be able to provide evidence of an understanding of, and participation in, research .Trainees should have peer reviewed papers (not case reports) published in an indexed journal and first author presentations at a regional, national or international meeting during specialty training as specified. The trainee's contribution to each of these pieces of work should have been significant.

Audit/Service improvement

Trainees will be expected to be able to provide evidence of an understanding of, and participation in, audit and / or service improvement:
Trainees should complete or supervise audit or service improvement projects during training in at least one of these the audit cycle should be completed.

Medical Education and Training

Trainees will be expected to be able to provide evidence of an understanding of, and participation in, medical education and training (undergraduate and/or postgraduate). Trainees should have attended a 'Training the Trainers' course during training. Trainees should provide evidence of having been involved in teaching by presenting written structured feedback.

Management and leadership

Trainees will be expected to be able to provide evidence of an understanding of management structures and challenges in the jurisdiction in which they have trained. Trainees should have attended a course on health service management during training and provide evidence of having taken part in a management related activity e.g. Rota administration, trainee representative, membership of working party etc.

Courses/qualifications

Trainees will be expected to provide evidence of having attended specific courses/gained specific qualifications
Trainees must have a valid ATLS provider or instructor credential at the time of CCT.
Trainees should provide proof of having attended a course in a topic relevant to their special interest

Educational conferences

Trainees will be expected to be able to provide evidence of having attended appropriate national or international educational conferences or meetings during training .

Documentary evidence required for Training

In addition to the statutory documentation required, trainees should provide
Evidence of clinical competence, operative experience and operative competence as described below

Clinical competence

Trainees will be expected to be able to provide evidence of the breadth of clinical experience defined in the syllabus of their specialty by presenting a minimum of:
Examples of case based discussions showing at least satisfactory performance
10 in different conditions from the range of emergency general surgery
10 in different aspects of the trainee's special interest
10 in different conditions from other areas of general surgery.

Operative experience

Trainees will be expected to be able to provide evidence (in their consolidated logbook) of the breadth of operative experience defined in the syllabus of their specialty
Indicative operation numbers for General Surgery

Elective and Emergency General Surgery - All trainees

inguinal hernia	60	
cholecystectomy	50	
emergency laparotomy	100 to include: Hartmann's	5
(excl appendectomy)	Segmental colectomy	20
appendectomy	80	

Breast Special Interest	
breast lump excision	40
mastectomy	50
sentinel node biopsy	70
axillary clearance	45

Colorectal Special Interest	
anterior resection	30
fistula surgery	20
segmental colectomy	50
haemorrhoidectomy	15
prolapse surgery	4

(Some colonic resections should be laparoscopic)

UGI Special Interest
Major UGI procedures 35 (includes anti reflux procedures, bariatric operations and upper GI/HPB

Resection)

Cholecystectomy 110
(some trainees will choose to focus primarily on benign and others on resectional)

NB
These are intended as guideline numbers intended to show breadth of experience.
Changes in practice over time may require modifications to some of the numbers.
To date there are insufficient data to produce numbers for transplant or endocrine. These will be added in future modifications.

15.3 Operative competence

Trainees will be expected to be able to provide evidence of competence in this list of indicative operative procedures:

Three PBAs carried out with different assessors should be presented for each of the index procedures in Elective and Emergency General Surgery and in the trainee's chosen special interest at the level required for CCT

- Description of Competence Levels

Knowledge

1: knows of
2: knows basic concepts
3: knows generally
4: knows specifically and broadly

Clinical and Technical Skills

1: Has observed – the trainee acts as an 'Assistant'

Ranges from: complete novice, new to the procedure through to being a competent assistant
Exit descriptor; at this level the trainee:
Has adequate knowledge of the steps through direct observation.
Demonstrates that he/she can handle instruments relevant to the procedure appropriately and safely.
Can perform some parts of the procedure with reasonable fluency

2: Can do with assistance - a trainee is able to carry out the procedure 'Directly Supervised'

Ranges from: being able to carry out parts of the procedure under direct supervision (trainer scrubbed) through to being able to complete the whole procedure under lesser degrees of direct supervision (e.g. trainer immediately available in theatre or in suite).

Exit descriptor; at this level the trainee:

Knows all the steps - and the reasons that lie behind the methodology.

Can carry out a straightforward procedure fluently from start to finish.

Knows and demonstrates when to call for assistance/advice from the supervisor (knows personal limitations).

3: Can do whole but may need assistance – a trainee is able to do the procedure 'Indirectly Supervised'

Ranges from: being able to carry out the whole procedure under direct supervision (trainer immediately available in theatre) through to being able to carry out the whole procedure without direct supervision i.e. trainer available but not in direct contact with the trainee.

Exit descriptor; at this level the trainee:

Can adapt to well-known variations in the procedure encountered, without direct input from the trainer.

Recognizes and makes a correct assessment of common problems that are encountered.

Is able to deal with most of the common problems.

Knows and demonstrates when he/she needs help.

Requires advice rather than help that requires the trainer to s

4: Competent to do without assistance, including complications – a trainee is at PG 4 level and 'Finishing' for the common procedures in a specialty

Ranges from: being able to carry out the procedure without direct input from the trainer (e.g. can deal with the majority of operative problems and complications, but may need occasional help or advice) through to competent to carry out the procedure without supervision - i.e. can deal with the accepted range of foreseeable problems.

Exit descriptor, at this level the trainee:

With regard to the common clinical situations in the specialty, can deal with straightforward and difficult cases to a satisfactory level and without the requirement for external input.

The level at which one would expect a UK consultant surgeon to function.

Is capable of supervising trainees.

Core Surgical Training Syllabus
(Initial Stage)

The purpose of the initial stage (early years PG1 - 2) is to allow the trainee to develop the basic and fundamental surgical skills common to all surgical specialties, together with a few specialty-specific surgical skills.

The outcome of early years training is to achieve the competences required of surgeons entering PG 3. These competences include:

Competence in the management of patients presenting with a range of symptoms and elective and emergency conditions as specified in the core syllabus for surgery.
Competence in the management of patients presenting with an additional range of elective and emergency conditions, as specified by the Cardiothoracic Surgery specialty component of the early year's syllabus.
Professional competences as specified in the syllabus and derived from Good Medical Practice guidance.

By the end of PG2, trainees, including those following an academic pathway, will have acquired to the defined level generic skills to allow team working and management of specialty-specific patient cases so as to:

Perform as a member of the team caring for surgical patients
Receive patients as emergencies and review patients in clinics and initiate management and diagnostic processes based on a reasonable differential diagnosis
Manage the perioperative care of their patients and recognize common complications and either be able to deal with them or know to whom to refer
Be a safe and useful assistant in the operating room
perform some simple procedures under minimal supervision and perform more complex procedures under direct supervision

In addition they will have attained the knowledge, skills and behavior as defined in the following (common) modules of the syllabus:

Module 1: Basic Science Knowledge relevant to surgical practice

Anatomy
Physiology
Pharmacology - in particular safe prescribing
Pathological principles underlying system specific pathology
Microbiology
Diagnostic and interventional radiology

Module 2: Common surgical conditions

To assess and initiate investigation and management of common surgical conditions which may confront any patient whilst under the care of surgeons, irrespective of their specialty.
To have sufficient understanding of these conditions so as to know what and to whom to refer in a way that an insightful discussion may take place with colleagues whom will be involved in the definitive management of these conditions.
This defines the scope and depth of the topics in the generality of clinical surgery required of any surgeon irrespective of their defined specialty

Module 3 Basic surgical skills

To prepare oneself for surgery

To safely administer appropriate local anesthetic agents
To handle surgical instruments safely
To handle tissues safely
To incise and close superficial tissues accurately
To tie secure knots
To safely use surgical diathermy
To achieve hemostasis of superficial vessels.
To use a suitable surgical drain appropriately.
To assist helpfully, even when the operation is not familiar.
To understand the principles of anastomosis
To understand the principles of endoscopy including laparoscopy

Module 4: The principles of assessment and management of the surgical patient

To assess the surgical patient
To elicit a history that is relevant, concise, accurate and appropriate to the patient's problem
To produce timely, complete and legible clinical records.

To assess the patient adequately prior to operation and manage any pre-operative problems appropriately.
To propose and initiate surgical or non-surgical management as appropriate.
To take informed consent for straightforward cases.

Module 5: Peri-operative care of the surgical patient
To manage patient care in the peri-operative period.
To assess and manage preoperative risk.
To take part in the conduct of safe surgery in the operating theatre environment.
To assess and manage bleeding including the use of blood products.
To care for the patient in the post-operative period including the assessment of common complications.
To assess, plan and manage post-operative fluid balance
To assess and plan perioperative nutritional management.

Module 6: Assessment and early treatment of the patient with trauma
To safely assess the multiply injured patient.
To safely assess and initiate management of patients with
traumatic skin and soft tissue injury
chest trauma
a head injury
a spinal cord injury
abdominal and urogenital trauma
vascular trauma

a single or multiple fractures or dislocations
burns

Module 7: Surgical care of the paediatric patient

To assess and manage children with surgical problems, understanding the similarities and differences from adult surgical patients.
To understand common issues of child protection and to take action as appropriate.

Module 8: Management of the dying patient

To manage the dying patient appropriately.
To understand consent and ethical issues in patients certified DNAR (do not attempt resuscitation)
To manage the dying patient in consultation with the palliative care team.

Module 9: Organ and tissue transplantation

To understand the principles of organ and tissue transplantation.
To assess brain stem death and understand its relevance to continued life support and organ donation.

Module 10: Health promotion

To promote good health.

In addition they will have attained the knowledge, skills and behaviour as defined in the following (general surgery specific) modules of the syllabus:

Elective general surgery

To be able to diagnose and manage a range of elective conditions presenting to general surgeons including appropriate investigation and treatment. This should include primary abdominal wall herniae, lesions of the cutaneous and subcutaneaous tissues and uncomplicated long saphenous varicose veins

Elective subspecialty surgery

To be able to assess and initiate management of patients presenting with common conditions electively to subspecialty clinics. This should include gall stones, upper and lower gastrointestinal tract cancers, breast lumps and vascular insufficiency.

Acute abdomen

To be able to assess and provide the early care of a patient presenting with acute abdominal symptoms and signs. This should include localized and generalized peritonitis (Acute cholecystitis, acute diverticulitis, acute pancreatitis, visceral perforation, acute appendicitis and acute gynaecological conditions), obstruction (small and large bowel – obstructed hernia, adhesions, colonic carcinoma) and localized abdominal pain (biliary colic, non-specific abdominal pain).

Abdominal Trauma

To be able to assess and provide the early care of a patient with suspected abdominal trauma. This should include primary and secondary survey.

Acute Vascular Disorders

To be able to recognize assess and provide the early care of a patient presenting with ruptures abdominal aortic aneurysm and acute arterial insufficiency.

Acute Urological conditions

To be able to provide the early care of a patients presenting with acute urological conditions including acute urinary retention, ureteric colic, urinary tract infection and acute testicular pain

Superficial Sepsis

To be able to diagnose and manage including appropriate investigations superficial and common acute septic conditions including subcutaneous abscess, cellulitis, in growing toe nail, perianal and pilonidal Abscess and breast abscess. To be aware of gas gangrene and necrotizing fasciitis

THESIS

Every student registered as post graduate shall carry out work on an assigned research project under the guidance of a recognized post graduate teacher, the result of which shall be written up and submitted in the form of a thesis.

Work for writing the Thesis is aimed at contributing to the development of a spirit of enquiry, besides exposing the student to the techniques of research, critical analysis, acquaintance with the latest advances in medical science and the manner of identifying and consulting available literature. Thesis shall be submitted at least six months before the theoretical and clinical / practical examination.

The thesis shall be a bound volume of a minimum of 50 pages and not exceeding 75 pages of typed matter (Double line spacing and on one side only) excluding certification, acknowledgements, annexure and bibliography.

Thesis should consist of

(a) Introduction

(b) Review of literature

(c) Aims and objectives

(d) Material and methods

(e) Result

(f) Discussion

(g) Summary and conclusion

(h) Tables

(i) Annexure

(j) Bibliography

Four copies of thesis shall be submitted six months prior to the commencement of the theory examinations on the date prescribed by the Controller of Examinations of this University.The thesis should be approved by the Professor of that branch and the same has to be forwarded to the Controller of Examinations, by the head of the department through the Dean of the college.

Two copies in addition are to be submitted as an electronic version of the entire thesis in a standard C.D. format by mentioning the details and technicalities used in the C.D. format.

The thesis shall be examined by a minimum of three examiners; one internal and two external examiners, who shall not be the examiners for Theory and clinical; and on the acceptance of the thesis by two examiners, the student shall be allowed to appear for the final examination.

Topics by component (PG 1 and PG 2)

1.	**Preoperative care**	Physical examination Tests of respiratory, cardiac, renal and endocrine function Electrocardiography and interpretation Management of associated medical conditions, e.g. diabetes, respiratory disease, cardiovascular disease, malnutrition, anemia, jaundice, steroid, anticoagulant, immunosuppressant and other drug therapy, and drug treatment for psychiatric disorders Patient information and documentation of informed consent Prophylaxis of thromboembolic disease Assessment of fitness for anesthesia and surgery Premedication and sedation
2.	**Intraoperative Care**	Patient positioning Prevention of nerve and other injuries in the anaesthetized patient Principles of general and regional anesthesia Care and monitoring of the anaesthetized patient
3.	**Postoperative Management**	Pain control Post-operative monitoring Post-operative complications Prevention, recognition and management of complications Techniques of venous access Assessment and maintenance of fluid and electrolyte balance Blood transfusion-indications, hazards, complications, plasma substitutes Respiratory failure-recognition and treatment Nutritional support-indications, techniques, total parenteral nutrition
4.	**Surgical Sepsis and its Prevention**	Hospital hygiene Aseptic techniques Sterilization

		Principles of asepsis and antisepsis Surgically important micro-organisms The sources of surgical infection-prevention and control Pathophysiology of the body's response to infection Septic Shock Antibiotic prophylaxis and therapy of infections Surgery in hepatitis and HIV carriers-special precaution
5.	**Basic Surgical Technique and Technology**	Patients' positioning Dressings Surgical instruments and technical OR equipment Skin preparation Suture and ligature materials Incisions and their closure
6.	**Principles of wound management**	**Classification of surgical wounds** **Treatment of chronic wounds (e.g. VAC-therapy)** **Scars and contracture** **Wound dehiscence**
7.	**Basic principles of bowel and blood vessel anastomosis**	**Mechanical stapling devices and techniques of stapled anastomoses** **Hand sewn anastomosis, instruments and suture material.**
8.	**Miscellaneous**	Minimal invasive surgery techniques Surgical meshes Disorders of coagulation and hemostasis Diathermy-principles and precautions, alternative energy sources (e.g. Harmonic) Lasers-principles and precautions Explosion hazards relating to general anesthesia and endoscopic surgery **Procedures**

		Drainage of body cavities and retentions Sampling of body fluids and/ or body excretions for laboratory investigation, interpretation of results Local and regional anesthesia Excision of cysts and benign tumors of skin and subcutaneous tissues
10.	**Critical Surgical illness and incentive care**	Posttraumatic, preoperative, perioperative and postoperative intensive care medicine Cardiopulmonary and pharmacological resuscitation Fluid replacement, infusion therapy and parenteral alimentation Blood transfusion and serology Blood coagulation disorders and substitution measures Blood gas analysis and acid base balance Derangements of electrolytes and acid-base Principles of organ transplantation surgery Principles of organ harvesting in Transplant surgery **Conditions** Hypovolemic shock Septic, cardiogenic, anaphylactic and neurogenic shock Coagulopathy Neurologic dysfunction Endocrine dysfunction Pneumonia – hospital acquired Single organ failure (heart, liver, kidney) Multiple system organ failure (pathophysiology and treatment) Respiratory failure-pulmonary edema “shock lung”, adult respiratory distress syndrome, lobar and pulmonary collapse Peritonitis Acute necrotizing pancreatitis Septic inflammatory response syndrome Common acute abdominal emergencies (ileus, perforation,

		bleeding) Acute gastrointestinal hemorrhage Acute renal failure in surgical patients Hemofiltration, dialysis and plasmapheresis Malignant hyperthermia **Procedures** Central venous catheterization Catheterization of the pulmonary artery Catheterization of the radial and femoral artery Pulmonary artery catheter placement Endotracheal intubation Real-time ultrasound technique for vascular localization Administration of oxygen and administrative devices Airway management Thoracentesis Paracentesis Nasogastric tube placement Urinary catheterization Patient controlled analgesia and epidural analgesia Measurement of compartment pressures (abdomen, extremity) Cardiac pacing (external and trans venous) and pacemaker implantation Defibrillation and cardioversion
11.	**Traumatology and Emergency Medicine**	Clinical assessment of critically ill and severely injured patients-scoring systems Subsequent initial treatment and decision-making about referral to specialized center Monitoring of vital functions in critically ill or severely injured patients

		Maintenance of airway in severely injured and unconscious patients, endotracheal intubation, laryngotomy, tracheostomy Cardiac arrest, resuscitation and hemodynamic support **Conditions** Management of the unconscious patient Management of polytraumatised patients Hemorrhage and shock Initial treatment in severe head and brain injury Closed and penetrating head injury Head injuries including facial and orbital trauma Surgical emergency procedures and trepanation Nerve and vascular injuries of the neck Injuries of the Pharynx, larynx and trachea Tracheobronchial injuries Sternal and rib fractures Closed and penetrating chest injuries Pneumo- and hematothorax Pulmonary contusion and laceration Myocardial contusion Cardiac tamponade Injuries of the diaphragm Closed, blunt and penetrating abdominal injuries Injuries of the esophagus, stomach and duodenum Injuries of the liver, spleen and pancreas Injuries of the small intestine, colon, rectum and perineum Retroperitoneal hematoma Traumatic haematuria Injuries of the kidney, bladder, ureter and urethra Vascular injuries of the thorax, abdomen and extremities Aortic Injuries Extremity fractures Pelvic fractures Dislocations Sprains and strains

		Traumatic edema and the compartment syndromes Pathophysiology of fracture healing, non-union, delayed union, complications, principles of treatment, principles of bone grafting Mangle and traumatic amputation Skin loss-principles of treatment by grafts and flaps Traumatic wounds Gunshot and blast injuries Burn injury Smoke inhalation injury Carbon monoxide poisoning Hypothermia and frostbite Snake, spider and other animal bites Human bites Bee and wasp stings Pediatric trauma Geriatric trauma Trauma in pregnancy **Procedures** Focused assessment with sonography and CT (FAST scan) Placement of intracranial pressure monitor Neck exploration for trauma Reduction and stabilization of maxillofacial fracture Repair cardiac injury Open exploratory thoracotomy and laparotomy Laparoscopic exploratory laparotomy esophageal and gastrointestinal trauma Splenectomy/splenorrhaphy Repair of hepatic lacerations and hepatic resection for trauma Drainage and resection in pancreatic injury Repair and resection for kidney trauma Repair ureteral and bladder injury Repair of thoracic aorta, innominate, subclavian injury Repair of carotid artery injury

		Repair of abdominal aorta or vena cava injury Repair peripheral vessels Debride/suture major wounds Fasciotomy for injury Burn debridement or grafting Repair of tendon or nerve Closed reduction of fracture Open reduction of open/closed fracture Debridement and reduction of open fracture
13	**Hematopoietic and Lymph reticular Systems**	The anatomy, physiology and pathology of the haemopoietic and lymph reticular systems appropriate to the understanding of clinical signs and special investigations. **Conditions** Surgical aspects of disordered haemopoiesis Hemolytic disorders of surgical importance Hemorrhagic disorders, disorders of coagulation Immune response to trauma, infections and tissue transplantation Surgery in the immune-compromised patient Surgical aspects of autoimmune disease **Procedures** Lymph node surgery in malignant disease Technique of sentinel lymph node detection and surgery Lymphedema Splenectomy for hypersplenism
	Musculo-	Musculo-skeletal anatomy, physiology and pathology

	skeletal System	relevant to the clinical examination of the locomotor system and to the understanding of disordered locomotor function with emphasis on the effects of trauma. Common disorders of infancy and childhood Metabolic and degenerative bone disease: osteoporosis and osteomalacia Bone and joint infections including those related to prostheses Principles of joint replacement Amputations Principles of orthotics and rehabilitation of the amputee Diagnosis and treatment of common fractures Diagnosis and treatment of common injuries and disorders of joints Hand infections and injuries Principles of tendon repair Common disorders of the foot Cervical and shoulder pain Back pain and sciatica Differential diagnosis of arthritis Peripheral nerve lesions Nerve regeneration-principles of nerve repair Malignant disease of bone and soft tissues
	Skin & Soft Tissue Conditions	Necrotizing fasciitis Panaritium and paronychia Wound infection Decubitus ulcer Extremity soft tissue sarcomas Retroperitoneal soft tissue sarcomas Lymphedema Pilonidal cyst and sinus Nevi

		Merkel cell tumor Dermatofibrosarcoma Hidrosadenitis Cellulitis **Procedures** Excisional and incisional biopsy of skin/soft tissue lesions Incision, drainage, debridement for soft tissue infections Pilonidal cystectomy Wide local excision melanoma Sentinel lymph node biopsy for melanoma Ilioinguinal – femoral lymphadenectomy Major resection for soft tissue sarcoma

Assessment

The specialty elements of the early years will all be assessed primarily in the workplace and then scrutinized in the Annual Review of Competency Progression and 360 degree evaluation. All these documents would be included in a portfolio which would contribute as evidence in subsequent entry into PG 3 . The specific job specifications for entry into PG3 are shown below. Passing the intermediate module is mandatory during the same period

Assessment type	**Subject**
DOPS a selection of types and numbers of each type according to learning agreements	Urethral catheterization. Suprapubic catheterization Chest drain insertion Central venous line insertion Needle biopsy including Fine needle aspiration Rigid sigmoidoscopy Excision biopsy of benign skin or subcutaneous lesions In growing toenail – avulsion / wedge resection / phenolisaton Excision biopsy malignant skin lesion Outpatient treatment of hemorrhoids Breast lump excision Induction of pneumoperitoneum for laparoscopy with port placement Open and close midline laparotomy incision
Case Based Discussion	One per attachment
CEX	Clinical assessment of patients with common conditions
PBAs	Appendectomy Inguinal hernia repair Primary varicose vein surgery
Training Supervisors report	Evidenced by the above WPBAs
ARCP for each specified training interval	As per local Deanery specifications
MRCS Generic syllabus	Complete

Topics by component (PG3 & PG4)

Head & Neck

Conditions

Upper airway obstruction

Epistaxis

Mucosal cancers of the oral cavity, pharynx and larynx

Parotid gland tumors

Submandibular gland tumors

Cervical lymphadenopathy

Procedures

Tracheostomy

Cricothyroidotomy

Resection of lip/tongue lesions

Parotidectomy

Modified radical neck dissection

Abdomen - General

Conditions

Acute abdominal pain

Intra-abdominal abscess

Rectus sheath hematoma

Mesenteric cyst

Chronic abdominal pain

Carcinomatosis

Pseudomyxoma peritonei

Spontaneous bacterial peritonitis

Desmoid tumors

Chylous ascites

Retroperitoneal fibrosis

Procedures

Insertion peritoneal dialysis catheter

Laparoscopic exploratory laparotomy

Open exploratory laparotomy

Open drainage abdominal abscess

Open retroperitoneal lymph node dissection

Laparoscopic retroperitoneal lymph node dissection

Operation for pseudomyxoma

Abdominal Wall and Alimentary Tract

The surgical anatomy of the abdomen and its viscera and the applied physiology of the alimentary system, relevant to clinical examination, to the interpretation of special investigations, to the understanding of disorders of function and to the treatment of abdominal disease.

Hernia

Principles of standard and tension-free hernia repair

Principles of hernia repair with/without surgical meshes

Conditions

Inguinal hernia

Femoral hernia

Ventral hernia

Miscellaneous hernias

Procedures

Open and laparoscopic repair of inguinal and femoral hernia

Open and laparoscopic repair of ventral hernia

Repair of miscellaneous hernias

Component separation and abdominal wall reconstruction

Biliary Tract

Conditions

Cancer of the bile ducts

Gallstone ileus

Iatrogenic bile duct injury

Biliary pancreatitis

Ampullary stenosis/sphincter of Oddi dysfunction

Procedures

Open and laparoscopic cholecystectomy with or without cholangiography

Open common bile duct exploration

Laparoscopic common bile duct exploration

Choledochoscopy

Choledochoenteric anastomosis

Operation for gallbladder cancer

Repair acute common bile duct injury

Operation for bile duct cancer

Excision of choledochal cyst

Transduodenal sphincteroplasty

Liver

Conditions

Liver mass – evaluation

Hepatic abscess

Hepatic adenoma

Focal nodular hyperplasia

Hemangioma

Hepatocellular carcinoma

Cholangiocarcinoma

Metastatic tumors

Miscellaneous hepatic neoplasms

Ascites

Bleeding esophageal varices

Hepatic failure and encephalopathy

Hepatorenal syndrome

Viral hepatitis (occupational risk)

Split liver resection for Transplant

Procedures

Open liver biopsy

Laparoscopic liver biopsy

Drainage liver abscess

Open segmentectomy/lobectomy

Laparoscopic segmentectomy/lobectomy

Intraoperative ultrasound of liver

Portal-systemic shunt

Pancreas

Conditions

Pancreatic abscess and infected necrosis

Pancreatic pseudo cyst

Autoimmune pancreatitis

Chronic pancreatitis, including hereditary pancreatitis

Pancreatic insufficiency

Ductal adenocarcinoma

Acinar cell carcinoma

Cystic neoplasms

Intraductal papillary mucinous neoplasms

Other periampullary neoplasms

Gastrinoma and Zollinger-Ellison syndrome

Insulinoma, VIPoma, Glucagonoma and Somatostatinoma

Nonfunctional endocrine tumors

Lymphoma of pancreas

Procedures

Laparoscopic/endoscopic pancreatic debridement for necrosis

Pancreaticoduodenectomy

Duodenum preserving pancreatic resection

Total pancreatectomy

Ampullary resection for tumor

Distal pancreatectomy
Longitudinal pancreaticojejunostomy
Intraoperative pancreatic ultrasound
Open pancreatic debridement for necrosis
Drainage pancreatic pseudo cyst

Spleen

Conditions

Post splenectomy sepsis
Hemolytic anemia
Idiopathic thrombocytopenic purpura
Secondary hypersplenism and splenomegaly
Neoplasms of spleen
Splenic cysts

Procedures

Open and laparoscopic splenectomy
Partial splenectomy/splenorrhaphy

Esophagus

Conditions

Zenker's diverticulum
Epiphrenic diverticulum
Hiatal hernia
Gastro esophageal reflux and Barrett's esophagus
Dysphagia
Schatzki's ring
Achalasia
Nutcracker esophagus
Foreign bodies
Mallory-Weiss syndrome
Diffuse esophageal spasm
Spontaneous esophageal perforation
Iatrogenic esophageal perforation

Chemical burns
Scleroderma connective tissue disorders
Benign neoplasms
Adenocarcinoma
Squamous cell carcinoma

Procedures
Diagnosis of gastro esophageal reflux (e.g. pH-metry)
Diagnosis of esophageal and gastric motility disorders (e.g. manometry)
Open and laparoscopic antireflux procedure
Open and laparoscopic repair of paraesophageal hernia
Repair/resection of perforated esophagus
Total esophagectomy
Esophagogastrectomy
Cricopharyngeal myotomy with excision Zenker's diverticulum
Open Heller myotomy
Laparoscopic Heller myotomy
Collis gastroplasty

Stomach

Conditions
Upside down stomach
Upper gastrointestinal bleeding
Gastric carcinoma
Duodenal ulcer
Gastric ulcer
Peptic ulcer disease with bleeding, perforation or obstruction
Gastric polyps
Gastric lymphoma
Gastric carcinoid tumor
Stress gastritis
Morbid obesity
Bezoars and foreign bodies
Gastroparesis
Postgastrectomy syndromes

Procedures

Percutaneous endoscopic gastrostomy

Open gastrostomy

Partial/total gastrectomy

Open and laparoscopic gastric resection

Repair of duodenal perforation

Truncal and selective proximal vagotomy

Pyloroplasty

Open and laparoscopic operation for morbid obesity

Proximal gastric vagotomy

Revisional procedures for postgastrectomy syndromes

Jejunum & Ileum

Conditions

Small bowel obstruction and ileus

Emergent and elective management of Crohn's disease of small intestine

Acute mesenteric ischemia: arterial, venous, and nonocclusive

Meckel's diverticulum

Radiation enteritis

Small intestinal polyps

Small intestinal adenocarcinoma

Small intestinal lymphoma

Small intestinal carcinoid tumor

Small intestinal GISTs

Intussusception

Pneumatosis cystoides intestinalis

Short bowel syndrome

Enteric infections and blind loop syndrome

Procedures

Open and laparoscopic small bowel resection

Open and laparoscopic adhesiolysis

Open and laparoscopic feeding jejunostomy

Ileostomy

Ileostomy closure

Superior mesenteric artery embolectomy/ thrombectomy

Resection and stricteroplasty for Crohn’s disease

Colon & Rectum

Conditions

Lower gastrointestinal bleeding

Large bowel obstruction

Volvulus

Acute appendicitis

Diverticulitis

Diverticular bleeding and fistulae

Colonic polyps

Colonic and rectal cancer

Miscellaneous colonic neoplasms

Appendiceal neoplasms

Crohn's disease

Emergent management of indeterminate colitis

Ischemic colitis

Antibiotic-induced colitis

Infectious colitis

Ulcerative colitis

Endometriosis

Irritable bowel syndrome

Functional constipation

Procedures

Open and laparoscopic appendectomy

Open and laparoscopic colon and rectum resection

Colostomy

Colostomy closure

Subtotal colectomy with ileorectal anastomosis/ileostomy

Low rectal resection with total mesorectal excision

Total proctocolectomy

Coloanal anastomosis

Ileoanal pull through, ileal pouch formation and poucho-anal anastomosis

Abdominoperineal resection

Pelvic exenteration for rectal cancer

Anorectal

Conditions

Hemorrhoids

Anal fissure

Anorectal abscess and fistulae

Anal cancer

Pelvic floor dysfunction

Incontinence

Anal dysplasia/sexually-transmitted disease

Rectal prolapse

Fecal incontinence and fecal outlet obstruction

Procedures

Diagnosis of colonic and anorectal disorders (e.g. anal sphincter manometry)

Banding for internal hemorrhoids

Hemorrhoidectomy

Subcutaneous lateral internal sphincterotomy

Drainage anorectal abscess

Anal fistulotomy/seton placement

Excision of anal cancer

Stapled hemorrhoidectomy

HAL/RAR and THD procedures

Repair complex anorectal fistulae
Operation for incontinence/constipation
Open and laparoscopic trans abdominal operation for rectal prolapse
Perineal operation for rectal prolapse
Transanal resection for tumor
Operation for anal cancer

Flexible Endoscopy

Handling of endoscopes and hygienic measures

Procedures

Flexible diagnostic esophagogastroduodenoscopy
Rigid and flexible diagnostic procto-colonoscopy
Interventional endoscopy (e.g. stenting, polypectomy, mucosectomy)
E.R.C.P., papillotomy, bile stone extraction and intraluminal stenting
Therapeutic endoscopic interventions (e.g. polypectomy, dilatation)
Sclerotherapy of esophageal varices
Treatment of gastrointestinal bleeding sites (injection, clipping, LASER)
Endoscopic mucosectomy

Minimal Invasive Surgery

Techniques of establishing access for MIS (e.g. laparoscopy, SILS, NOTES)
Detection and treatment of MIS complications
Instruments and technical devices (e.g. stapling)
Patient selection and indication for MIS
Suturing and stapling in MIS

Metabolic and Bariatric Surgery

Principles of metabolic and bariatric surgery

Pathophysiology and epidemiology of morbid obesity

Metabolic syndrome

Patient selection and indication for bariatric surgery

Surgical techniques in bariatric surgery

Detection and treatment of complication

Breast

Surgical anatomy, applied physiology and pathology of the breast

Principles of radiation, brachytherapy and chemotherapy in breast cancer

Conditions

Mastalgia

Acute mammary infections

Breast mass

Nipple discharge

Fibro adenoma

Fibrocystic disease

Intraductal papilloma

Gynecomastia

Invasive ductal carcinoma

Ductal carcinoma in situ

Invasive lobular carcinoma

Lobular carcinoma in situ

Fat necrosis

Mastitis and abscess

Galactocoele

Inflammatory breast cancer

Paget’s disease of the nipple

Cystosarcoma phylloides

Breast cancer during pregnancy and lactation

Occult breast cancer with axillary metastasis

Male breast cancer

Atypical ductal hyperplasia

Hereditary breast cancer

Radial scar

Procedures

Aspiration of breast cyst

Duct excision

Breast biopsy with or without needle localization

Lumpectomy

Simple mastectomy

Axillary dissection

Sentinel lymph node biopsy

Modified radical mastectomy

Radical mastectomy

Stereotactic breast biopsy

Reconstruction after breast cancer surgery

Endocrine

The surgical anatomy, applied physiology and pathology of the endocrine glands relevant to clinical examination, to the interpretation of special investigations, to the understanding of disordered function and to the principles of surgical treatment of common endocrine disorders.

Conditions

Thyroid nodule(s)

Papillary carcinoma

Follicular carcinoma

Primary hyperparathyroidism

Hypothyroidism (postoperative)

Hypercalcemia

Hypocalcemia

Addisonian crisis

Hyperthyroidisms

Thyroiditis

Medullary carcinoma

Hürthle cell tumors
Anaplastic carcinoma
Secondary hyperparathyroidism
Tertiary hyperparathyroidism
Recurrent or persistent hyperparathyroidism
Parathyroid carcinoma
Multiple endocrine neoplasia type I, IIA, IIB
Incidental adrenal mass
Pheochromocytoma
Primary hyperaldosteronism

Cushing's syndrome
Cushing's disease
Adrenocortical carcinoma

Procedures
Partial or total thyroidectomy
Parathyreoidectomy
Open and laparoscopic adrenalectomy

Vascular System

The surgical anatomy and applied physiology of the vascular system relevant to clinical examination, to the interpretation of special investigations and to the understanding of the disorders of function caused by diseases and injuries of the blood vessels.
Special techniques used in the investigation of vascular disease
Limbischaemia: acute and chronic-arterial embolism
Gangrene
Aneurysms (e.g. aneurysms of the abdominal aorta)
Principles of arterial reconstructive surgery
Reconstructive aortoiliac and femoropopliteal bypass
Vascular grafts

Carotid artery disease
Disorders of veins of the lower limbs
Deep venous thrombosis and its complications
Chronic ulceration of the leg
Principles of anticoagulation

Procedures
Percutaneous vascular access for dialysis
Percutaneous vascular access
Arteriovenous graft/fistula
Revision arteriovenous access
Interventional radiological procedures (e.g. stenting)
Implantable devices (e.g. i.v. port systems)
Amputations for vascular disease

Vascular - Arterial

Conditions
Acute limb ischemia
Peripheral arterial emboli
Acute arterial thrombosis
Compartment syndromes
Diabetic foot infections
Cerebrovascular occlusive disease
Aortoiliac occlusive disease
Chronic visceral occlusive disease
Renal artery occlusive disease
Femoropopliteal occlusive disease
Infrapopliteal occlusive disease
Upper extremity occlusive disease
Winiwarter-Bürger disease
Fibromuscular dysplasia

Cystic medial necrosis
Behcet disease
Aortic aneurysms
Visceral arterial aneurysms
Peripheral arterial aneurysms
Aortic dissection
Claudication
Hypercoagulable syndromes
Carotid body tumors
Vascular graft infections
Aortic thrombosis
Thoracic outlet syndrome

Procedures

Embolectomy/thrombectomy artery
Above knee amputation
Below knee amputation
Toe amputation
Aorto-iliac/femoral bypass
Ilio-iliac/femoral bypass
Femoral-popliteal bypass
Profunda endarterectomy
Infrapopliteal bypass
Other endarterectomy
Composite leg bypass graft
Revise/re-do lower extremity bypass
Arm bypass, endarterectomy, repair
Celiac/SMA endarterectomy/bypass
Renal endarterectomy/bypass
Femoral-femoral bypass
Axillo-femoral bypass
Axillo-popliteal-tibial bypass
Transmetatarsal amputation
Upper extremity amputation
Disarticulation
Elective repair infrarenal aortoiliac aneurysm

Repair femoral aneurysm

Repair popliteal aneurysm

Repair suprarenal abdominal aortic aneurysm

Repair thoracoabdominal aortic aneurysm

Repair thoracic aortic aneurysm

Carotid endarterectomy

Reoperative carotid surgery

Excise carotid body tumor

Direct repair aortic arch branches for CNS symptoms

Vertebral artery operation

Vascular ultrasound

Angioscopy

Balloon angioplasty

Transcatheter stent

Other endovascular graft

Endovascular repair aortic aneurysm

Endovascular repair other aneurysm

Endovascular thrombolysis

Pseudoaneurysm repair/injection

Explore post-op bleed, thrombosis, infection

Graft thrombectomy/revision

Excise infected vascular graft

Repair graft-enteric fistula

Sympathectomy

Harvest arm vein

Thoracic outlet decompression

Repair ruptured aortic aneurysm

Vascular – Venous

Conditions

Venous thrombosis/embolism

Thrombophlebitis, including suppurative

Venous stasis and chronic venous insufficiency

Varicose veins

Procedures

Venous insufficiency and operation for varicose veins

EVLT and other endoluminal venous ablation techniques

Sclerotherapy, peripheral vein

Insertion vena caval filter

Venous embolectomy/thrombectomy

Venous reconstruction

Non-reconstructive venous ulcer operation

Repair arteriovenous malformation

Thoracic

The surgical anatomy and pathology of the heart, great vessels, air passages, chest wall, diaphragm and thoracic viscera and the applied cardio-respiratory physiology relevant to clinical examination, interpretation of special investigations and understanding of disorders of cardio-respiratory function caused by disease, injury and surgical intervention.

The role of surgery in the treatment of cardiac, lung and esophageal disease

Thoracoentesis, chest drainage

Techniques of thoracotomy

Cardiopulmonary by-pass-general principles

Special techniques used in the investigation of cardiac disease

Bronchoscopy, thoracoscopy, mediastinoscopy

Empyema thoracis

Complications of thoracic operations

Malignant disease of the lungs and bronchi

Conditions

Pneumothorax

Hemothorax

Pleural effusion/empyema

Mediastinitis

Chylothorax

Adenocarcinoma of the lung

Undifferentiated lung carcinoma

Small-cell and large-cell carcinoma of the lung

Soft tissue sarcomas of chest wall

Thymoma

Teratoma of the medisastinum

Neurogenic tumor of the mediastinum

Enteric cyst of the mediastinum

Pericardial cyst

Bronchgenic cyst

Superior vena cava syndrome

Tracheoinnominate fistula

Tracheoesophageal fistula

Valvular heart disease

Congestive heart failure

Endocarditis

Coronary artery disease

Ventricular aneurysms

Cardiomyopathy

Pericarditis

Procedures

Chest tube placement

Exploratory thoracotomy

Pericardial window for drainage

Thoracoscopy with or without biopsy

Thoracoscopic pleurodesis

Excision mediastinal tumor

Transthoracic repair diaphragmatic hernia

Open drainage of empyema

Pneumonectomy

Cardiac procedures

Pericardiectomy

Pacemaker insertion

Pediatric

Neonatal physiology

Special problems of anesthesia and surgery in the newborn

Principles of neonatal fluid and electrolyte balance

Correctable life-threatening congenital abnormalities

Common pediatric surgical disorders, cleft lip and palate, pyloric stenosis, intussusception, hernia, maldescent of testis, torsion.

Conditions

Hypertrophic pyloric stenosis

Umbilical hernia

Inguinal hernia

Malrotation

Intussusception

Meckel's diverticulum

Gastroschisis

Omphalocele

Esophageal atresia

Tracheoesophageal fistula

Foreign bodies of the trachea/esophagus

Congenital diaphragmatic hernia
Duodenal atresia/stenosis
Pancreas divisum
Intestinal atresia and meconium ileus
Imperforate anus
Necrotizing enterocolitis
Hirschsprung's disease
Biliary atresia
Choledochal cysts
Cryptorchidism
Wilms tumor
Neuroblastoma

Procedures
Inguinal herniorrhaphy in children
Umbilical hernia repair in children
Pyloromyotomy
Emergency operation for malrotation
Emergency operation for intussusception
Excise branchial cleft anomaly
Excise thyroglossal duct cyst
Orchiopexy
Open antireflux procedure
Laparoscopic antireflux procedure
Repair intestinal atresia/stenosis
Repair diaphragmatic hernia
Repair omphalocoele/gastroschisis
Procedure for meconium ileus/necrotizing enterocolitis
Excision Wilms tumor/neuroblastoma
Operation for Hirschsprung's/imperforate anus
Repair esophageal atresia/tracheoesophageal fistula
Repair deformity chest wall

Plastic Surgery

Conditions

Abdominoplasty

Breast reduction and enlargement

Post mastectomy reconstruction

Abdominal wall reconstruction

Procedures

Skin grafting

Revision of scars and resultant deformities

Composite tissue transfer

Major reconstructive procedures

Transplantation

Immunosuppression

Procedures

Donor organ harvesting

Donor nephrectomy and split-keratectomy for TX in relatives

Kidney transplant

En bloc abdominal organ retrieval

Liver transplant

Pancreas transplant

Urology

The surgical anatomy, applied physiology and pathology of the urinary system, relevant to clinical examination, to interpretation of special investigations, to the understanding of disordered function and to the principles of the surgical treatment of urinary disease and injury.

Urinary tract infection

Haematuria

Urinary calculi

Retention of urine

Chronic renal failure: Principles and techniques of dialysis

Principles of renal transplantation

Scrotal pain and scrotal swellings

Testicular torsion

Disorders of the prostate

Pelvic inflammatory diseases

Malignant disease of the urinary tract

Ureter resection and reconstruction

Catheterize and stenting

Conditions

Iatrogenic ureteral injury

Neurogenic bladder

Urinary incontinence

Obstructive uropathy

Impotence

Neoplasms of the ureter, bladder and kidney

Neoplasms of the prostate

Neoplasms of the testicle

Stone disease

Procedures

Hydrocelectomy

Nephrectomy

Orchiectomy

Cystostomy

Repair iatrogenic ureteral injury

Prostatectomy

Ileal urinary conduit

Cystectomy

Gynecology

Conditions

Gynecological causes of acute abdominal pain

Ectopic pregnancy

Pelvic inflammatory disease

Incidental ovarian mass/cyst

Endometriosis

Benign and malignant ovarian neoplasms

Benign and malignant uterine neoplasms

Cystocoele

Rectocele

Procedures

Hysterectomy

Salpingo-oophorectomy

Caesarian section

Repair cystocoele

Repair rectocoele

Surgery of infiltration endometriosis

Central Nervous System

The anatomy and physiology relevant to clinical examination of the central nervous system, to the understanding of its functional disorders, particularly those caused by cranial or spinal trauma, and to the interpretation of special investigations.

Surgical aspects of meningitis

Intracranial abscesses

Intracranial hemorrhage

Space occupying intracranial lesions and their effects

Spinal cord injury and compression

Paraplegia and quadriplegia: Principles of management

Conditions

Management of acute pain

Management of chronic pain

Procedures

Digital nerve block

Placement of indwelling epidural catheter

Placement of nerve stimulator for chronic pain

Celiac plexus blockade – percutaneous or endoscopic

Thoracic splanchnicectomy

Peripheral nerve block(s) other than digital

Oncology

The applied basic sciences relevant to the understanding of the clinical behavior, diagnosis and treatment of neoplastic disease.

Principles of molecular biology of cancer

Carcinogenesis

Genetic factors

Mechanisms of metastasis

Epidemiology of common cancers

The role of cancer registers

Screening for cancer

Clinico-pathological staging of cancer and premalignant states

Pathology, clinical features, diagnosis and principles of management of common cancers in each of the surgical specialties

Principles of cancer treatment by: surgery, radiotherapy, chemotherapy, immunotherapy, hormone therapy

Pain therapy management

Terminal care of cancer patients and palliation

Radiology

Principles of diagnostic radiography, Sonography, Computed Tomography and Magnetic Resonance Imaging and related techniques

Principles and handling of contrast media

Diagnostic and therapeutic interventional radiological methods

Interventional radiological implantation of prostheses and stents into vessels, organs and other structures

X-ray guided detection of foreign bodies

Sonographically guided identification of impalpable lesions

Sonographic "Doppler" investigation of abdominal and limb vessels

Sentinel lymph node marking and detection

Security measures in Radiology

Evaluation & Quality

Decision-making in surgery

Clinical audit

Statistics and computing in surgery

Documentation

Principles of research and design and analysis of clinical trials

Critical evaluation of innovations-technical and pharmaceutical

Health Service management and economic aspects of surgical care

Medical/legal ethics and medico-legal aspects of surgery

Psychological effects of surgery and bereavement

Rehabilitation

Screening programs

Principles and pharmacology of intravenous drug delivery

Quality control and quality management

CIRS (Critical Incident Reporting System)

Implementation of clinical studies

Legal aspects

Communication with patients, relatives and colleagues

	PG 3	PG 4	
LESIONS OF SKIN AND SUBCUTANEOUS TISSUES			
OBJECTIVE			
Recognise and appropriately manage malignant skin lesions.			
Basal cell carcinoma: Diagnose and treat appropriately small basal cell carcinomas.			
Malignant melanoma: Diagnose malignant melanoma and refer appropriately.			
Squamous cell carcinoma: Diagnose squamous cell carcinoma and refer appropriately if large			
KNOWLEDGE			
Basal cell carcinoma:			
Anatomy	4	4	
Histopathology	4	4	
Natural history	4	4	
Malignant melanoma:			
Anatomy	4	4	
Histopathology	4	4	
Natural history	4	4	
Staging	3	4	
Squamous cell carcinoma:			
Anatomy	4	4	
Histopathology	4	4	
Natural history of malignant transformation in chronic ulcers	3	4	
CLINICAL SKILLS			
Basal cell carcinoma:			
Assess skin lesion	3	4	
Biopsy of large skin lesions to plan treatment	4	4	
Closure of large defects after excision by split skin grafts, full thickness grafts, flap closure	2	3	
Malignant melanoma:			
Assess skin lesion	2	3	
Indications for wider excision, lymph node biopsy, axillary or groin block dissection based on staging	2	3	
Squamous cell carcinoma: Assess skin lesion including incisional biopsy	3	4	
TECHNICAL SKILLS			
Malignant melanoma: Malignant skin lesion-excision biopsy melanoma (small)	34	44	4
Squamous cell carcinoma: Malignant skin lesion-excision biopsy (small)	4	4	4
Basal cell carcinoma: Malignant skin lesion-excision biopsy (small)			

Abdominal wall

OBJECTIVE		
Management of abnormalities of the abdominal wall, excluding hernia.		
Diagnosis: Ability to diagnose abdominal wall masses.		
Treatment: Ability to manage abdominal wall masses.		
KNOWLEDGE		
Anatomy of the abdominal wall	4	4
Pathology of the acute and chronic conditions; Haematoma, Sarcoma, Desmoid Tumours	4	4
Principles of management of desmoid tumours and sarcomas	3	3
CLINICAL SKILLS		
Ability to determine that a swelling is in the abdominal wall	4	4
Initiate appropiate investigation	3	4
TREATMENT		
Conservative management of haematoma	4	4

	PG3	PG4
RETICULO-ENDOTHELIAL SYSTEM		
OBJECTIVE		
Knowledge of general and specialist surgical support needed in the management of conditions affecting the reticulo-endothelial and haemopoetic systems.		
Lymphatic conditions: Knowledge of the general and specialist surgical support needed in the management of conditions affecting the lymphatic system. Simple lymph node biopsy.		
Conditions involving the spleen: Knowledge of the general and specialist surgical support needed in the management of conditions affecting the spleen.		
KNOWLEDGE		
Lymphatic conditions:		
Non Hodgkin's Lymphoma	3	4
Lymphadenopathy	3	4
Hodgkin's disease	3	4
Staging classifications	3	4
Conditions involving the spleen:		
Indications for elective splenectomy-haemolytic anaemia, ITP, Thrombocytopaenia, myeloproliferative disorders	3	4
Indications for emergency splenectomy	4	4
Sequelae of splenectomy	4	4
Splenic conditions	3	4
Thrombophilia	3	4
CLINICAL SKILLS		
Lymphatic conditions:		
Planning appropriate diagnostic tests	3	4
Liver biopsy	3	4
Conditions involving the spleen:		
Planning appropriate treatment schedule in consultation with haematologist	3	4
TECHNICAL SKILLS		
Lymphatic conditions:		

Biopsy-FNA	4	4
Liver biopsy	4	4
Lymph node biopsy-groin, axilla	4	4
Conditions involving the spleen:		
Splenectomy	3	4

	PG3	PG4
GENETIC ASPECTS OF SURGICAL DISEASE		
OBJECTIVES		
Basic understanding of genetically determined diseases.		
Endocrine: Basic understanding of the influence of genetics on endocrine disease.		
Colorectal: Basic understanding of the influence of genetics on colorectal cancer development		
Breast: Basic understanding of the influence of genetics of breast cancer development.		
Upper GI/HPB: Basic understanding of the influence of genetics in upper GI disease.		
Clinical and molecular genetics: Basic understanding of the principles of genetics		
KNOWLEDGE		
Endocrine		
Thyroid, Parathyroid, Pancreas and adrenal		
Principal genetically influenced endocrine diseases and syndromes, MEN I, MEN II,	3	4
Colorectal:		
Outline knowledge of genetic changes which predispose to colorectal cancer including familial adenomatous polyposis, HNPCC and other polyposis syndromes	3	4
Breast:		
Outline knowledge of genetic changes which predispose to breast cancer; BRCA1, BRCA2, P53	3	4
Upper GI/HPB:		
Principal genetically influenced upper gastrointestinal diseases and syndromes, including Duodenal polyposis, familial gastric cancer, Peutz-Jeger syndrome and polycystic disease of the liver	3	4
Clinical and molecular genetics:		
Modes of inheritance	3	4
Genetic Testing	3	4
Screening	3	4
Prophylactic intervention	3	3
Therapeutic intervention	3	3
Ethics	3	4

	PG 3	PG 4
ONCOLOGY FOR SURGEONS		
OBJECTIVE		
The basic understanding of the principles of Surgical Oncology		
The knowledge of risk factors and presentation of common cancers		
The knowledge and practice of the basics of management for common cancers		
The understanding of the ways of evaluating different cancer treatments		
KNOWLEDGE		
Cancer epidemiology and presentations		
Aetiology and epidemiology of malignant disease	3	4
Environmental and genetic factors in carcinogenesis	3	4
Evaluate risk factors for malignant disease	3	4
Terminology in epidemiology	3	4
Staging, prognosis and treatment planning		
Prognosis and natural history of malignant disease	3	4
Mechanisms and patterns in local, regional and distant spread	3	4
Differences in course between hereditary and sporadic cancers	3	4
Diseases predisposing to cancer e.g. inflammatory bowel disease	3	4
Prognostic/predictive factors	3	4
Genetics of hereditary malignant diseases	3	4
Cancer Biology		
Cancer biology: cell kinetics, proliferation, apoptosis, balance between normal cell death/proliferation; angiogenesis and lymphangiogenesis; genome maintenance mechanisms to prevent cancer; intercellular and intermolecular adhesion mechanisms and signalling pathways; potential effects of surgery and surgery-related events on cancer biology (e.g. angiogenesis)	3	4
Tumour immunology		
Tumour immunology: cellular and humoral components of the immune system; regulatory mechanisms of immune system; tumour antigeneity; immune mediated antitumour cytotoxicity; effects of cytokines on tumours; effects of tumours on antitumour immune mechanisms; potential adverse effects of surgery, surgery-related events (e.g. blood transfusion) on immunologic responses	3	4
Basic principles of cancer treatments and their evaluation		
Basic principles of cancer treatment: surgery; radiotherapy; chemotherapy; endocrine therapy; immunotherapy	3	4
Surgical pathology	4	4
Evaluation of response to treatment(s)	3	4
Adverse effects of treatment(s)	3	4
Interactions of other therapies with surgery	3	4

Ability to evaluate published clinical studies	3	4
Relevance of statistical methods; inclusion/exclusion criteria of study objectives; power of the study; intention to treat; number needed to treat; relative and absolute benefit; statistical versus clinical significance	3	4
CLINICAL SKILLS		
Cancer epidemiology and presentations		
Recognise symptoms and signs of cancer	4	4
Initiate appropriate diagnostic and staging investigations for common solid tumours	4	4
Staging, prognosis and treatment planning		
Perform prognostic assessment for patients with common solid tumours	3	4
Define the role of surgery for given common solid tumours	3	4
Participation in multi-disciplinary team discussion	3	4
Undertake adequate pre-operative work-up	4	4
Manage post-operative care	4	4
Decide on and perform adequate follow-up	3	4
Diagnose, score and treat side effects and complications of surgical treatment	3	4
Recognise common side effects of other treatment modalities	3	4
Basic principles of cancer treatments and their evaluation		
The conduct of clinical studies	3	4
Design and implement a prospective database (part of audit skills)	3	4
Elementary principles in biostatistics and commonly used statistical methods (parametric, versus non-parametric etc.)	3	4
Ethical and legal aspects of research	3	4
Present local audits; publication, presentation of case reports	3	4
TECHNICAL SKILLS		
Staging, prognosis and treatment planning		
Malignant skin lesion-excision biopsy	4	4
Lymph node biopsy-groin,axilla	4	4
Central venous line insertion	4	4
Laparotomy/laparoscopy	3	4

	PG3	PG4
ELECTIVE HERNIA		
OBJECTIVE		
Diagnosis + management, including operative management of primary and recurrent abdominal wall hernia		
KNOWLEDGE		
Anatomy of inguinal region including inguinal canal, femoral canal, abdominal wall and related structures e.g. adjacent retroperitoneum and soft tissues.	4	4
Relationship of structure to function of anatomical structures.	4	4
Natural history of abdominal wall hernia including presentation, course and possible complications	4	4
Treatment options		

Current methods of operative repair including open mesh, laparoscopic mesh and posterior wall plication, to include the underlying principles, operative steps, risks, benefits, complications and process of each	4	4
CLINICAL SKILLS		
Diagnose and assess a patient presenting with abdominal wall hernia, including inguinal, femoral, epigastric, umbilical, paraumbilical, rare hernias (such as obturator and Spigelian hernias) and incisional hernias	4	4
Supervise the postoperative course in hospital and on follow-up	3	4
TECHNICAL SKILLS		
Hernia repair-femoral	4	4
Hernia repair-incisional	3	4
Hernia repair-incisional recurrent	3	3
Hernia repair-inguinal	4	4
Hernia repair-inguinal recurrent	3	4
Hernia repair-umbilical/paraumbilical	4	4
Hernia repair-epigastric	4	4

	PG3	PG4
SURGICAL NUTRITION		
OBJECTIVES		
Recognise the need for artificial nutritional support, assess whether this is appropriate and manage treatment with enteral an parenteral nutrition, in partnership with nutritional support team or as a member		
Specialist nutrition - Recognise the need for artificial nutritional support, assess whether this is appropriate and manage treatment with enteral or parenteral nutrition as leader or member of the nutritional support team		
KNOWLEDGE		
Methods of nutritional screening and assessment	3	4
Physiology of the GI tract	4	4
Pathophysiology of the GI tract including short bowel syndrome, high output stoma, enterocutaneous fistulae, pancreatic insufficiency	3	4
Consequences of obesity and medical and surgical options for management, including complications	2	3
Causes and consequences of nutritional deficiency, including eating disorders	2	3
Body composition and metabolic requirements in health and disease	4	4
Indications for nutritional intervention	3	4
Indications + options for nutritional support : Enteral vs parenteral	3	4
Complications of enteral and parenteral nutrition and their management	3	4
Refeeding syndrome	3	4

Causes, diagnosis, and management of enterocutaneous fistulae	3	4
Appropriate composition and skills in a nutrition support team	3	4
Legal and ethical aspects of nutritional support	3	4
CLINICAL SKILLS		
Assessment of GI tract function, in particular of absorption	3	3
Assessment of nutritional status, including use of screening tools	3	3
Assessment of causes of weight loss, including malabsorption and psychological issues	2	3
Decision making about appropriate means of artificial nutritional support	3	3
Assessment of patient for enteral nutrition; choice of tube(NG; NJ; PEG PEJ; jejunostomy) and feed type/amount	2	3
Assessment of patient for parenteral nutrition; choice of intravenous catheter and feed type	2	3
Prescription of appropriate enteral or parenteral feed	2	3
Care of the patient on enteral and parenteral support, monitoring of outcome and management of complications	2	2
Assessment of obesity and appropriate referral	2	2
TECHNICAL SKILLS		
Insertion of nasogastric tube and confirmation of position	4	4
Insertion of nasojejunal tube, using bedside imager, radiological screening or endoscopy	2	3
PEG tube insertion / replacement, including jejunal extensions	2	2
Formation of feeding enterostomy (open / lap)	2	3
Vascular access for parenteral feeding, including peripheral access, PICC and tunnelled or cuffed central lines or implantable ports	2	2

	PG3	PG4
OUTPATIENT SKILLS		
OBJECTIVE		
Assess individual outpatients adequately, manage a single outpatient clinic.		
Individual patient assessment: Ability to assess individual outpatients.		
Organise a consultant led OP service		
KNOWLEDGE		
Individual patient assessment:		

Relevant anatomy, physiology and clinical knowledge for the system involved	4	4
Organisation of outpatient service:		
Understanding of the administrative system of the hospital	3	4
Relevant guidelines for disease management	3	4
CLINICAL SKILLS		
Individual patient assessment:		
Focused history taking and examination.	4	4
Organise appropriate investigations.	4	4
Management of an outpatient clinic:		
Ability to allocate patients to appropriate staff members	3	4
Ability to prioritise urgent patient investigations and operation	3	4
Organisation of outpatient service:Prioritisation of patient appointments	3	4
TECHNICAL SKILLS		
Individual patient assessment:		
Sigmoidoscopy-rigid.	4	4
Haemorrhoids-OP treatment(injection/banding or infrared coagulation)	4	4

	PG3	PG4
LAPAROSCOPIC SURGERY		
Objective		
To understand the principles of laparoscopic surgery including technical aspects and common complications		
Knowledge		
Physiology of pneumoperitoneum	4	4
Technology of video imaging, cameras and insufflator	4	4
Laparoscopic instruments, clips, staplers and port types	4	4
Use and dangers of diathermy	4	4
Management of equipment failure	3	4
Anaesthetic problems in laparoscopic surgery	3	4
Informed consent for laparoscopic procedures	4	4
Recognition and management of laparoscopic complications	3	4
Clinical Skills		
Pre and postoperative management of laparoscopic cases	3	4
Port complications	3	4
Technical Skills		
Closed and open techniques for port insertion	3	4
Diagnostic laparoscopy	3	4
Laparoscopic suturing and knotting	3	4
Control of laparoscopic bleeding	3	4

	PG3	PG4
SUPERFICIAL SEPSIS INCLUDING NECROTISING INFECTIONS		
OBJECTIVE		
Diagnosis and basic management of superficial sepsis, gas gangrene and other necrotising infections.		
KNOWLEDGE		
Infected sebaceous cyst / carbuncle		
Natural history	4	4
Bacteriology	4	4
Associated medical conditions	4	4
Superficial abscess		
Aetiology	4	4
Natural history	4	4
Bacteriology	4	4
Cellulitis		
Aetiology	4	4
Associated medical conditions	4	4
Immunocompromised patients	4	4
Bacteriology	4	4
Antibiotic therapy	4	4
Infected ingrowing toenail / paronychia		
Aetiology	4	4
Bacteriology	4	4
Atherosclerosis	4	4
Diabetes	4	4
Gas gangrene and other Necrotising Infections		
Natural history	4	4
Vulnerable individuals	4	4
Associated medical conditions Diabetes, atherosclerosis, Steroids and immunocompromised	4	4
Bacteriology and toxins	4	4
Mechanisms of septic shock	4	4
Appropriate antibiotic therapy	4	4
Necrotising fasciitis	4	4
CLINICAL SKILLS		
Infected sebaceous cyst / carbuncle		
History and examination	4	4
Medical management of diabetes periop	4	4
Superficial abscess History and Examination	4	4
Breast abscess - Arrange imaging modalities	4	4
Cellulitis		
History and examination	4	4
IV therapy	4	4
Infected ingrowing toenail / paronychia	4	4
Warning signs of necrotising fasciitis	4	4
TECHNICAL SKILLS		
Infected sebaceous cyst / carbuncle	4	4

Abscess drainage	4	4
Benign skin or subcutaneous lesion - excision biopsy	4	4

Aspiration of breast abscess	4	4
Infected ingrowing toenail / paronychia		
Nail avulsion / wedge resection / phenolisation	4	4
Radical excisional surgery		
Fournier's gangrene, necrotising fasciitis, gas gangrene, debridement, diabetic foot	3	4

	PG3	PG4
PERITONITIS / ACUTE ABDOMEN (combined)		
OBJECTIVE		
Recognition and management of peritonitis.		
KNOWLEDGE		
Anatomy of abdomen and pelvis	4	4
Aetiology	4	4
Differential diagnosis	4	4
Pathophysiology of shock	4	4
Pathophysiology of peritonitis and sepsis - generalised and intraperitoneal, septic shock	4	4
Patholophysiology of obstruction / strangulation	4	4
Conditions which do not require surgery	4	4
CLINICAL SKILLS		
History and examination	4	4
Recognition of severity of disease	4	4
Investigation	4	4
Resuscitation, antibiotics, invasive monitoring	4	4
Treat symptoms	4	4
Recognition of success or failure of non-operative treatment	3	4
Ability to perform emergency laparotomy	3	4
Indication for and timing of intervention	3	4
Recognition and management of complications	3	4
TECHNICAL SKILLS		
Central line insertion	4	4
Laparotomy / laparoscopy	3	4
Gastro / duodenal - perforated peptic ulcer closure	4	4
Hartmann's procedure	3	4
Cholecystectomy	3	4
Cholecystostomy	3	4

	PG3	PG4
ACUTE INTESTINAL OBSTRUCTION		
OBJECTIVE		
Recognise and manage most cases of intestinal obstruction		
KNOWLEDGE		
Abdominal anatomy	4	4
Aetiology of intestinal obstruction	4	4
Pathophysiology of shock / sepsis	4	4
Differential diagnosis	4	4
Treatment options	4	4
CLINICAL SKILLS		
History and examination	4	4
Resuscitation	4	4
Investigation	4	4
Nutritional support	3	4
Differentiate between mechanical obstruction and pseudo- obstruction	4	4
Ability to perform emergency laparotomy	3	4
TECHNICAL SKILLS		
Central line insertion	4	4
Laparotomy and division of adhesions	3	4
Small bowel resection	3	4
Colectomy-left	3	4
Colectomy-right	3	4
Colectomy-transverse	3	4
Colectomy-sigmoid	3	4
Colectomy-total+ileostomy	3	4
Colostomy-construction	3	4
Ileostomy-construction	3	4

	PG3	PG4
ACUTE APPENDICITIS		
OBJECTIVE		
Recognition and management of acute appendicitis		
KNOWLEDGE		
Anatomy of abdomen and pelvis	4	4
Natural history of appendicitis	4	4
Pathophysiology of appendicitis	4	4
Effects of overwhelming sepsis and management	4	4
CLINICAL SKILLS		
History and examination	4	4
Investigation	4	4
Resuscitation	4	4

Postoperative management	4	4
TECHNICAL SKILLS		
Appendicectomy - open / lap	4	4

STRANGULATED HERNIA	PG3	PG4
OBJECTIVES		
Recognise and treat most common strangulated hernias		
Strangulated inguinal hernia: Recognise and treat strangulated inguinal hernia.		
Strangulated femoral hernia: Recognise and treat strangulated femoral hernia		
Strangulated incisional hernia: Recognise and treat strangulated incisional hernia		
Strangulated internal hernia: Recognise and treat strangulated hernia.		
KNOWLEDGE		
Strangulated inguinal hernia		
Anatomy - Inguinal and femoral canal	4	4
Anatomy - Abdominal wall, retroperitoneum, soft tissues	4	4
Pathophysiology	4	4
Postoperative complications	4	4
Strangulated femoral hernia		
Anatomy - Inguinal and femoral canal	4	4
Anatomy - Abdominal wall, retroperitoneum, soft tissues	4	4
Pathophysiology	4	4
Postoperative complications	4	4
Strangulated incisional hernia		
Anatomy of abdominal wall	4	4
Pathophysiology	4	4
Postoperative complications	4	4
Strangulated internal hernia		
Anatomy	4	4
Pathophysiology	4	4
Postoperative complications	4	4
CLINICAL SKILLS		
History and examination	4	4
Resuscitation	4	4
Investigation of possible strangulated hernia		
Inguinal	4	4
Femoral	4	4
Incisional	4	4
Internal	4	4
Operative strategy		

Strangulated inguinal hernia	3	4
Strangulated femoral hernia	3	4
Strangulated incisional hernia	3	4
Strangulated internal hernia	3	4
Postoperative complications	3	4
TECHNICAL SKILLS		
Small bowel resection	3	4
Repair - inguinal hernia	4	4
Repair - femoral hernia	3	4
Repair - incisional hernia	3	4
Repair internal hernia	3	4

	PG3	PG4
ACUTE GYNAECOLOGICAL DISEASE		
OBJECTIVE		
To recognise, manage and appropriately refer acute gynaecological disease.		
KNOWLEDGE		
Pelvic inflammatory disease/Endometriosis/salpingitis		
Anatomy of pelvis	4	4
Physiology of pelvic organs	4	4
Infective intra-abdominal conditions	3	4
Appropriate management - antibiotics - referal pathway	4	4
Obstruction secondary to ovarian carcinoma		
Anatomy of pelvis	4	4
Physiology of pelvic organs	4	4
Investigation of obstructed colon	3	4
Management of ovarian carcinoma	2	2
Intra-abdominal haemorrhage from ruptured ovarian cyst / ectopic pregnancy		
Anatomy of pelvis	4	4
Physiology of pelvic organs	4	4
Management of diagnosed condition	3	3
Iatrogenic injury		
Anatomy of pelvis	4	4
Physiology of pelvic organs	4	4
CLINICAL SKILLS		
Pelvic inflammatory disease/endometriosis/salpingitis		
History and examination	4	4
Organise pelvic ultrasound / pregnancy test	4	4
CT scan / tumour markers	4	4
Ability to perform diagnostic laparoscopy / laparotomy	3	4
Obstruction secondary to ovarian carcinoma		
History and examination	4	4
Nonoperative management	2	4
Perform emergency laparotomy	2	4
Intra-abdominal haemorrhage of gynaecological origin		
History and examination	4	4

Organise pelvic ultrasound and pregnancy test	4	4
Ability to perform diagnostic laparotomy / laparoscopy	3	4
Iatrogenic injury		
Recognition of nature and extent of injury	3	4
Ability to perform emergency laparotomy	3	4
TECHNICAL SKILLS		
Laparotomy / laparoscopy	3	4
Hartmann's procedure	3	4
Sigmoid colectomy	3	4

	PG3	PG4
GASTROINTESTINAL BLEEDING (see also acute gastric bleeding)		
OBJECTIVE		
Assessment of all cases of gastrointestinal bleeding, management and referral to subspecialists as needed.		
Blood loss and Hypotension: Understanding and management of blood loss.		
Recognition of cause: Assessment of likely cause of GI bleeding		
Treatment: Assessment and management of all cases of gastrointestinal bleeding with referral to subspecialist if needed.		
Postoperative care: Post-op care of patients who have had surgery for GI bleeding.		
Complications: Manage complications after GI bleeding		
KNOWLEDGE		
Blood loss and hypotension		
Physiology of hypovolaemia	4	4
Coagulopathy	4	4
Recognition of all causes of GI bleeding	4	4
Treatment		
Treatment options	3	4
Indications for operation	3	4
Role of endoscopic procedures and therapeutic radiology	3	4
Postoperative care - fluid balance	4	4
Complications	3	4
CLINICAL SKILLS		
Blood loss and hypotension		
Resuscitation of hypotensive patient	4	4
HDU care	3	4
Cause of bleeding		

Clinical assessment	4	4
Organise appropriate endoscopy or other investigation	4	4

Treatment - appropriate surgery	3	4
Postoperative care		
Analgesia	4	4
Nutrition	3	4
Recognition of complications	3	4
Complications	4	4
Rebleeding and postoperative problems - early recognition	4	4
Treatment of complications	3	4
TECHNICAL SKILLS		
Diagnostic gastroscopy	1	1
Flexible sigmoidoscopy	1	1

	PG3	PG4
COMPLICATIONS OF ABDOMINAL SURGERY		
OBJECTIVE		
Recognition and management of septic complications of GI surgery		
Recognition and management of obstructive complications of GI surgery		
Recognition and management of bleeding complications of GI surgery		
KNOWLEDGE		
Risk factors for major complications and the differential risk of further interventions	3	4
Septic complications of GI anastomosis	3	4
Abdominal abscesses after GI surgery	3	4
Bowel obstruction after GI surgery	3	4
Physiological and haematological consequences of post op bleeding	3	4
Biliary leakage after cholecystectomy	3	4
Intestinal fistula	3	4
Surgeons role in multiple organ failure	3	4
CLINICAL SKILLS		
Logical and prioritised approach to complications	4	4
Assessment of the post operative GI surgical patient with emergency complications	3	4
Assessment of the patient with multiple organ failure from a surgical perspective	3	4
Interpretation of Investigations	3	4
Management decisions for early and late complications of GI surgery presenting as emergencies	3	4
Involve specialists and colleagues appropriately, including referral for embolisation	3	4

TECHNICAL SKILLS		
Re-laparotomy	2	3
Damage control laparotomy for sepsis / MOF	2	3
Laparotomy for identification and control of post op bleeding, including packing	3	4
Surgery for anastomotic leak (take down, defunction, drain)	3	4
Laparostomy / open abdomen	2	3
Surgical tube gastrostomy (Stamm etc)	3	4

	PG3	PG4
ABDOMINAL PAIN IN CHILDHOOD		
OBJECTIVES		
The ability to assess and manage a child with abdominal pain including appendicectomy.		
KNOWLEDGE		
Pattern of symptoms and relation to likely pathology and age of child	3	4
Differential diagnosis	3	4
Place and value of investigations	3	4
Place of operative intervention, and associated outcomes	3	4
CLINICAL SKILLS		
Ability to assess ill child	3	4
Ability to form a viable investigation and treatment plan	3	4
TECHNICAL SKILLS		
Appendicectomy	3	4
Laparotomy/laparoscopy	3	4

	ST 6	ST 8
INTUSSUSCEPTION		
Objective		
The ability to assess and manage a child with intussusception including referral for radiological or surgical reduction		
Knowledge		
Pattern of symptoms and relation to likely pathology and age of child	3	4
Role of radiology both for diagnosis and interventional management	3	4
Differential diagnosis	3	4
Clinical Skills		

Ability to assess child and recognise severity of illness	3	4
Ability to take appropriate resuscitative measures and form a viable investigation and treatment plan	3	4
Treatment Plan		
Ability to communicate with all relevant groups, including referral for specialist treatment	3	4
Reduction of intussusception	1	1

	PG3	PG4
ACUTE GROIN CONDITION		
Objective		
The ability to assess and manage a child with incarcerated inguinal hernia		
The ability to assess and manage a child with an acute scrotal condition		
Knowledge		
Inguinal Hernia		
Developmental anatomy	3	4
Natural history	3	4
Indications for and outcomes of surgery	3	4
Acute scrotum		
Natural history	3	4
Place of conservative management	3	4
Indications for and outcomes of surgery	3	4
CLINICAL SKILLS		
Inguinal Hernia		
Ability to assess child and reach appropriate diagnosis	3	4
Ability to form a treatment plan and refer on when necessary	3	4
Acute scrotum		
Ability to access child and reach appropriate diagnosis	3	4
Ability to form a treatment plan and refer on when necessary	3	4
TECHNICAL SKILLS		
Inguinal hernia		
Inguinal hernia (not neonatal) operation	2	2
Acute scrotum		
Operation for testicular torsion	3	4

ACUTE DYSPHAGIA	PG3	PG4
OBJECTIVES		
Assessment and initial management of patients presenting with acute dysphagia		

KNOWLEDGE		
Applied Anatomy		
Oesophagus and levels of constriction	4	4
Aetiology		
Carcinoma, peptic stricture, achalasia	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation - Endoscopy; CT	4	4
Initial symptomatic management	4	4
Referral to specialist unit for definitive management	3	4
TECHNICAL SKILLS		
Endoscopy	1	1
Endoscopic palliation incl stenting	1	1

	PG3	PG4
OESOPHAGEAL VARICES		
OBJECTIVES		
Assessment, initial and emergency management of patients presenting with oesophageal varices		
KNOWLEDGE		
Anatomy	4	4
Pathophysiology		
Aetiology of portal hypertension	4	4
Clinical presentation	4	4
Diagnosis	4	4
Treatment options		
Endoscopic - injection, banding; Sengstaken tube	4	4
Medical treatment	3	4
Porto-systemic shunt - TIPSS	3	4
Indications for surgery	4	4
Complications		
Child's classification of liver disease	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation - Endoscopic assessment	3	4
Resuscitation	4	4
Decision making	3	4
Non-operative treatment - sclerotherapy / banding	3	4
Referral to specialist unit for definitive management	3	4
Operative options		

Porto-caval shunt; Oesophageal transection	3	3
Postoperative management	3	4
TECHNICAL SKILLS		
Endoscopy	1	1
Variceal injection	1	1
Balloon tamponade	2	3

	PG3	PG4
BOERHAAVE'S		
OBJECTIVES		
Assessment and initial management of patients presenting with Boerhaave's		
KNOWLEDGE		
Anatomy	4	4
Pathophysiology - aetiology	4	4
Clinical presentation	4	4
Investigations - contrast radiology	4	4
Complications - empyema	4	4
CLINICAL SKILLS		
History and Examination	3	4
Investigation	3	4
Decision making	3	4
Non-operative treatment	3	4
Referral to specialist unit for definitive management	3	4
Interventional options - primary repair, nutritional support	3	3
Postoperative management	3	4
TECHNICAL SKILLS		
Endoscopy	1	1
Thoracotomy + non-resectional management	2	2
Oesophagectomy	2	2

	PG3	PG4
IATROGENIC OESOPHAGEAL PERFORATION		
OBJECTIVES		
Assessment and initial management of patients presenting with iatrogenic oesophageal perforation		
KNOWLEDGE		

Anatomy - Oesophagus and mediastinal relationships	4	4
Clinical presentation - Post-instrumentation	4	4
Investigation - Contrast radiology	4	4
Pathophysiology - Mediastinitis	4	4
Complications - Mediastinitis	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation	3	4
Decision making	3	4
Non-operative treatment - Pleural drainage; antibiotics; nutritional support	3	4
Interventional options	3	4
Referral to specialist unit for definitive management	3	4
Postoperative management	3	4
TECHNICAL SKILLS		
Endoscopy	1	1
Endoscopic interventions incl stent	1	1
Thoracotomy + lavage	2	2
Oesophagectomy	2	2

ACUTE GASTRIC DILATION		
OBJECTIVES		
Assessment, initial and emergency management of patients presenting with acute gastric dilatation		
KNOWLEDGE		
Applied Anatomy	4	4
Pathophysiology		
Spontaneous; postsplenectomy	4	4
Clinical presentation	4	4
Complications	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation - contrast radiology, CT	4	4
Resuscitation	4	4
Decision making	4	4
Non-operative treatment NG aspiration	4	4
Referral to specialist unit for definitive management	3	4
Operative options	4	4
Postoperative management	4	4
TECHNICAL SKILLS		

NG tube insertion	4	4
Endoscopy	1	1
Gastrectomy	2	2

	PG3	PG4
ACUTE GASTRIC HAEMORRHAGE		
OBJECTIVES		
Assessment, initial and emergency management of patients presenting with upper GI haemorrhage		
KNOWLEDGE		
Anatomy	4	4
Pathophysiology	4	4
Differential diagnosis - Benign ulcer; cancer; vascular malformation; GIST	4	4
Complications - hypovolaemic shock	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation - endoscopy	3	4
Resuscitation - management of hypovolaemic shock	4	4
Decision making - indications for intervention	4	4
Referral to specialist unit for definitive management	3	4
Non-operative treatment - sclerotherapy	4	4
Operative options	4	4
Postoperative management - rebleeding	4	4
TECHNICAL SKILLS		
Endoscopy	1	1
Endoscopic therapy	1	1
Gastrotomy + non-resectional treatment - histology	3	4
Partial gastrectomy	2	2
Total gastrectomy	2	2

	PG3	PG4
ACUTE PERFORATION		
OBJECTIVES		
Diagnosis and management of perforated peptic ulcer.		
Diagnosis and preop management: Diagnosis of perforated peptic ulcer and assess for operation		
Operative management:Operation for perforated peptic ulcer.		
Postoperative management: postoperative management of patients who have had surgery for perf peptic ulcer		
KNOWLEDGE		
Anatomy	4	4
Pathophysiology	4	4

Differential diagnosis - perf DU, GU, Ca	4	4
Complications - subphrenic abscess	4	4
CLINICAL SKILLS		
History and Examination - peritonitis	4	4
Investigation	4	4
Resuscitation	4	4
Decision making - comorbidity	4	4
Operative options - closure, local excision, resection	4	4
Postoperative management	4	4
TECHNICAL SKILLS		
Laparoscopy	4	4
Local treatment, ulcer closure or excision	4	4
Partial gastrectomy	2	2
Total gastrectomy	2	2

	PG3	PG4
ACUTE GASTRIC VOLVULUS		
OBJECTIVES		
Assessment and initial management of patients presenting with acute gastric volvulus		
KNOWLEDGE		
Applied Anatomy - para-oespohageal hernia	4	4
Pathophysiology	4	4
Clinical presentation	4	4
Investigation - contrast radiology, CT	4	4
Complications - gastric necrosis	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation	4	4
Resuscitation - fluid	4	4
Decision making - indications for surgery	4	4
Referral to specialist unit for definitive management	3	4
Operative options - endoscopic, urgent or delayed surgery	4	4
Postoperative management	4	4
TECHNICAL SKILLS		
Endoscopy	1	1
Gastropexy	1	1
Hiatus hernia repair	2	2
Total Gastrectomy	2	2

	ST6	ST8
GALLSTONE DISEASE		
OBJECTIVES		
Diagnosis and management of acute gallstone disease, including operation.		
Acute gall stone disease including acute cholecystitis, empyema, acute biliary colic and cholangitis		
KNOWLEDGE		

Anatomy	4	4
Pathophysiology	4	4
Microbiology	4	4
Complications		
Acute cholecystitis	4	4
Empyema	4	4
Mucocoele	4	4
Acute pancreatitis	4	4
Chronic cholecystitis	4	4
Biliary colic	4	4
Common bile duct stone	4	4
Obstructive jaundice, all causes including gall stones, tumour and inflammatory conditions	3	4
Cholangitis	3	4
Gall stone ileus	4	4
Gall bladder cancer	3	4
Postoperative problems		
Bile duct injury	4	4
CLINICAL SKILLS		
History and Examination - elective, acute, emergency	4	4
Investigation - U/S, ERCP, MRCP, CT	4	4
Resuscitation	4	4
Decision making	3	4
Non-operative treatment - ERCP, U/S cholecystotomy	3	4
Operative options - lap chole	3	4
Postoperative management	4	4
TECHNICAL SKILLS		
Cholecystectomy - lap / open	3	4
Cholecystostomy	3	4
Exploration CBD	2	2
Hepaticodocho-jejunostomy	2	2

	PG3	PG4
ACUTE PANCREATITIS		
OBJECTIVES		
Diagnosis and management of most patients with acute pancreatitis		
KNOWLEDGE		
Applied Anatomy	4	4
Pathophysiology - scoring systems	4	4
Microbiology	4	4

Clinical presentation	4	4
Investigations - CT, ERCP	4	4
Complications	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation	4	4
Resuscitation	4	4
Decision making	4	4
Non-operative treatment incl nutrition, use of antibiotics	4	4
Interventional options - ERCP, radiological drainage	3	4
Postoperative management		
Abscess; Pseudocyst; Haemorrhage	4	4
TECHNICAL SKILLS		
Cholecystectomy	3	4
Exploration CBD	2	2
ERCP	1	1
Necrosectomy	2	2
Pseudocyst drainage	2	2

	PG4	PG3
CHRONIC PANCREATITIS		
OBJECTIVES		
Assessment and management of patients with chronic pancreatitis		
KNOWLEDGE		
Applied Anatomy	4	4
Pathophysiology	4	4
Clinical presentation	4	4
Investigation	4	4
Complications	4	4
Postoperative problems	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation	4	4
Resuscitation	4	4
Decision making	3	4
Non-operative treatment incl ERCP	3	4
Operative options	3	4
Postoperative management	4	4
TECHNICAL SKILLS		

ERCP	1	1
Pancreaticojejunostomy	2	2
Pancreaticoduodenectomy	2	2
Distal pancreatectomy	2	2
Hepaticodocho-jejunostomy	2	2
Pseudocyst drainage	2	2

	PG3	PG4
PERI-ANAL SEPSIS		
OBJECTIVE		
Recognise and manage acute peri-anal sepsis		
CLINICAL SKILLS		
Differentiate cryptoglandular abscess and fistula from other causes	3	4
Assessment of abscess/fistula by techniques designed to elucidate pathological anatomy: Goodsall's rule and digital examination, fistulogram, injections, MRI, endoanal ultrasound	3	4
TECHNICAL SKILLS		
Management of anorectal abscess including preoperative and postoperative care and the appropriate procedure based on anatomical spaces	4	4

	PG3	PG4
PILONIDAL DISEASE		
OBJECTIVE		
Emergency management of pilonidal abscess		
KNOWLEDGE		
Pathophysiology of pilonidal disease	4	4
CLINICAL SKILLS		
Assess the symptoms and signs of pilonidal disease: abscess, sinus	4	4
TECHNICAL SKILLS		
Drainage of pilonidal abscess	4	4

	PG3	PG4
ACUTE PAINFUL PERI-ANAL CONDITIONS		
OBJECTIVE		
Diagnose and initially manage anal fissure, thrombosed haemorrhoids and perianal haematoma		
KNOWLEDGE		
Aetiology of anal fissure, haemorrhoids and perianal haematoma	4	4
Anatomical location of a classic anal fissure, thrombosed haemorrhoids and perianal haematoma	4	4
CLINICAL SKILLS		
Assessment of the symptoms and signs	4	4
Initial conservative management of anal fissure and thrombosed haemorrhoids and planning of surgical treatment for perianal haematoma	4	4
TECHNICAL SKILLS		
EUA, rigid sigmoidoscopy, drain perianal haematoma	4	4

	PG3	PG4
ACUTE COLONIC DIVERTICULITIS		
OBJECTIVES		
Ability to assess and manage acute presentations of diverticular disease		
KNOWLEDGE		
Aetiology of colonic diverticular disease	4	4
Incidence and epidemiology of colonic diverticular disease	4	4
Complications and classification of diverticular disease including : bleeding, perforation, abscess, fistula, stricture	4	4
Hinchey classification of complicated diverticular disease	4	4
CLINICAL SKILLS		
Recognise the clinical patterns (including right sided diverticular disease) presenting symptoms, physical findings and natural history of colonic diverticular disease	4	4
Arrange appropriate diagnostic studies in suitable sequence in the evaluation of acute colonic diverticular disease	4	4
Medical and dietary management of colonic diverticular disease	4	4
Medical management for acute diverticulitis	4	4
Preoperative assessment including the indications for surgery, surgical procedures, and complications for acute diverticulitis	4	4
Choose appropriate surgical procedures including CT guided drainage for the management of acute diverticulitis	3	4
Recognise the indications for appropriate resection for diverticular disease including consideration of the extent of resection, use of ureteric stents, and indications for diversion	4	4
Appropriate surgical procedures for dealing with complications (fistula,stricture,recurrent episodes) of acute diverticulitis	4	4
TECHNICAL SKILLS		
Perform laparoscopy and washout with drainage for appropriate patients	3	4

Colectomy-left	3	4
Colectomy-sigmoid	3	4
Colostomy-construction	3	4
Hartmann's procedure	3	4

	PG3	PG4
VOLVULUS		
OBJECTIVE		
Diagnosis and initial treatment of colonic volvulus		
KNOWLEDGE		
Aetiology of volvulus of the colon	4	4
Incidence and epidemiology of volvulus of the colon	4	4
Complications of colonic volvulus including obstruction, ischaemia, perforation	4	4
CLINICAL SKILLS		
Recognise the clinical patterns, presenting symptoms, physical findings, and natural history of colonic volvulus based upon its site	4	4
Arrange diagnostic studies in appropriate sequence	4	4
Appropriate operative procedures for volvulus depending on site	4	4
TECHNICAL SKILLS		
Sigmoidoscopy-rigid	4	4
Sigmoidoscopy-flexible	1	1
Colonoscopy-diagnostic	1	1
Colonoscopy-therapeutic - insertion of PEC button	1	1

ACUTE COLITIS		
OBJECTIVES		
Diagnosis and management of acute colitis including ischaemic, inflammatory and infective		
KNOWLEDGE		
Vascular anatomy of the colon	4	4
The aetiology and pathology of acute colonic ischaemia, inflammatory bowel disease and infective colitis	4	4
CLINICAL SKILLS		
Recognise the clinical presentation of all types of acute colitis	4	4
Recognise the natural history, diagnosis, and be able to initially manage all types of colitis	4	4
Recognise and manage ischaemic colitis after abdominal aortic aneurysm repair	3	3
TECHNICAL SKILLS		
Colectomy-right	3	4
Colectomy-transverse	3	4
Colectomy-left	3	4

Colectomy-sigmoid	3	4
Colectomy-total+ileostomy	3	4
Colectomy-total+ileorectal anastomosis	2	2
Crohn's-ileocaecectomy	2	3

	PG3	PG4
EMERGENCY ANEURYSM DISEASE		
OBJECTIVES		
Assessment and management of emergency aneurysm disease		
KNOWLEDGE		
risk factors for rupture	4	4
presentation	4	4
differential diagnosis	4	4
treatment options: open, endovascular	4	4
complications of repair	3	3
emergency presentations of other aneurysms: popliteal, false, dissection	3	3
CLINICAL SKILLS		
history	4	4
examination	4	4
resuscitation	4	4
assessment of comorbidity	4	4
investigation: CT	3	3
selection for intervention	3	3
recognition of complications	4	4
management of complications	2	2
TECHNICAL SKILLS		
endovascular AAA repair	2	2
open AAA repair	2	2

	PG3	PG4
MESENTERIC VASCULAR DISEASE		
OBJECTIVES		
Assessment and management of patients with acute and chronic mesenteric ischaemia		
KNOWLEDGE		

anatomy of mesenteric arterial and venous system	4	4
pathophysiology of mesenteric ischaemia	4	4
presentation of mesenteric vascular disease		
acute	3	4
chronic	3	4
venous	3	4
investigation:		
duplex, MR, CT, catheter angiography	4	4
treatment options:		
endovascular	3	3
operative	3	3
complications of treatment	3	3
CLINICAL SKILLS		
history	4	4
examination	4	4
resuscitation	4	4
patient selection for intervention	2	2
TECHNICAL SKILLS		
endovascular intervention	1	1
mesenteric bypass	1	1

	PG3	PG4
ACUTE LIMB ISCHAEMIA		
OBJECTIVE		
Ability to recognise acute and chronic limb ischaemia and understand emergency management		
KNOWLEDGE		
Anatomy of arterial system	4	4
Pathophysiology		
embolism	4	4
thrombosis	4	4
trauma	4	4
iatrogenic	4	4
Investigations		
doppler	3	3
duplex	3	3
angiography	3	3
CT	2	2
Management		
Resuscitation	4	4
Principles and indications for conservative treatment	4	4
Principles and indications for embolectomy	4	4
Principles and indications for angioplasty / stenting	4	4
Principles and indications for bypass	4	4
Principles and indications for thrombolysis	3	3
Principles and indications for primary amputation	4	4
CLINICAL SKILLS		

History	4	4
Examination	4	4
Recognition of acute, acute on chronic and chronic limb ischaemia	4	4
Ability to assess the degree of limb ischaemia	4	4
Investigations		
doppler	3	3
duplex	3	3
angiography	3	3
CT	2	2
echocardiogram, 24 hour ECG	2	2
TECHNICAL SKILLS		
Exposure and control of femoral artery bifurcation	2	2
Exposure and control of brachial artery bifurcation	2	2
Embolectomy	2	2
Emergency arterial reconstruction	1	1
Fasciotomy	2	2

	PG3	PG4
TRAUMA PRINCIPLES		
OBJECTIVE		
Identify and manage the majority of abdominal injuries		
KNOWLEDGE		
Anatomy of abdomen	4	4
Aetiology and Epidemiology	4	4
Pathophysiology of shock	4	4
Reognition of the possibility of non-accidental injury	4	4
Differences in children and the elderly	4	4
Principles of management of severely injured patients	4	4
Importance of mechanism of injury - gun shot, stabbing, seat belt	4	4
Indications for uncross matched blood	4	4
Coagulopathy	4	4
Pathophysiology of peritonitis and sepsis	4	4
Trauma Scoring Systems	4	4
CLINICAL SKILLS		
Triage	2	3
History and examination	4	4
Resuscitation	4	4
Investigations	4	4

Appropriate use of radiographs, CT and ultrasound	4	4
Indications for intervention	3	4
Recognition of injuries requiring other specialties	3	4
Management of hollow organ injury	3	4
Understand indications for Damage Control vs Definitive Surgery	3	4

	PG3	PG4
ABDOMEN AND THORAX		
OBJECTIVES		
Assessment and management of blunt and penetrating injury.		
Closed thoracic injury: Assessment and emergency management of blunt injury of the thorax		
Penetrating thoracic injury: Assessment and emergency management of penetrating injury of the thorax.		
Closed and penetrating abdominal injury: Assessment and management of blunt and penetrating abdominal injury.		
KNOWLEDGE		
Closed and penetrating thoracic injury		
Anatomy	4	4
Concept of low energy, high energy transfer injury	3	4
Pathogenesis of shock	4	4
Closed and penetrating abdominal injury		
Anatomy	4	4
Concept of energy, low high energy transfer injury	3	4
Pathogenesis of shock	4	4
CLINICAL SKILLS		
Indications for and interpretation of CT	3	4
Indications for radiological intervention for haemorrhage control	3	4
Closed thoracic injury		
Assessment and initial management of multiply injured patient	4	4
Recognise need for operative intervention and organise	3	4
Understand indications for ER thoracotomy	3	4
Postoperative management and recognition of complications	3	4
Penetrating thoracic injury		
Assessment and initial management of multiply injured patient	4	4
Recognise need for operative intervention and organise	3	4
Recognise and treat sucking chest wound	4	4
Understand indications for ER thoracotomy	3	4
Postoperative management and recognition of complications	3	4
Closed and penetrating abdominal injury		
Assessment and initial management of multiply injured patient	4	4
Recognise need for laparotomy and organise	3	4
Arrest haemorrhage by suture/ligation/packing	3	4
Indication for pelvic fixator	2	3
Drains for biliary / pancreatic injury	2	4
Management of retroperitoneal haematoma	2	4

Postoperative management and recognition of complications	3	4
TECHNICAL SKILLS		
Closed and Penetrating thoracic injury		
Chest drain insertion	4	4
Lateral thoracotomy	2	2
Median sternotomy	2	2
Clamshell thoracotomy	2	2
Hilar control of massive pulmonary haemorrhage	1	2
Non-segmental lung resection	1	2
Pulmonary tractotomy using staplers	1	2
Pericardotomy	2	2
Control and suture of myocardial laceration	2	2
Closed and penetrating abdominal injury		
Laparotomy - trauma	3	4
Packing / debridement of liver trauma	3	4
Splenectomy	3	4
Splenic repair	2	3
Small bowel resection	3	4
Distal pancreatectomy	2	2
Pancreatic debridement and drainage	2	3
Mobilisation and repair of the duodenum	2	3
Medial rotation of left hemicolon and colectomy when appropriate	3	4
Medial rotation of right hemicolon and colectomy when appropriate	3	4
Hartmann's Procedure	3	4
Nephrectomy	1	1
Bladder repair	1	2
Ileostomy - construction	3	4
Colostomy - construction	3	4
Temporary abdominal closure Bogota Bag or Topical Negative Pressure Dressing	3	4

	PG3	PG4
HEAD AND NECK		
OBJECTIVE		
Identification, assessment and initial management of trauma to the Head and Neck		
KNOWLEDGE		
Anatomy of the Head and Neck	4	4
CLINICAL SKILLS		
Immobilisation of patients with suspected cervical spine injury	4	4
Observation of patients with head injury	4	4
Interpretation of plain rediographs and CT scans of cervical spine	3	4

Interpretation of CT brain/skull	3	4
Decision to refer to Neurosurgeon	4	4
TECHNICAL SKILLS		
Exposure, control and repair of vascular, airway or GI tract structures in the neck	2	4
Crycothyroidotomy	4	4
Formal tracheostomy	2	4
Burr holes	1	4
Craniotomy/Craniectomy	1	4
Evacuation of Extradural/Subdural haematoma	1	4
Debridement of injured brain	1	4
Lateral canthotomy for orbital decompression	1	4

	ST 6	ST 8
EXTREMITY AND SOFT TISSUE (includes Blunt and Penetrating Injuries from 2010)		
OBJECTIVE		
Assessment and management of blunt and penetrating injury of the soft tissues and skeleton.		
KNOWLEDGE		
Anatomy of the limbs	4	4
Blunt and penetrating soft tissue and skeletal injury		
Anatomy	4	4
Concept of low energy, high energy transfer injury	3	4
Pathogenesis of shock	3	4
Principles of soft tissue coverage and simple flaps	3	4
Principles of Topical Negative Pressure Dressings	4	4
Understanding of wound contamination/infection	4	4
CLINICAL SKILLS		
Blunt and penetrating soft tissue and skeletal injury		
Assessment and initial management of multiply injured patient	4	4
Arrest haemorrhage by pressure and tourniquet	4	4
Appropriate immobilisation during assessment	4	4
Recognition of major vascular trauma	3	4
Assessment of ischaemic limb	3	4
Recognition and treatment of acute compartment syndrome	3	4
Postoperative management and recognition of complications	3	4
TECHNICAL SKILLS		
Proximal arterial control		
Femoral	1	2
Brachial	1	2
Subclavian	1	2
Soft Tissue Management		
Wound debridement and lavage	3	4
Fasciotomy -Lower leg	2	3
Fasciotomy -Thigh	2	3

Fasciotomy -Upper limb	2	3
Application of dressings	3	4
Application of Topical Negative Pressure Dressings	2	3

	PG3	PG4
VASCULAR TRAUMA		
OBJECTIVE		
Identification, assessment and management of injuries to blood vessels		
KNOWLEDGE		
Surgical anatomy		
Relationship of vascular structures to fractures, nerves, associated structures	3	4
Mechanisms of vascular injury		
Traumatic	3	4
Iatrogenic	3	4
Pathophysiology of trauma and muscle ischaemia	3	4
Pathophysiology of A-V fistula	3	4
Investigations		
Indications	3	4
Invasive	3	4
Non-invasive	3	4
Operative approach to specific injuries		
Arterial or venous	3	4
Open surgery	3	4
Endovascular	2	4
Combined arterial and venous	3	4
Orthopaedic / neurological	3	4
Technical options for repair	3	4
Fasciotomy	3	4
CLINICAL SKILLS		
Symptoms and signs of acute arterial / venous injury	3	4
Investigation		
Ankle / brachial pressure index	3	4
Duplex	3	4
CT angiogram	3	4
DSA	3	4
Manage multiply injured patient	4	4
Manage systemic effects of arterial trauma - rhabdomyolysis	3	4
TECHNICAL SKILLS		
Vascular control	4	4
Surgical options		

Exposure and control of major vessels		
thoracic aorta	2	4

	PG2	PG3
GASTRO-OESOPHAGEAL REFLUX DISEASE		
OBJECTIVES		
Assessment and management of patients presenting with GORD		
KNOWLEDGE		
Anatomy		
Lower third of oesophagus; oesophageal sphincter	4	4
Pathophysiology		
Acid or bile reflux; pH abnormalities; motility disorder	4	4
Pathology		
Classification of oesophagitis	4	4
Complications		
Barrett's metaplasia; stricture	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation		
Endoscopy, pH studies, Manometry	4	4
Decision making		
Indications for surgery	3	4
Non operative options		
Medical management; postural changes	4	4
Operative options		
Indications for surgery; antireflux surgery - open or laparoscopic	3	4
Postoperative management	4	4
TECHNICAL SKILLS		
Endoscopy	3	4
Antireflux surgery	2	4
Revisional antireflux surgery	2	3

	PG3	PG4
HIATUS HERNIA		
OBJECTIVES		
Assessment of patients presenting with hiatus hernia		

KNOWLEDGE		
Applied Anatomy - Sliding; para-oesophageal	4	4
Pathophysiology	4	4
Pathology	4	4
Complications - incarceration	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation - contrast radiology, manometry	4	4
Decision making - indications for operation	3	4
Non operative options		
Medical management: weight loss, posture	4	4
Postoperative management	4	4
TECHNICAL SKILLS		
Endoscopy	3	4
Open repair	2	3
Laparoscopic repair	2	3
Revisional antireflux surgery	2	3

	ST6	ST8
PEPTIC STRICTURE		
OBJECTIVES		
Assessment and management of patients presenting with peptic stricture		
KNOWLEDGE		
Anatomy	4	4
Pathophysiology - Physiology of reflux - pH; motility	4	4
Pathology - Differential diagnosis	4	4
Complications - perforation	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation		
Endoscopy; contrast radiology; pH studies; manometry	4	4
Decision making - Indications for dilatation	3	4
Postoperative management - Diagnosis and management of perforation	4	4
TECHNICAL SKILLS		
Endoscopy	3	4
Oesophageal dilatation	2	3

	PG3	PG4
ACHALASIA		
OBJECTIVES		
Assessment and management of patients presenting with achalasia		
KNOWLEDGE		

Anatomy	4	4
Pathophysiology	4	4
Pathology	4	4
Complications	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation	4	4
Decision making	3	4
Non operative options	4	4
Postoperative management	4	4
TECHNICAL SKILLS		
Endoscopy	3	4
Endoscopic dilation	2	4
Endoscopic botox injection	2	4
Laparoscopic cardiomyotomy	2	3

	ST6	ST8
MOTILITY DISORDERS		
OBJECTIVES		
Assessment and management of patients presenting with oesophageal mpotility disorders		
KNOWLEDGE		
Anatomy	4	4
Pathophysiology	4	4
Pathology	4	4
Complications	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation	4	4
Decision making	3	4
Non operative options	3	4
Postoperative management	4	4
TECHNICAL SKILLS		
Endoscopy	3	4

	PG3	PG4
IATROGENIC OESOPHAGEAL PERFORATION		
OBJECTIVES		
Ability to manage oesophageal emergencies.		
Diagnosis: Diagnosis of oesophageal emergencies.		
Management: Ability to manage rupture of the oesophagus		

Operation: Operative treatment of rupture of the oesophagus		
Post-operative care: Postoperative care of all patients with oesophageal emergencies.		
KNOWLEDGE		
Anatomy - Oesophagus and mediastinal relationships	4	4
Clinical presentation - Post-instrumentation	4	4
Investigation - Contrast radiology	4	4
Pathophysiology - Mediastinitis	4	4
Complications - Mediastinitis	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation	3	4
Decision making	3	4
Non-operative treatment - Pleural drainage; antibiotics; nutritional support	3	4
Interventional options	3	4
Postoperative management	3	4
TECHNICAL SKILLS		
Endoscopy	3	4
Endoscopic interventions incl stent	2	3
Thoracotomy + lavage	2	4
Oesophagectomy	2	3

	PG3	PG4
BOERHAAVE'S		
OBJECTIVES		
Ability to manage oesophageal emergencies.		
Diagnosis: Diagnosis of oesophageal emergencies.		
Management: Ability to manage rupture of the oesophagus		
Operation: Operative treatment of rupture of the oesophagus		
Post-operative care: Postoperative care of all patients with oesophageal emergencies.		
KNOWLEDGE		
Anatomy	4	4
Pathophysiology - aetiology	4	4
Clinical presentation	4	4
Investigations - contrast radiology	4	4
Complications - empyema	4	4
CLINICAL SKILLS		
History and Examination	3	4
Investigation	3	4
Decision making	3	4
Non-operative treatment	3	4
Interventional options - primary repair, nutritional support	3	4
Postoperative management	3	4
TECHNICAL SKILLS		
Endoscopy	3	4

Thoracotomy + non-resectional management	2	4
Oesophagectomy	2	3

	PG3	PG4
CARCINOMA OF THE OESOPHAGUS		
OBJECTIVES		
Assessment and management of patients presenting with oesophageal carcinoma		
KNOWLEDGE		
Applied Anatomy		
Oesophageal and Oesophago-gastric junctional cancer; lymph node	3	4
Pathology		
Epidemiology; aetiology : SCC or ACA	4	4
Staging - TNM	3	4
Clinical Presentation - dysphagia	4	4
Investigations - CT, EUS, PET-CT, laparoscopy	3	4
Complications	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation - Endoscopy; CT; EUS; PET-CT; Laparoscopy	4	4
Decision making	3	4
Assessment of medical comorbidity for radical therapy	3	4
Nutritional support	3	4
Chemotherapy - neoadjuvant	3	4
Radiotherapy		
Combination with chemotherapy	3	4
Difference in treatment for SCC or ACA	3	4
Other non-operative treatment incl palliation	3	4
Indications for surgery	4	4
Postoperative management		
Anastomotic leak; chylothorax; recurrent laryngeal nerve injury	4	4
Follow-up - Detection of recurrence	3	4
TECHNICAL SKILLS		
Endoscopy	3	4
Endoscopic palliation incl stenting	2	4
EMR	1	2
Open Oesophagogastrectomy		
2 field lymph node dissection	2	3
Transthoracic	2	3
Transhiatal	2	3
MIO	1	3

	PG3	PG4
OESOPHAGEAL VARICES		
OBJECTIVES		
Assessment and management of patients presenting with oesophageal varices		
KNOWLEDGE		
Anatomy	4	4
Pathophysiology		
Aetiology of portal hypertension	4	4
Clinical presentation	4	4
Diagnosis	4	4
Treatment options		
Medical treatment	3	4
Porto-systemic shunt, TIPSS	3	4
Endoscopic - injection, banding; Sengstaken tube	4	4
Indications for surgery	4	4
Complications		
Child's classification of liver disease	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation - Endoscopic assessment	3	4
Resuscitation	4	4
Decision making	3	4
Non-operative treatment - sclerotherapy / banding	3	4
Operative options		
Porto-caval shunt; Oesophageal transection	3	3
Postoperative management	3	4
TECHNICAL SKILLS		
Endoscopy	3	4
Variceal injection	2	3
Balloon tamponade	2	3

	PG3	PG4
GASTRIC ULCER		
OBJECTIVES		
Assessment and management of patients presenting with gastric ulcer		
KNOWLEDGE		
Anatomy	4	4
Pathophysiology	4	4
Clinical presentation - differential diagnosis of Ca	4	4

Complications - perf, bleeding, pyloric stenosis	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation - endoscopy and biopsy	4	4
Decision making - indications for surgery	4	4
Operative options	4	4
Postoperative management	4	4
TECHNICAL SKILLS		
Endoscopy	3	4
Endoscopic therapy	2	3
Laparoscopy	3	4
Local treatment, ulcer excision	3	4
Gastroenterostomy	3	4
Partial gastrectomy	2	3
Total gastrectomy	2	3

	ST6	ST8
DUODENAL ULCER		
OBJECTIVES		
Assessment and management of patients with duodneal ulceration and its complications		
KNOWLEDGE		
Clinical presentation	4	4
Pathophysiology	4	4
Complications - perf, bleeding, pyloric stenosis	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation - OGD	4	4
Resuscitation	4	4
Decision making - indications for operation	4	4
Operative options	4	4
Postoperative management	4	4
TECHNICAL SKILLS		
Endoscopy	3	4
Endoscopic therapy	2	3
Laparoscopy	4	4
Local treatment, ulcer underrun/oversew	4	4
Gastroenterostomy	3	4
Partial gastrectomy	2	3
Vagotomy and pyloroplasty	2	4

	PG3	PG4
GASTRIC AND DUODENAL POLYPS		
OBJECTIVES		
Assessment and management of patients presenting with gastric and duodenal polyps		
KNOWLEDGE		
Anatomy	4	4
Clinical presentation - incidental, bleeding	4	4
Pathology - adenoma, hamartoma, GIST, FAP	4	4
Complications - malignancy	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation - OGD and polypectomy	4	4
Decision making	3	4
Operative options	4	4
Postoperative management	4	4
TECHNICAL SKILLS		
Endoscopy	3	4
Endoscopic excision	2	3
EMR	2	3
Laparoscopy	3	4
Open excision	2	4
Partial gastrectomy	2	3

	PG3	PG4
ACUTE PERFORATION		
OBJECTIVES		
Diagnosis and management of perforated peptic ulcer.		
Diagnosis and preop management: Diagnosis of perforated peptic ulcer and assess for operation		
Operative management:Operation for perforated peptic ulcer.		
Postoperative management: postoperative management of patients who have had surgery for perf peptic ulcer		
KNOWLEDGE		
Anatomy	4	4
Pathophysiology	4	4
Differential diagnosis - perf DU, GU, Ca	4	4
Complications - subphrenic abscess	4	4
CLINICAL SKILLS		
History and Examination - peritonitis	4	4
Investigation	4	4
Resuscitation	4	4
Decision making - comorbidity	4	4
Operative options - local excision, resection, ulcer closure	4	4
Postoperative management	4	4
TECHNICAL SKILLS		
Laparoscopy	4	4
Local treatment, ulcer closure or excision	4	4
Partial gastrectomy	2	3
Total gastrectomy	2	3

	PG3	PG4
ACUTE UPPER GI HAEMORRHAGE		
OBJECTIVES		
Endoscopic diagnosis of upper GI haemorrhage, endoscopic management of most cases, operative management of cases where endostasis has failed, including management of complications.		
Diagnosis: Endoscopic diagnosis of upper GI haemorrhage.		
Management: Endoscopic management of most cases of upper GI haemorrhage, operative management where endostasis has failed.		
Post-operative care: Post-operative care of all patients who have had surgery for UGI haemorrhage, including management of complications.		
KNOWLEDGE		
Anatomy	4	4
Pathophysiology	4	4
Differential diagnosis - Benign ulcer; cancer; vascular malformation; GIST	4	4
Complications - hypovolaemic shock	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation - endoscopy	3	4

Resuscitation - management of hypovolaemic shock	4	4
Decision making - indications for intervention	4	4
Non-operative treatment - sclerotherapy	4	4
Operative options	4	4
Postoperative management - rebleeding	4	4
TECHNICAL SKILLS		
Endoscopy	3	4
Endoscopic therapy	2	3
Gastrotomy + non-resectional treatment - histology	3	4
Partial gastrectomy	2	3
Total gastrectomy	2	3

	PG3	PG4
ACUTE GASTRIC DILATION		
OBJECTIVES		
Assessment and management of patients presenting with acute gastric dilatation		
KNOWLEDGE		
Applied Anatomy	4	4
Pathophysiology		
Spontaneous; postsplenectomy	4	4
Clinical presentation	4	4
Complications	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation - contrast radiology, CT	4	4
Resuscitation	4	4
Decision making	4	4
Non-operative treatment NG aspiration	4	4
Operative options	4	4
Postoperative management	4	4
TECHNICAL SKILLS		
Endoscopy	3	4
Gastrectomy	2	3

	ST6	ST8
ACUTE GASTRIC VOLVULUS		
OBJECTIVES		
Assessment and management of patients presenting with acute gastric volvulus		
KNOWLEDGE		
Aplied Anatomy - para-oespohageal hernia	4	4

Pathophysiology	4	4
Clinical presentation	4	4
Investigation - contrast radiology, CT	4	4
Complications - gastric necrosis	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation	4	4
Resuscitation - fluid	4	4
Decision making - indications for surgery	4	4
Operative options - endoscopic, urgent or delayed surgery	4	4
Postoperative management	4	4
TECHNICAL SKILLS		
Endoscopy	3	4
Gastropexy	2	4
Hiatus hernia repair	2	3
Total Gastrectomy	2	3

	PG3	PG4
GASTRIC CARCINOMA		
OBJECTIVES		
Assessment and managemenrt of patients presenting with gastric cancer		
KNOWLEDGE		
Applied Anatomy		
Arterial blood supply; Lymph node tiers	4	4
Pathology		
Epidemiology; Aetiology - Helicobacter	4	4
Stage - TNM; pattern of spread	4	4
Clinical presentation		
Early gastric cancer; advanced gastric cancer	4	4
Investigation		
Endoscopy, CT, EUS, Laparoscopy	4	4
Complications	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation		
Endoscopy; CT; EUS; laparoscopy	4	4
Decision making		
Comorbidity assessment; nutritional support	4	4
Chemotherapy		
Neoadjuvant; adjuvant	3	4
Chemoradiotherapy		
Adjuvant	3	4
Other non-operative treatment incl palliation		
Chemotherapy; pain control	3	4
Interventional options		
Endoscopic; resectional; extended lymphadenectomy	3	4
Postoperative management		
Anastomotic leak; Duodenal stump disruption	4	4
TECHNICAL SKILLS		
Endoscopy	3	4
Endoscopic palliation incl stenting	2	3
EMR	1	3

Gastrojejunostomy	3	4
Palliative gastrectomy	2	3
D2 Subtotal gastrectomy	2	3
D2 Total gastrectomy	2	3

	PG3	PG4
GIST		
OBJECTIVES		
Assessment and management of patients presenting with gastrointestinal stromal tumours		
KNOWLEDGE		
Applied Anatomy	4	4
Clinical presentation incidental, bleed	4	4
Pathology - benign, malignant	4	4
Complications	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation - OGD, biopsy, CT	4	4
Decision making	4	4
Chemotherapy - imatinib	3	4
Operative options - resection, excision	4	4
Postoperative management	4	4
TECHNICAL SKILLS		
Endoscopy	3	4
Laparoscopy	4	4
Open excision	2	4
Small bowel resection	4	4
Partial gastrectomy	2	3
Total gastrectomy	2	3

	Pg3	PG4
GASTRIC LYMPHOMA		
OBJECTIVES		
Assessment and management of patients presenting with gastric lymphoma		
KNOWLEDGE		
Applied Anatomy	4	4
Clinical presentation	4	4
Investigation - OGD, CT, PET-CT	4	4
Pathology - extranodal lymphoma, MALToma	4	4
Complications - perforation	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation - OGD, CT, PET-CT	4	4
Decision making	4	4
Medical management - chemo, helicobacter eradicaiton	3	4
Interventional options	4	4
Postoperative management	4	4
TECHNICAL SKILLS		
Endoscopy	3	4
Gastrojejunostomy	3	4
Total gastrectomy	2	3

	ST6	ST8
MORBID OBESITY		
OBJECTIVES		
Basic management of the patient who is morbidly obese and an understanding of the surgical treatment of morbid obesity including early and late complications. A knowledge of the different patterns of presentations complications		
KNOWLEDGE		
Indications for surgery in morbid obesity	4	4
Therapeutic options for morbid obesity. Types of operations performed	4	4
General principles of the management of the obese patient perioperatively	4	4
Long term management of the bariatric patient post surgery	4	4
CLINICAL SKILLS		
History and Examination of the Obese patient	4	4
Assessment of the post operative bariatric patient	4	4
Interpretation of Investigations in the obese patient	4	4
Management decisions for early and late complications of morbid obesity	3	4
TECHNICAL SKILLS		
Laparoscopic access in the morbidly obese	2	4

Aspiration of lap band port	2	4
Emergency release of lap band for slippage	2	4
Insertion of lap band	2	3
Repair of internal hernia after gastric bypass	2	4
Roux en Y gastric bypass	1	2
Revisional gastric surgery for obesity	1	2
General Surgery for the super morbidly obese patient	2	4

	PG3	PG4
GALLSTONE DISEASE		
OBJECTIVES		
Diagnosis and management of acute gallstone disease, including operation.		
Acute gall stone disease including acute cholecystitis, empyema, acute biliary colic and cholangitis		
KNOWLEDGE		
Anatomy	4	4
Pathophysiology	4	4
Microbiology	4	4
Complications		
Acute cholecystitis	4	4
Empyema	4	4
Mucocoele	4	4
Acute pancreatitis	4	4
Chronic cholecystitis	4	4
Common bile duct stone	4	4
Gall stone ileus	4	4
Gall bladder cancer	3	4
Postoperative problems		
Bile duct injury	4	4
CLINICAL SKILLS		
History and Examination - elective, acute, emergency	4	4
Investigation - U/S, ERCP, MRCP, CT	4	4
Resuscitation	4	4
Decision making	3	4
Non-operative treatment - ERCP, U/S cholecystotomy	4	4
Operative options - lap chole	4	4
Postoperative management	4	4
TECHNICAL SKILLS		
Cholecystectomy - lap / open	3	4
Exploration CBD	2	4
Hepaticodocho-jejunostomy	2	3

	ST6	ST8
ACUTE PANCREATITIS		
OBJECTIVES		

Diagnosis and management of most patients with acute pancreatitis with operation where appropriate		
KNOWLEDGE		
Applied Anatomy	4	4
Pathophysiology - scoring systems	4	4
Microbiology	4	4
Clinical presentation	4	4
Investigations - CT, ERCP	4	4
Complications	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation	4	4
Resuscitation	4	4
Decision making	4	4
Non-operative treatment incl nutrition, use of antibiotics	4	4
Interventional options - ERCP, radiological drainage	3	4
Postoperative management		
Abscess; Pseudocyst; Haemorrhage	4	4
TECHNICAL SKILLS		
Cholecystectomy	3	4
Exploration CBD	2	4
ERCP	1	2
Necrosectomy	2	3
Pseudocyst drainage	2	3

	ST6	ST8
CHRONIC PANCREATITIS		
OBJECTIVES		
Assessment and management of patients with chronic pancreatitis		
KNOWLEDGE		
Applied Anatomy	4	4
Pathophysiology	4	4
Clinical presentation	4	4
Investigation	4	4
Complications	4	4
Postoperative problems	4	4
CLINICAL SKILLS		

History and Examination	4	4
Investigation	4	4
Resuscitation	4	4
Decision making	3	4
Non-operative treatment incl ERCP	3	4
Operative options	3	4
Postoperative management	4	4
TECHNICAL SKILLS		
ERCP	1	2
Pancreaticojejunostomy	2	3
Pancreaticoduodenectomy	2	3
Distal pancreatectomy	2	3
Hepaticodocho-jejunostomy	2	3
Pseudocyst drainage	2	3

	PG3	PG4
PANCREATIC CANCER / PERIAMPULLARY CANCER		
OBJECTIVES		
Assessment and management of patients with pancreatic and ampullary cancer		
KNOWLEDGE		
Applied Anatomy	4	4
Pathophysiology		
Epidemiology; aetiology	4	4
Stage - TNM	4	4
Pathology - ACa pancreas, ampullary	4	4
Clinical presentation - jaundice, pain	4	4
Investigation - CT, MRCP, MRI, EUS	4	4
Complications	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation - CT, MRCP, MRI, EUS	4	4
Decision making		
Comorbidity; Nutritional assessment	4	4
Non-operative treatment incl palliation, nutrition	4	4
Interventional options eg ERCP, PTC	4	4
Postoperative management	4	4
TECHNICAL SKILLS		
Pancreaticoduodenectomy	2	3
Distal pancreatectomy	2	3
ERCP	1	2
Biliary bypass	2	4
Gastroenterostomy	3	4

	PG3S	PG4
CYSTIC TUMOURS		
OBJECTIVES		
Assessment and management of patients with cystic tumours of the pancreas		
KNOWLEDGE		
Applied Anatomy	4	4
Pathophysiology - epidemiology, aetiology	4	4
Pathology - benign, malignant	4	4
Clinical presentation	4	4
Investigation - CT, MRCP, EUS	4	4
Complications	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation - CT, MRCP, EUS	4	4
Decision making	3	4
Non-operative treatment incl palliation, nutrition	3	4
Interventional options eg ERCP, PTC	3	4
Postoperative management	4	4
TECHNICAL SKILLS		
Pancreaticoduodenectomy	2	3
Distal pancreatectomy	2	3
ERCP	1	2
Biliary bypass	2	4
Gastroenterostomy	3	4

	ST6	ST8
NEUROENDOCRINE TUMOURS		
OBJECTIVES		
Diagnosis, assessment and management of pancreatic endocrine tumours (level of involvement in diagnosis and operation may vary between HPB and endocrine units).		
Diagnosis: Diagnosis and assessment of possible pancreatic endocrine tumours, often in consultation with other specialists.		
Management: Management of pancreatic endocrine tumours, level of operative skill expected dependent on local arrangements.		
Post-operative care: Management of both immediate and longterm care after surgery for pancreatic endocrine tumour.		
KNOWLEDGE		
Applied Anatomy	4	4
Pathophysiology	4	4
Pathology - functioning, non-functioning	4	4
Clinical presentation - symptoms of functioning tumour	4	4
Investigation - CT, EUS, MRCP	4	4
Complications	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation - CT, EUS, MRCP	4	4
Decision making	3	4
Non-operative treatment incl palliation, nutrition	3	4
Interventional options eg ERCP, PTC	3	4
Postoperative management	4	4
TECHNICAL SKILLS		
Pancreaticoduodenectomy	2	3
Distal pancreatectomy	2	3
Enucleation	2	4
ERCP	1	2
Biliary bypass	2	4
Gastroenterostomy	3	4

	ST6	ST8
INTRADUCTAL PAPILLARY MUCINOUS NEOPLASMS		
OBJECTIVES		
Assessment and management of IPMN		
KNOWLEDGE		
Applied Anatomy	4	4

Pathophysiology	3	4
Pathology	3	4
Complications	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation	4	4
Decision making	3	4
Non-operative treatment incl palliation, nutrition	3	4
Interventional options eg ERCP, PTC	3	4
Postoperative management	4	4
TECHNICAL SKILLS		
Pancreaticoduodenectomy	2	3
Distal pancreatectomy	2	3
Total pancreatectomy	2	3
ERCP	1	2
Biliary bypass	2	4
Gastroenterostomy	3	4

	ST6	ST8
PANCREATIC TRAUMA		
OBJECTIVES		
Assessment and management of patients with pancreatic trauma		
KNOWLEDGE		
Applied Anatomy	4	4
Pathophysiology	4	4
Clinical presentation - blunt and penetrating	4	4
Investigation - CT, MRI	4	4
Complications - fistula	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation - CT, MRI, laparoscopy	4	4
Resuscitation	4	4
Decision making	3	4
Non-operative treatment	3	4
Interventional options eg ERCP, radiological drainage	3	4
Postoperative management - fistula, nutritional support	4	4
TECHNICAL SKILLS		
Cholecystectomy	3	4
Debridement & drainage	2	4
Pancreaticojejunostomy	2	3
Pancreaticoduodenectomy	2	3
Distal pancreatectomy	2	3
Pseudocyst drainage	2	3

LIVER METASTASES		
OBJECTIVES		
Assessment and management of liver metastases.		
KNOWLEDGE		
Applied Anatomy - liver segments	4	4
Pathophysiology - liver function	4	4
Pathology		
Solitary; multiple; extrahepatic synchronous disease; colorectal; non- colorectal	4	4
Clinical Presentation	4	4
Complications	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation - CT, PET-CT, MRI	4	4
Decision making including scheduling treatment	3	4
Non-operative treatment incl chemotherapy and biological therapy	4	4
Interventional options e.g. ablation	4	4
Postoperative management	4	4
TECHNICAL SKILLS		
Major hepatectomy + intra-op ultrasound	2	3
Extended hepatectomy	2	3
Peripheral wedge or segmental resection	2	3

PRIMARY LIVER CANCER		
OBJECTIVES		
Assessment and management of primary liver cancer		
KNOWLEDGE		
Applied Anatomy	4	4
Pathophysiology - hepatitis C	4	4
Pathology - differential diagnosis, HCC	4	4
Clinical Presentation	4	4
Complications	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation	4	4
Decision making	3	4
Assessment and management of liver insufficiency, Child's classification	4	4
Non-operative treatment incl chemoembolisation and biological therapy	4	4
Interventional options eg ablation	4	4
Postoperative management	4	4

TECHNICAL SKILLS		
Major hepatectomy	2	3
Periperal wedge or segmental resection	2	3

CHOLANGIOCARCINOMA AND GALLBLADDER CANCER		
OBJECTIVES		
Assessment and management of cholangiocarcinoma and gallbladder cancer		
KNOWLEDGE		
Applied Anatomy	4	4
Pathophysiology, incidental finding at cholecystectomy	4	4
Pathology, classification of cholangiocarcinoma	4	4
Clinical presentation	4	4
Complications	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation, ERCP, MRCP, ST, MRU	4	4
Decision making	3	4
Non-operative treatment incl PDT, brachytherapy	4	4
Interventional options eg stenting	4	4
Postoperative management	4	4
TECHNICAL SKILLS		
Extended hepatectomy	2	3
Central liver resection	2	3
Hepatic artery lymphadenectomy	2	3
Hepaticodochojejunostomy	2	3

BENIGN AND CYSTIC TUMOURS		
OBJECTIVES		
Assessment and management of benign and cystic tumours of the liver		
KNOWLEDGE		
Applied Anatomy	4	4
Pathophysiology, simple and complex cysts, hydatid disease	4	4
Pathology	4	4
Clinical Presentation	4	4
Complications	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation, CT, MRI	4	4
Decision making	3	4
Non operative options eg medical tratment of hydatid disease	4	4
Interventional options eg embolisation	4	4

Postoperative management	4	4
TECHNICAL SKILLS		
Fenestration	2	
Liver resection	2	

LIVER TRAUMA		
OBJECTIVES		
Diagnosis and early management of liver trauma including laparotomy and liver packing or resection.		
KNOWLEDGE		
Applied Anatomy - liver segments	4	4
Pathophysiology	4	4
Clinical Presentation - blunt and penetrating	4	4
Investigations - CT	4	4
Complications - haemobilia	4	4
CLINICAL SKILLS		
History and Examination	4	4
Investigation	4	4
Resuscitation	4	4
Decision making	4	4
Non-operative treatment	4	4
Interventional options eg hepatic artery embolisation, laparotomy	3	4
Postoperative management	4	4
TECHNICAL SKILLS		
Salvage surgery eg packing	3	4
Debridement & hepatectomy	2	3

HAEMORRHOIDS		
OBJECTIVES		
Competency in the diagnosis and all medical and surgical treatments for haemorrhoids		
KNOWLEDGE		
Aetiology of internal and external haemorrhoids	4	4
Anatomical distinctions between internal and external haemorrhoids	4	4
Classifications for internal haemorrhoids	4	4
Indications, contraindications and complications of non-operative treatment of haemorrhoids –topical applications, stool modifiers/softeners	4	4
Indications, contraindications and complications of office treatment of haemorrhoids	4	4

Indications, contraindications and complications of operative treatment of haemorrhoids	4	4
CLINICAL SKILLS		
Diagnosis of thrombosed external haemorrhoids, internal haemorrhoids, skin tags	4	4
Diagnosis and treatment of complications of office treatment of haemorrhoids – pain, bleeding, sepsis	4	4
Diagnosis and treatment of complications of operative treatment of haemorrhoids – urinary retention, haemorrhage, faecal impaction, infection stenosis, incontinence	3	4
Ability to manage haemorrhoids in IBD, pregnancy, HIV, Coagulopathy, portal hypertension	3	4
TECHNICAL SKILLS		
Haemorrhoids-OP treatment(injection/banding/infrared)	4	4
Haemorrhoidectomy-operative	3	4
Haemorrhoidectomy-stapled	3	4

	ST6	ST8
ANAL FISSURE		
OBJECTIVE		
Competency in the diagnosis and the medical and surgical treatment of anal fissure		
KNOWLEDGE		
Aetiology of anal fissure	4	4
Anatomical location of a classic anal fissure	4	4
CLINICAL SKILLS		
Assessment of the signs and symptoms of anal fissure	4	4
Arrange the nonoperative management of anal fissure, including indications, contraindications,and complications of stool modifications/softeners, topical anaesthetics, topical pharmacology, botulinium toxin	3	4
Indications, contraindications, and complications of the following: lateral internal sphincterotomy anal stretch, anal advancement flap	3	4
Pre and postop care of lateral sphincterotomy, anal advancement flap for fissure	3	4
Treat complications resulting from operations; persistent fissure, incontinence, stenosis, ?key-hole? deformity	2	4
TECHNICAL SKILLS		
Lateral sphincterotomy	2	4
Anal advancement flap for fissure/stenosis	1	3

	PG3	PG4
ABSCESS AND FISTULA		
OBJECTIVE		
Competency in the diagnosis and the medical and surgical treatment of abscess and fistula-in-ano		
KNOWLEDGE		

The origin of cryptoglandular abscess and fistula	4	4
Classification of anorectal cryptoglandular abscess-based on anatomical spaces	4	4
Parks classification of anal fistula	4	4
The natural history of surgically-treated anal abscess, including the risk of fistula formation	4	4
Operative strategy for anal fistula based on sphincter involvement/location	4	4
Complications resulting from abscess/fistula surgery: recurrence, incontinence	4	4
CLINICAL SKILLS		
Differentiate cryptoglandular abscess and fistula from other causes	4	4
Assessment of abscess/fistula by techniques designed to elucidate pathological anatomy: Goodsall's rule and digital examination, fistulogram, injections, MRI, endoanal ultrasound	3	4
Management of anorectal abscess including preoperative and postoperative care and the appropriate procedure based on anatomical spaces	4	4
Treatment options for fistula-in-ano including fibrin glue / fistula plug	3	4
Modify therapy for: necrotising fasciitis/Fournier's gangrene, Leukaemia, other immunocompromised patients, inflammatory bowel disease	4	4
Manage rectovaginal fistula with regard to classification, preoperative evaluation, and treatment of rectovaginal fistula, based on location and aetiology	3	4
Arrange pre and postop care for rectovaginal fistula due to obstetric injury	2	4
Manage rectourethral fistula depending on location and aetiology	2	3
TECHNICAL SKILLS		
Fistula-in-ano-low-lay open	3	4
Fistula-in-ano-high-drainage Seton	2	4
Fistula-in-ano-high-cutting seton	2	4
Fistula-in-ano-high-advancement flap	2	3
Fistula-in-ano - placement of fistula plug	2	4
Fistula-operation for rectovaginal fistula	2	3

	ST6	ST8
HIDRADENITIS SUPPURITIVA		
OBJECTIVE		
Competency in the diagnosis and management of hidradenitis suppuritiva		
Knowledge		
Pathophysiology of hidradenitis suppurativa	4	4
Clinical skills		
Assess the symptoms and signs of hidradrenitis suppurativa	4	4
Manage hidradenitis suppuritiva by both medical and surgical means	2	4

	PG3	PG4
PILONIDAL DISEASE		
OBJECTIVE		
Competency in the management of pilonidal disease.		
KNOWLEDGE		
Pathophysiology of pilonidal disease	4	4
CLINICAL SKILLS		
Assess the symptoms and signs of pilonidal disease: abscess, sinus	4	4
Surgical management of pilonidal disease	4	4
TECHNICAL SKILLS		
Pilonidal sinus-lay open	4	4
Pilonidal sinus-excision + suture	4	4
Pilonidal sinus-graft or flap	2	3

	ST6	ST8
ANAL STENOSIS		
OBJECTIVE		
Competency in the management of anal stenosis.		
KNOWLEDGE		
Aetiology	4	4
CLINICAL SKILLS		
Arrange nonoperative management	4	4
Operative management of anal stenosis including division of stricture and flap procedures	2	3
TECHNICAL SKILLS		
Anal advancement flap for fissure/stenosis	1	3

	PG3	PG4
PRURITUS ANI		
OBJECTIVE		
Competency in the management of pruritis ani.		
KNOWLEDGE		
Aetiology and clinical presentation of pruritus ani	4	4
CLINICAL SKILLS		
Arrange medical management and surgical management of pruritus ani with attention to: hygiene, diet, anatomical (obesity, deep anal cleft), coexisting anal pathology, systemic disease, gynaecologic-associated, infections, postantibiotic syndrome, contact dermatitis, dermatology, radiation, neoplasm, idiopathic pruritis ani	4	4

	ST6	ST8
SEXUALLY TRANSMITTED DISEASE		
OBJECTIVE		
Appropriate management of sexually transmitted disease in consultation with other specialists		
KNOWLEDGE		
Aetiology of condylomata acuminata	4	4
Aetiology of HIV, syphilis, gonorrhoea, chlamydia, herpes	2	4
Influence of human papilloma virus serotypes on the subsequent development of cancer	3	4
CLINICAL SKILLS		
Diagnosis of condylomata acuminata	4	4
Diagnosis and treatment of HIV, syphilis, gonorrhoea, chlamydia, herpes	2	4
Medical (topical chemicals) and surgical treatment options for condylomata acuminata	4	4
TECHNICAL SKILLS		
Anal skin tags/warts-excision	4	4

	PG3	PG4
VASCULAR MALFORMATIONS		
OBJECTIVES		
Management of patients with vascular malformations of the lower GI tract		
KNOWLEDGE		
Aetiology of angiodysplasia	4	4
Classification of haemangiomas, their clinical presentations and predominant GI sites	3	4
CLINICAL SKILLS		
Assess clinical presentation and endoscopic findings of angiodysplasia	4	4
Manage the patient with regard to indications for intervention and the operative and nonoperative management of angiodysplasia	3	4
Arrange radiologic and endoscopic evaluation of patients with haemangiomas	3	4
Arrange nonoperative and operative management, based on location	3	4
TECHNICAL SKILLS		
Colonoscopy-diagnostic	2	4
Colonoscopy-therapeutic	2	3

	PG3	pG4
DIVERTICULAR DISEASE		
OBJECTIVES		
Ability to assess and manage diverticular disease		
KNOWLEDGE		
Aetiology of colonic diverticular disease	4	4
Incidence and epidemiology of colonic diverticular disease	4	4
Complications and classification of diverticular disease including : bleeding, perforation, abscess, fistula, stricture	4	4
Hinchey classification of complicated diverticular disease	4	4
CLINICAL SKILLS		
Recognize the clinical patterns (including right sided diverticular disease) presenting symptoms, physical findings and natural history of colonic diverticular disease	4	4
Arrange appropriate diagnostic studies in suitable sequence in the evaluation of both acute and chronic colonic diverticular disease	4	4
Medical and dietary management of colonic diverticular disease	4	4
Medical management for acute diverticulitis	4	4
Preoperative assessment including the indications for surgery, surgical procedures, and complications for acute diverticulitis	4	4
Choose appropriate surgical procedures including CT guided drainage for the management of acute diverticulitis	3	4
Perform laparoscopy and washout with drainage for appropriate patients	3	4
Recognize the indications for appropriate resection for diverticular disease including consideration of the extent of resection, use of ureteric stents, and indications for diversion	4	4
Appropriate surgical procedures for dealing with complications (fistula,stricture,recurrent episodes) of acute diverticulitis	3	4
Patient selection and techniques for reversal of Hartmann's procedure including use of ureteric stents and indications for diversion	3	4
TECHNICAL SKILLS		
Colectomy-left	3	4
Colectomy-sigmoid	3	4
Colostomy-construction	3	4
Hartmann's procedure	3	4
Hartmann's reversal	2	4

VOLVULUS		
OBJECTIVE		
Competency in the diagnosis and treatment of colonic volvulus		
KNOWLEDGE		
Aetiology of volvulus of the colon	4	4
Incidence and epidemiotogy of volvulus of the colon	4	4
Complications of colonic volvulus including obstruction, ischaemia, perforation	4	4

CLINICAL SKILLS		
Recognise the clinical patterns, presenting symptoms, physical findings, and natural history of colonic volvulus based upon its site	4	4
Arrange diagnostic studies in appropriate sequence	4	4
Appropriate operative procedures for volvulus depending on site	4	4
TECHNICAL SKILLS		
Sigmoidoscopy-rigid	4	4
Sigmoidoscopy-flexible	3	4
Colonoscopy-diagnostic	2	4
Colonoscopy-therapeutic - insertion of PEC button	2	4

		Pg4
RECTAL BLEEDING		
OBJECTIVE		
Ability to appropriately investigate rectal bleeding		
KNOWLEDGE		
Aetiology of lower GI bleeding	4	4
CLINICAL SKILLS		
Arrange appropriate evaluation of the patient based on age and other medical conditions	4	4

	ST6	ST8
MASSIVE LOWER GI BLEEDING		
OBJECTIVE		
Management of massive lower GI tract bleeding		
KNOWLEDGE		
Aetiology of massive lower GI bleeding	4	4
Utility, specificity and sensitivity of colonoscopy, angiography and radio-iscope scintigraphy in evaluation of lower GI bleeding	3	4
Angiographic treatment of lower GI bleeding	4	4
Evaluation of recurrent lower GI bleeding, including use of enteroscopy, exploratory laparotomy and intraoperative endoscopy	3	4
CLINICAL SKILLS		
Assess haemodynamic stability and outline a resuscitation plan	4	4
Practice an algorithm for the evaluation of lower GI bleeding including exclusion of coagulopathy, gastroscopy, colonoscopy, selective mesenteric angiography, radio-isotope scintigraphy, on table colonoscopy with antegrade lavage	3	4
Endoscopic treatment of lower GI bleeding including coagulation, injection therapy and laser ablation	2	4
Manage the patient with regard to the indications for surgery, appropriate surgical procedures and their possible complications based upon cause, location, patient age and medical condition	3	4
Intraoperative evaluation and management of persistent massive lower GI bleeding without an identified site	3	4
Manage postoperative lower GI bleeding	3	4
TECHNICAL SKILLS		
Colonoscopy-diagnostic	2	4
Colonoscopy-therapeutic	2	3
Colectomy-total+ileostomy	3	4
Colectomy-right	3	4
Colectomy-left	3	4
Colectomy-sigmoid	3	4
Colostomy-construction	3	4
Hartmann's procedure	3	4
Ileostomy-construction	3	4

	PG3	PG4
ENDOMETRIOSIS		
OBJECTIVE		
Management of endometriosis affecting the GI tract with the gynaecologists		
KNOWLEDGE		
Pathophysiology of endometriosis	3	3
Indications for intervention and the operative and non-operative management of endometriosis	3	4
CLINCIAL SKILLS		
Recognition of the clinical presentation and the endoscopic and laparoscopic findings of endometriosis	3	4

TECHNICAL SKILLS		
Assessment of degree of bowel involvement by endometriosis at laparoscopy	2	2
Laparoscopic resection of endometriosis from bowel wall by shave or disc excision	1	2
Laparoscopic anterior resection for endometriosis	1	2

	PG3	PG4
COLON TRAUMA		
OBJECTIVE		
Competency in the appropriate diagnosis and treatment of colon trauma		
KNOWLEDGE		
Uses and limitations of the following imaging and diagnostic tests in the evaluation of blunt abdominal trauma		
Plain abdominal films	4	4
Computed tomography scan	4	4
Ultrasound	4	4
CLINICAL SKILLS		
Manage the patient with penetrating abdominal trauma with understanding of the criteria for exploratory laparotomy, wound exploration, peritoneal lavage	4	4
Appropriate surgical management of colon trauma in the context of the severity of associated injuries and stability of medical condition,	3	4
Manage a patient, either operatively or non- operatively with colonic trauma due to colonscopic perforation or laparoscopic perforation	4	4
TECHNICAL SKILLS		
Colon-primary repair	3	4
Colectomy-right	3	4
Colectomy-left	3	4
Colectomy-sigmoid	3	4
Colectomy-transverse	3	4
Colectomy-total+ileostomy	3	4
Hartmann's procedure	3	4
Colostomy-construction	3	4
Ileostomy-construction	3	4

RECTAL TRAUMA		
OBJECTIVE		
Competency in the diagnosis and treatment of rectal trauma		
KNOWLEDGE		
Identify clinical situations requiring evaluation for rectal trauma	4	4
CLINICAL SKILLS		
Diagnosis of rectal trauma and associated injuries	4	4
Surgical management of rectal trauma including drainage, faecal diversion, rectal washout, primary repair	3	4
TECHNICAL SKILLS		
Colostomy-construction	4	4
Hartmann's procedure	3	4
Ileostomy construction	4	4
Rectum-operation for trauma	3	3

	PG3	PG4
ANAL TRAUMA		
OBJECTIVE		
Competency in the management of anal trauma		
KNOWLEDGE		
Be aware of the aetiology of anal trauma including obstetric injuries	3	4
CLINICAL SKILLS		
Manage traumatic anal injuries by faecal diversion, and/or repair	3	4
TECHNICAL SKILLS		
Colostomy construction	3	4
Anal sphincter repair including postanal repair, anterior sphincter repair + rectocele repair	2	3

	PG3	PG4
FOREIGN BODIES		
OBJECTIVE		
Manage patients with rectal foreign bodies		
KNOWLEDGE		
Discuss risk of colonic or rectal perforation	4	4
CLINICAL SKILLS		
Evaluate patients with rectal foreign bodies	4	4
Perform various methods of extraction of foreign bodies and assess the indications for surgery	4	4

Manage postextraction evaluation with regard to indications for inpatient observation and indications for surgery	4	4

	PG3	pG4
COLORECTAL NEOPLASIA		
OBJECTIVE		
Epidemiology of Colorectal Cancer and Polyps: Knowledge of the epidemiology of colorectal cancer and polyps		
Aetiology: Detailed knowledge of the aetiology of colorectal neoplasia.		
Colorectal Cancer Screening: Knowledge of the principles of colorectal cancer screening.		
Clinical Presentation: Recognise the symptoms and signs of colorectal cancer at different sites		
Staging and Prognostic Factors: Detailed understanding of staging and prognostic factors for colorectal cancer		
Management of Colon Cancer: Management of all patients with colon cancer		
KNOWLEDGE		
Epidemiology of colorectal cancer and polyps including incidence and prevalence, influence of socio-economic, racial and geographic factors	4	4
Current screening strategies for the following		
General population,; moderate risk; high risk	4	4
Aetiology		
Diet: fat, fibre, calcium, selenium, vitamins (antioxidants), dietary inhibitors, alcohol and smoking, prostaglandin inhibitors	4	4
Adenoma-carcinoma sequence: evidence, categorise adenomas into low risk, intermediate and high risk and discuss screening procedures, significance of metaplastic polyps	4	4
De novo carcinoma	4	4
Susceptibility to colorectal cancer (CRC): family history, Personal Past History (CRC, Polyps, Other Cancers), groups at risk, genetic pathways for colorectal carcinogenesis	4	4
Hereditary nonpolyposis colorectal cancer (HNPCC): clincal features, Amsterdam criteria and modifications, extracolonic cancer risk, genetic basis, genetic testing/counselling, surveillance options/limitations, surgical options/limitations	3	4
Familial adenomatous polyposis: clinical definition, extracolonic lesions, cancer risk, genetic basis (genotype/phenotype correlation), genetic testing/counselling, variants, evolution of surgical management, management of desmoid disease, post-surgery surveillance	4	4
Hamartomas: definition, juvenile polyposis, Peutz-Jeghers syndrome	3	4
Clinical presentation - Distribution of CRC within the colon	4	4
Staging and prognostic factors		
The evolution of staging systems	3	4
Current staging systems (Dukes, TNM)	4	4
Clinical prognostic factors: age, mode of presentation,clinical stage, blood transfusion	4	4

Histologic/biochemical features: histological grade, mucin secretion, signet-cell histology, venous invasion, perineural invasion, nodal involvement/apical node, "pushing" vs infiltrating margin, tumour infiltrating lymphocytes, microsatellite instability (MSI), carcinoembryonic antigen	4	4
The significance of extent of disease including patterns of spread: direct continuity, intramural, transmural, distal margins, circumferential margins, transperitoneal, lymphatic, haematogenous, implantation	4	4
The assessment of disease extent: detection and management of synchronous lesions, distant metastatic disease, preop detection of local invasion, regional metastatic disease	4	4
Management of colorectal cancer		
Special considerations in the operative management of Colon cancer: colonic stents, intraluminal cytotoxic irrigation, on-table lavage, perforation, synchronous lesions, ureteric stenting, oophorectomy, "No-touch" technique, pregnancy	3	4
The rationale and indications for the use of adjuvant chemotherapy	4	4
CLINICAL SKILLS		
Recognise the clinical signs and symptoms of colorectal cancer	4	4
Manage malignant change within an adenomatous polyp	3	4
Familiarity with the indications and contraindications to surgery, operative technique, pre- and postoperative care, outcomes and the complications of colon cancer	4	4
En-bloc resections of adjacent organs	3	4
Extended resections to include total abdominal colectomy	3	4
TECHNICAL SKILLS		
Colonoscopy-diagnostic	2	4
Colonoscopy-therapeutic	2	3
Colectomy-left	3	4
Colectomy-right	3	4
Colectomy-transverse	3	4
Colectomy-sigmoid	3	4
Colectomy-total+ileostomy	3	4
Colostomy-construction	3	4
Ileostomy-construction	3	4

	PG3	PG4
RECTAL CANCER		
OBJECTIVES		
Management of patients with rectal cancer.		
KNOWLEDGE		
Indications and contraindications, operative technique, pre and postop care, complications and outcomes for:		
Local therapy: transanal, Kraske transsacral, York-Mason transsphincteric, transanal endoscopic microsurgery(TEM), fulguration, laser, endocavitary radiation.	3	4
Sphincter-sparing resections: high and low anterior resection, tumour specific mesorectal excision, total mesorectal excision, coloanal anastomosis with or without colonic J pouch	3	4
Rationale and indications for the use of adjuvant chemoradiotherapy	4	4
Current preop staging techniques and role of pre and postop radiotherapy	3	4
CLINICAL SKILLS		
Recognise the clinical signs and symptoms of rectal cancer	4	4

Familiarity with endoscopic diagnosis and CT and MRI imaging approaches	4	4
Indications for transanal treatment	3	4
TECHNICAL SKILLS		
Transanal microsurgery	1	2
Peranal excision of rectal lesion	2	4
Rectum-posterior approach	2	3
Rectum-anterior resection (stapled)	2	4
Rectum-anterior resection - coloanal anastomosis	2	3
Rectum-AP excision (including ELAPE)	2	3
Posterior pelvic clearance	2	3
Pelvic exenteration	2	3
Reoperation-pelvic malignancy	2	2

	PG3	PG4
DETECTION AND TREATMENT OF RECURRENT AND METACHRONOUS COLORECTAL CANCER		
OBJECTIVES		
The Detection and Treatment of Recurrent and Metachronous Colon Cancer: Ability to detect and manage recurrent colon and rectal cancer.		
Pain Management:Ability to manage severe pain		
KNOWLEDGE		
Patterns of recurrence	4	4
Detection of recurrence using CEA, colonoscopy and imaging	4	4
Pain Management, including programmes for intractible pain	4	4
CLINICAL SKILLS		
Treatment of recurrent colorectal cancer: natural history, chemotherapy, resection, local ablation	3	4
Treatment of pelvic recurrence with radiation, chemotherapy, resection	3	4
Manage Carcinomatosis: with bowel obstruction, with ureteral obstruction	3	4
Palliative care	4	4
TECHNICAL SKILLS		
Pelvic malignancy - reoperation	2	2

	PG3	PG4
MISCELLANEOUS MALIGNANT LESIONS		
OBJECTIVES		
Ability to manage more unusual tumours of the colon and rectum.		
CLINICAL SKILLS		
Recognise the clinical presentation, assess prognostic factors, and manage carcinoid ? Ileal, appendiceal, colonic, rectal, carcinoid syndrome	3	4
Recognise the clinical presentation, assess prognostic factors, and manage lymphoma including its classification, treatment and risk factors	3	4

Recognise the clinical presentation, assess prognostic factors, and manage gastrointestinal stromal tumours	2	4
Recognise the clinical presentation, assess prognostic factors, and manage tumours metastasising to the colon - breast, melanoma, ovary	2	4

	PG3	PG4
ANAL NEOPLASIA (combines anal canal and anal from 2010)		
OBJECTIVES		
Understanding of the pathophysiology and the management of anal neoplasia		
Ability to diagnose and manage anal canal neoplasia		
Ability to diagnose and manage anal margin neoplasia		
KNOWLEDGE		
The significance of the anatomical distinction between the anal margin and the anal canal tumours	4	4
The differential lymphatic drainage of the anal canal and margin	4	4
The histological transition of the anal canal	4	4
Demographics of anal neoplasia	3	4
Changing incidence of anal neoplasia	3	4
Association with sexual practices	4	4
High-risk groups	4	4
Staging classification of anal neoplasia	3	4
Epidermoid carcinoma: histologic types, routes of metastasis/recurrence	3	4
Role of salvage therapies: abdominoperineal resection, chemotherapy, radiotherapy	3	4
Other anal canal malignancies: adenocarcinoma, small cell cancer, melanoma	2	4
CLINICAL SKILLS		
Diagnosis and management of lesions of the anal canal including HPV genotypes associated with cancer, HIV infection, anal intraepithelial neoplasia(AIN), immunosuppression	3	4
Squamous cell carcinoma: clinical features, differential diagnosis, surgical management by local excision, chemoradiotherapy and abdominoperineal resection	3	4
Basal cell carcinoma: clinical features, differential diagnosis, management	3	4
Bowen's disease: histology, differential diagnosis, natural history, related cancers, management including anal mapping, wide local excision, reconstruction and observation in patients with HIV	3	4
Paget's disease: theories of histiogenesis, clinical features, management	3	4
Buschke-Lowenstein tumour: clinical presentation and course, treatment options	3	4
Treatment of epidermoid carcinomas based on stage: local excision, chemoradiotherapy, abdominoperineal resection, inguinal node management	2	4
TECHNICAL SKILLS		
Anal tumour-excision	2	3
Rectum-AP excision	2	3

	ST6	ST8
PRESACRAL LESIONS		
OBJECTIVES		
Ability to manage presacral lesions		
CLINICAL SKILLS		
presentation, differential diagnosis, diagnostic evaluation and treatment of congenital lesions: epidermoid cysts, teratoma, anterior sacral meningocele, rectal duplication	2	3
clinical presentation, differential diagnosis, diagnostic evaluation and treatment of neoplastic lesions: osseous (Ewing;s sarcoma, giant-cell tumour), chordoma, neurogenic, miscellaneous	2	3

	ST6	ST8
FAECAL INCONTINENCE		
OBJECTIVES		
Faecal Incontinence-Epidemiology: Understanding of the epidemiology of faecal incontinence		
Faecal Incontinence-Evaluation: Understanding of the causes, clinical findings and physiological findings in faecal incontinence		
Faecal Incontinence-Non-operative Management: Ability to manage faecal incontinence by non-operative means		
Faecal Incontinence-Operative management: Competency in the operative treatment of faecal incontinence		
KNOWLEDGE		
Epidemiology		
Classification of the various types of incontinence, their incidence and their pathophysiology	3	4
Evaluation		
Anatomical, neurological, dermatological, and endoscopic findings that differentiate various types of incontinence	3	4
Normal and abnormal findings in imaging studies used in incontinence including MRI	3	4
Knowledge of a scoring system for faecal incontinence	3	4
Indications, uses and results of biofeedback in incontinence	3	4
Indications for and techniques used in surgery for incontinence, including complications and functional results: postanal repair, anal sphincter repair, muscle transpositions, artificial bowel sphincter, sacral nerve stimulation	3	4
Understand the concept of antegrade continent enema conduits	3	4
CLINICAL SKILLS		
Take a directed history to differentiate types of incontinence	3	4
Perform a physical examination to differentiate types of incontinence	3	4
Identify and interpret anorectal physiology tests	2	4
Outline a non-operative bowel management plan incorporating : dietary measures, medications, enemas, perineal skin care, anal plug	3	4
Make a treatment plan for a patient with incontinence, including knowledge of side-effects	3	4
Select patients for operation according to the physical and laboratory findings	2	4
Select type of operative repair	2	4

Select patients for temporary and permanent faecal diversion	2	4
TECHNICAL SKILLS		
Anal sphincter repair including postanal repair, anterior sphincter repair	2	3
Anal sphincter - artificial sphincter/sacral nerve stimulation	1	2

	ST6	ST8
RECTAL PROLAPSE		
OBJECTIVES		
Competency in the management of all patients with rectal prolapse		
KNOWLEDGE		
The incidence, pathophysiology and epidemiology of rectal prolapse	4	4
Understanding of internal intussusception, with its radiological findings and treatment options	3	4
Understand the perineal and abdominal surgical options for prolapse with the indications for each approach, complications, recurrence rate and functional results	3	4
CLINICAL SKILLS		
Identify the associated anatomical findings of rectal prolapse and its clinical presentation including functional disturbances and physical findings	2	4
Differentiate between mucosal prolapse, prolapsing internal haemorrhoids and rectal prolapse	2	4
Appropriate management of incarcerated and strangulated rectal prolapse	3	4
Manage constipation and incontinence in the context of rectal prolapse	2	4
Perform operation for rectal prolapse - perineal or abdominal; open or laparoscopic	2	4
Manage a patient with recurrent rectal prolapse	2	4
TECHNICAL SKILLS		
Prolapse-abdominal rectopexy	2	4
Prolapse -rectopexy + sigmoid resection	2	4
Prolapse-perineal repair	2	4
STARR Procedure	2	3
Ventral mesh rectopexy	2	3

	PG3	PG4
SOLITARY RECTAL ULCER		
OBJECTIVES		
Ability to diagnose and manage solitary ulcer syndrome		
Knowledge		
Understand the associated pelvic floor disorder	3	4
CLINICAL SKILLS		
Recognise the clinical presentation, endoscopic and histological findings in a patient with solitary rectal ulcer	3	4
Utilise appropriate medica/surgical treatment options	2	4

	PG3	PG4
CONSTIPATION		
OBJECTIVE		
Investigation of patients with constipation and treatment of patients with non-specific constipation.		
Competency in the management of outlet obstruction constipation		
Motility Disorders: Competency in the management of colonic inertia and colonic pseudo-obstruction.		
KNOWLEDGE		
Normal colonic physiology (including gut hormones and peptides) and the process of defaecation	4	4
Definition of constipation and its epidemiology	4	4
Classification of types and causes of constipation differential diagnosis in a patient with constipation	3	4
Different types of laxatives and describe the indications, contraindications, modes of action, and complications of each: stimulant, osmotic, bulk-forming, lubricant	4	4
Diagnostic criteria for anismus	3	4
Indications, techniques, complications and results of rectocele repair	3	4
Role of colectomy in colonic inertia including indications, complications and expected results	3	4
Common causative factors for colonic pseudo-obstruction	4	4
CLINICAL SKILLS		
Take a directed history for a patient with constipation and perform a directed physical examination	4	4
Arrange a treatment plan based on endoscopic, radiological and physiology tests: defaecating proctogram, transit studies, anorectal manometry, EMG, ballooon expulsion, contrast enema, endoscopy	2	4
Identify melanosis coli on endoscopy and discuss its significance	4	4
Plan a treatment programme for a patient with constipation that may include the following: dietary measures, fibre, laxatives, prokinetic medications, enemas, suppositories, psychological support	3	4
Management of anismus: medical management, biofeedback, botulinum toxin, surgery	2	4
Manage short segment/adult Hirschsprung's disease	2	4
Recognise the clinical presentation of symptomatic rectocele	3	4
Diagnosis and both non-operative and operative management of enterocele and sigmoidocele	2	4
Evaluation and management of recurrent constipation after colectomy	2	4
Evaluate a patient with suspected colonic pseudo-obstruction	4	4
Manage a patient with colonic pseudo-obstruction by medical or surgical means	4	4
TECHNICAL SKILLS		
Rectocele repair	2	3

IRRITABLE BOWEL SYNDROME		
OBJECTIVE		
Competency in the management of irritable bowel sydrome		
CLINICAL SKILLS		

Diagnose irritable bowel syndrome and outline a medical treatment programme that may include the following: diet, fibre, laxatives, prokinetic medications, enemas, suppositories, psychological support	4	4

	PG3	PG4
CHRONIC RECTAL PAIN SYNDROME		
OBJECTIVE		
Competency in the management of chronic rectal pain syndromes		
KNOWLEDGE		
Differential diagnosis for rectal pain including levator ani syndrome, proctalgia fugax, chronic idiopathic pelvic pain, coccygodynia	3	4
CLINICAL SKILLS		
Manage pelvic pain by means of: bowel management programmes, analgesics, antidepressants, levator massage, electrogalvanic stimulation, nerve blocks, steroid injections, botulinum toxin injections, biofeedback, psychiatric or psychological treatment, surgery	2	3

INFLAMMATORY BOWEL DISEASE - GENERAL		
OBJECTIVES		
History: Knowledge of the history of IBD		
Aetiology: Knowledge of the aetiology of inflammatory bowel disease		
Epidemiology: Knowledge of the epidemiology of inflammatory bowel disease		
Clinical manifestations: Recognition of the clinical manifestations of inflammatory bowel disease and its severity.		
Differential diagnosis: Competency in the diagnosis of inflammatory bowel disease including indeterminate colitis.		
Reproduction and inflammatory bowel disease: Ability to advise on reproduction and IBD and to manage IBD during pregnancy.		
KNOWLEDGE		
Aetiology	4	4
The contribution of genetics and immune function to the development of inflammatory bowel disease (IBD)	4	4
The possible influence of infectious agents, psychological issues and environmental factors	4	4
Epidemiology - Crohn's and ulcerative colitis	4	4
Clinical manifestations		
The criteria for severity of disease as defined by Crohn's disease activity index and Truelove classification	3	4
Differential Diagnosis		
The endoscopic, radiographic, and laboratory findings of ulcerative colitis and Crohn's disease	4	4

The distinguishing histologic characteristics of ulcerative colitis and Crohn's disease	3	4
The differential diagnosis of Inflammatory Bowel Disease	4	4
Indeterminate colitis	3	4
Reproduction and Inflammatory Bowel Disease		
The interaction of IBD and pregnancy	3	4
The impact of IBD on fertility	3	4
Drug therapy, investigations and surgery during pregnancy	3	4
CLINICAL SKILLS		
Recognise and compare the clinical pattern, presenting symptoms, physical findings and natural history of ulcerative colitis and Crohn?s disease	4	4
The extraintestinal manifestations of IBD	3	4
Diagnostic assessment for inflammatory bowel disease to exclude other colitides	4	4

	PG3	PG4
ULCERATIVE COLITIS		
OBJECTIVES		
Medical management of ulcerative colitis: Competency in the medical management of ulcerative colitis in consultation with gastroenterology.		
Cancer in ulcerative colitis: Understanding of the risk of cancer in ulcerative colitis and its management.		
Surgical management of ulcerative colitis: Competency in the surgical treatment of ulcerative colitis.		
Postoperative management of ulcerative colitis: Competency in the postoperative care of patients with ulcerative colitis, including ileoanal pouch and its complications.		
KNOWLEDGE		
Medical management		
The mechanism of action, indication, appropriate dosage, side effects, and toxicity of the drugs used for the treatment of ulcerative colitis: aminosalicylates, corticosteroids, antibiotics, immunosuppressive drugs, other drugs	3	3
Understand the role of nutritional support in the management of ulcerative colitis	3	4
The risk of cancer, with the factors increasing risk	4	4
Surgical Management		
Be able to identify the indications for surgery for ulcerative colitis including: intractability, severe acute colitis, toxic megacolon, haemorrhage, prophylaxis for carcinoma/dysplasia, carcinoma, complications of extraintestinal manifestations, complications of medications	3	4
Understand the operative management of indeterminate colititis	3	4
CLINICAL SKILLS		
Recognise the presentation and manage proctitis, left-sided colitis, extensive colitis, severe acute colitis, toxic megacolon	4	4
Joint management of a patient unresponsive to initial treatment	4	4
Organise surveillance and interpret biopsy results of dysplasia	3	4
Indications and contraindications, operative technique, postoperative care, functional results, and complications of the operations for ulcerative colitis	3	4
Postoperative management		

Recognise and manage the following conditions associated with the ileoanal pouch anal anastomosis: intestinal obstruction, pelvic sepsis, pouchitis, anastomotic/pouch vaginal and perineal fistula, stenosis, sexual dysfunction, retained mucosa	3	4
Follow-up for retained rectum after colectomy	3	4
TECHNICAL SKILLS		
Colectomy-total+ileostomy	3	4
Colectomy-total+ileorectal anastomosis	2	4
Rectum-panproctocolectomy+ileostomy	2	3
Ileoanal anastomosis+creation of pouch	2	3

	PG3	PG4
CROHNS DISEASE		
OBJECTIVES		
Medical management of Crohn's disease: Competency in the medical management of Crohn's disease in consultation with gastroenterology.		
Cancer in Crohn's disease: Understanding of the risk of cancer in Crohn's disease and its management.		
Complications of Crohn's disease: Competency in the management of the complications of Crohn's disease.		
Surgical management of Crohn's disease: Competency in the surgical management of Crohn's disease.		
Anorectal Crohn's Disease: Competency in the management of anorectal Crohn's disease.		
KNOWLEDGE		
Medical Management		
The mechanism of action, indication, appropriate dosage, side effects, and toxicity of the drugs used for the treatment of Crohn's disease: aminosalicylates, corticosteroids, antibiotics, immunosuppressive drugs, cytokine modulators	3	4
Understand the role of nutritional support in Crohn's disease	3	4
Risk of large and small bowel carcinoma in Crohn's disease and risk factors	4	4
Awareness of the indications for surgery for Crohn's disease including: intractability, intestinal obstruction, fistula/abscess, complications	4	4
CLINICAL SKILLS		
Treatment specific to the site of involvement in a patient with Crohn's disease	4	4
Medical management of a patient unresponsive to initial treatment	3	4
Organise surveillance and interpret biopsy results of dysplasia	3	4
Recognise and outline the management of the following complications of Crohn's disease: obstruction/stenosis, fistula, abscess, perforation, haemorrhage, toxic megacolon, severe acute colitis, genito-urinary disease, growth retardation, malnutrition, extraintestinal manifestations	3	4
Indications and contraindications, operative technique, postoperative care, functional results, risk of recurrence, and complications of operations for Crohn's disease	3	4
Recognise and discuss the management of the following manifestations of anorectal Crohn's disease: abscess, anal fistula, fissure, rectovaginal fistula, stricture, ulceration, incontinence, skin tags, haemorrhoids	3	4
TECHNICAL SKILLS		

Rectum-panproctocolectomy+ileostomy	2	3
Colectomy-right	3	4
Colectomy-transverse	3	4
Colectomy-left	3	4

LOWER GI – STOMAS

Indications for stomas: Understanding of the indications for stomas and different types of stoma		
Preoperative Evaluation for stomas: Competency in the preoperative care of a patient requiring a stoma		
Stoma creation and closure: Competency in the construction and closure of an ileostomy and a colostomy		
Postoperative Care: Competency in the postoperative care of patients after stoma formation		
Complications: Competency in the management of early and late complications of stoma formation		
Stoma Management: Competency in the management of stomas in consultation with stoma care nurses		
Stoma Physiology: Knowledge of the physiology of different stomas.		
Patient Education and Counselling: Knowledge of the information needed by a patient with a stoma		
KNOWLEDGE		
Indication for stoma		
Indications for colostomy	4	4
Indications for ileostomy	4	4
Types of stomas (loop, end, end loop, double barrel) in relation to indications	4	4
Complications - High-output ileostomy	4	4
Stoma management		
Stoma appliances, and appropriate selection	3	3
Indications, contraindications and complications for stoma irrigation	3	4
The physiologic changes associated with ileostomy, colostomy, urostomy	4	4
Normal ileostomy function including anticipated daily outputs and changes that occur in output with postoperative adaptation	4	4
Causes of high output stomas	4	4
Differential diagnosis of high output	4	4
Patient Education and Counselling - medication dosage and absorbtion	4	4
CLINICAL SKILLS		
Preoperative evaluation		
Discuss ostomy expectations with patients regarding function and anticipated output along with precautions for fluid and electrolyte balance, depending upon the type of stoma involved	4	4

BREAST ASSESSMENT

OBJECTIVES

Understand principle features of breast anatomy, physiology Assess and manage patients presenting with breast symptoms

KNOWLEDGE

Examination		
Breast, nodal basin, relevant systems	3	4
Investigation		
Triple assessment	3	4
Imaging techniques		
Ultrasound interpretation	3	4
Mammography interpretation	3	4
TECHNICAL SKILLS		
Fine needle aspiration		
Cytology; cyst/abscess drainage	3	4
Image guided	2	3
Core biopsy		
Clinical	3	4
Image guided	2	3
Punch biopsy	4	4

BENIGN BREAST CONDITIONS		
OBJECTIVES		
Assess and manage benign breast lumps, breast pain, nodularity and conditions affecting the nipple		
Assess and manage congenital, developmental and aesthetic problems of the breast		
KNOWLEDGE		
Applied Anatomy	4	4
Embryology	4	4
Pathophysiology		
BBC	4	4
Cysts	4	4
Fibroadenoma	4	4
Duct disease / ectasia / papilloma	4	4
Breast pain	4	4
Skin conditions eg eczema	4	4
Gynaecomastia	4	4

Breast sepsis - Lactational microbiology	4	4
Breast sepsis - non lactational	4	4
Periductal - microbiology	4	4
Other - microbiology	3	4
CLINICAL SKILLS		
History and Examination		
Breast, nodal basin, relevant systems	3	4
Investigation		
Triple assessment	3	4
Imaging techniques		
Ultrasound interpretation	3	4
Mammography interpretation	3	4
MRI - indications and interpretation	3	4
Management plan	3	4
TECHNICAL SKILLS		
Drainage of breast abscess		
Open	4	4
Image guided	3	4
Breast lump excision	4	4
Excision image guided lesion	3	4
Microdochectomy	3	4
Major duct excision	3	4
Fistulectomy	3	4
Nipple eversion	3	4
Reduction Mammoplasty	3	4
Mastopexy	3	4
Augmentation	3	4

	PG3	PG4
BREAST CANCER		
OBJECTIVES		
Diagnose, assess, manage breast cancer - symptomatic and screen detected		
Assess and manage atypical and precancerous lesions		
Diagnose, assess and manage less common and advanced presentations of breast cancer		
Assess and select patients for oncoplastic and reconstructive procedures		
Perform oncoplastic and plsatic surgical breast procedures and manage postoperative care and follow-up		
KNOWLEDGE		
Genetics of breast cancer		
Family History	4	4
NICE Guidelines	3	4

Risk lesions - LCIS, ADH	3	4
Pathology of in-situ breast cancer		
Clinicopathology	3	4
Epidemiology	3	4
Invasive breast cancer		
Taxonomy	3	4
Staging	3	4
Epidemiology	3	4
Cancer biology	3	4
Prognostic factors		
Chief prognostic factors	3	4
Relevance to treatment	3	4
Risk assessment / genetic testing / counselling		
Advice, diet, lifestyle, screening, risk reduction surgery	3	4
Screening		
Evidence, organisation	2	4
Delivery, imaging modality, results	2	4
Cancer staging		
Bone scan, MRI, CT, PET, tumour markers etc	3	4
Management/treatment		
Risks and benefits of treatment/no treatment	3	4
Treatment		
Indications for breast conservation / mastectomy / reconstruction	3	4
Neoadjuvant therapies including primary medical therapy	3	4
Indications for radiotherapy	3	4
Adjuvant chemotherapy - principles and indications	3	4
Endocrine therapies	3	4
HIC BREAST	3	4
Breast Service Delivery and QA		
Multidisciplinary Teams	3	4
Guidelines and protocols - network, national, etc		

NICE	3	4
ABS	3	4
NHSBSP	3	4
Others: ASCO, ST Gallen,	1	4
CLINICAL SKILLS		
History and Examination		
Breast, nodal basin, relevant systems	3	4
Investigation		
Triple assessment	3	4
Imaging techniques		
Ultrasound interpretation	3	4
Mammography interpretation	3	4
MRI - indications and interpretation	3	4
Management plan		
Develop and record plan	3	4
Communication / informed consent	3	4
TECHNICAL SKILLS		
Wide local excision		
Palpable lesion	3	4
impalpable - localised - wire/skin mark etc	2	4
Re-coning	2	4
therapuetic mammoplasty - various pedicles/incisions	2	4
Grisotti flap	2	4
Round block (Benelli)	3	4
Mastectomy		
Simple	3	4
Modified radical	2	4
skin sparing - nipple preserving	2	4
skin sparing - nipple sacrificed	2	4
Skin reducing	3	4
Axillary surgery		
removal axillary breast tissue/nipple	4	4
Lymph node biopsy	3	4
Axillary clearance -Primary . Level 1-3	3	4
Axillary clearance -completion (delayed)	3	4
Axillary surgery - repeat (recurrence)	3	4
SLNB (dual technique)	3	4
SLNB (blue dye only)	3	4
Reconstructive surgery - immediate and delayed		
Implant only - variations	3	4
Latissimus dorsi flap + implant	2	4
Latissimus dorsi flap - autologous	2	3

Neck swellings

OBJECTIVE

Assesment and Management of Neck Swellings

KNOWLEDGE

Anatomy of triangles of neck

Submental, submandibular, anterior, posterior		4
Causes of enlargement of salivary glands / thyroud gland		
Thyroglossal cyst, lymph nodes,		4
Skin and soft tissue including branchial cyst		4
Investigation of neck swellings		
Diagnostic imaging, ENT assessment, pathology and biochemistry		4
CLINICAL SKILLS		
History and examination of neck swellings		4
Investigation		
Diagnostic imaging		4
ENT assessment		4
Pathology		4
Biochemistry		4
TECHNICAL SKILLS		
Biopsy - FNA		4

Thyroid Gland

OBJECTIVE
Investigation and perioperative management of thyroid swellings and thyrotoxicosis
Preop assessment: diagnosis and assessment of thyroid swellings and thyrotoxicosis

Operative management: operative management of thyroid swellings (benign and malignant) and thyrotoxicosis

Post operative management: postoperative care after thyroid surgery

KNOWLEDGE		
Anatomy of the neck, in particular thyroid and parathyroid glands	4	4
Pathophysiology of thyroid swellings		
Generalised/solitary; functioning/non-functioning	3	4
Benign disorders of thryroid growth		
Diffuse enlargement, nodular disease	3	
Disorders of thyroid function		
Causes, Treatment options	3	
Medical treatment of thyrotoxicosis	2	3
Thyroid malignancy		
Differentiated, medullary, anaplastic, lymphoma	3	4
Genetic implications of thyroid malignancy	2	4
Principles of operation for thyroid swellings and thyrotoxicosis	2	4
Complications of thyroid surgery	3	4
Thyroid replacement therapy in benign disease	2	4
Follow up and non surgical management / treatment of thyroid malignancy	2	4
CLINICAL SKILLS		
History and examination	4	4
Investigations		
Thyroid function, autoantibodies	2	4
FNA, Ultrasound, Isotope scan	2	4
Indications for surgery		
Thyroxicosis, benign nodular disease, malignancy	2	4
Decisions for operative or non-operative management	2	4
Choice of operation	2	4
Postoperative management	2	4
Postop bleeding, airway problems, hypercalcaemia	4	4
Diagnosis and management of recurrent thyroid disease		
benign / malignant, MDT discussions	2	4
TECHNICAL SKILLS		
Thyroid lobectomy	1	4
Subtotal thyroidectomy	1	4
Total Thyroidectomy	1	4
Thyroidectomy - toxic goitre	1	4
Thyroidectomy - total + cervical node dissection - central and lateral compartments	1	4
Thyroid surgery - reoperation	1	4
Cervical approach to retrosternal goitre	1	4
Sternotomy for retrosternal goitre	1	4
Thymectomy - transcervical approach	1	4

Parathyroid Gland

OBJECTIVE
Assessment and treatment of disorders of parathyroid function

Diagnosis /Assessment: Diagnosis and assessment of disorders of parathyroid function

Post operative management: post operative management after parathyroid surgery		
KNOWLEDGE		
Anatomy / embryology / pathophysiology	4	4
Genetic implication of parathyroid disease	3	4
Hypercalcaemia		
Causes	4	4
Investigation	4	4
Medical management	3	4
Hypocalcaemia		
Causes	4	4
Investigation	4	4
Medical management	3	4
Causes of hyperparathyroidism		
Primary, renal, MEN, persistent or recurrent carcinoma	3	4
Diagnosis and assessment	2	4
Indications for and types of imaging	2	4
Indications for surgery in renal parathyroid disease	2	4
Surgical strategies for hyperparathyroidism	2	4
Intraoperative management		
Frozen section, PTH assay	2	4
Complications of parathyroid surgery	4	4
Options for and organisation of follow-up	2	4
CLINICAL SKILLS		
History and examination	3	4
Investigations - biochemical, radiological	3	4
Selection for surgery	2	4
Options		
4 gland exploration, single gland exploration	2	4
Subtotal resection, Transcervical thymectomy	2	4
Focussed approach to parathyroid surgery	2	4
Indications for mediastinal exploration	2	4
Postop complications		
Bleeding, airway problems, hypocalcaemia	4	4
TECHNICAL SKILLS		
Parathyroidectomy	1	4

Operative Management: Understanding of the principles of surgery for disorders of parathyroid function including re-exploraton of the neck

ENDOCRINE

Parathyroid surgery - reoperation	1	4
Thymectomy - transcervical	1	4

ADRENAL		
OBJECTIVE		
Assessment and management of enlarged adrenal gland including operation		
Diagnosis and assessment of adrenal swellings		
Operative management: principles of operative management of adrenal swellings		
Postoperative management: basic postoperative management of patients who have had adrenalectomy		
KNOWLEDGE		
Anatomy and physiology of adrenal	3	4
Genetic implications of adrenal disease	2	4
Causes of adrenal mass	3	4
Disorders of adrenal function		
Hyperadrenalism	2	4
Hypoadrenalism	2	4
Indications for surgery	2	4
Effect of hormone producing tumours in perioperative period	2	4
Open or laparoscopic surgery	2	3
Different approaches to adrenal - Anterior, posterior, laparoscopic	2	4
Complications of adrenalectomy	2	4
CLINICAL SKILLS		
History and examination	2	4
Investigations - Biochemical, radiological	2	4
Selection for surgery	2	4
Preoperative preparation for hormone secreting tumours		
Endocrinologist, Anaesthetist consultation	1	4
Postop management of acute adrenal insufficiency	2	4
Postoperative management of patients with hormone secreting tumours	2	4
Management of postop bleeding and infection	2	4
Appropriate follow-up	2	4
TECHNICAL SKILLS		
Adrenalectomy	1	3

PANCREATIC ENDOCRINE		
OBJECTIVE		
Diagnosis, assessment and management of pancreatic endocrine tumours (level of involvement in diagnosis and operation may vary between HPB and endocrine units)		
Diagnosis: Diagnosis and assessment of possible pancreatic endocrine tumours, often in consultation with other specialists		

Management: Management of pancreatic endocrine tumours, level of operative skill expected dependent on local arrangements		
Post-operative care: Management of both immediate and long-term care after surgery for pancreatic endocrine tumour		
KNOWLEDGE		
Presentation of neuroendocrine tumours		
Insulinoma, gastrinoma, MEN1, glucagonoma, VIPoma, nonfunctioning tumour	2	4
Investigation	2	4
Treatment options	2	4
Complications		
Bleeding, fistulae, diabetes	2	4
CLINICAL SKILLS		
History and examination	2	4
Investigations		
Biochemical, radiological, preop and intraop, ERCP, EUS	2	4
Treatment options (Laparoscopic or open) and preop preparation		
Pancreatic resection, enucleation, biliary bypass, hepatic resection, ablation of tumour	2	3
Metastatic disease management	2	3
Postop complications		
Indication for re-operation, Pancreatic leak / fistula, nutrition	2	4
TECHNICAL SKILLS		
Reoperation	1	3
Pancreas enucleation	1	3
Distal pancreatectomy	1	3
Pancreatico-duodenectomy	1	3
Biliary bypass	1	4
Left hepatectomy	1	3
Right hepatectomy	1	3
Ablation of hepatic tumour	1	3

MEN SYNDROMES		
OBJECTIVE		
Management of patients and families with proven or suspected MEN		
Multiple endocrine neoplasia syndromes including MEN1, MEN2 and familial medullary thyroid cancer: A knowledge of the genetics and various presentations of patients with MEN		
Diagnosis and management of MEN Disorders: Ability to diagnose and assess patients with MEN syndromes		
Operative Management: Operative management of MEN disorders		
Post-operative management: Post op care, Follow Up		
KNOWLEDGE		
MEN syndromes		
MEN1, MEN2, Familial medullary thyroid cancer	2	4
Genetics and screening	2	4
Pathophysiology	2	4
Clinical presentation	2	4
Subclinical disease	2	4
Natural history	2	4
Diagnosis and management		

Medullary thyroid cancer, hyperparathyroidism	2	4
Phaeochromocytoma, pancreatic neuroendocrine disease	2	3
Thyroidectomy - retrosternal goitre	1	4
Total thyroidectomy + cervical node dissection	1	4
Thyroid surgery - reoperation	1	4

Professionalism and leadership

Professional behaviour and leadership skills are integral to the specialty specific syllabuses relating to clinical practice. It is not possible to achieve competence within the specialty unless these skills and behaviours are evident. Professional behaviour and leadership skills are evidenced through clinical practice. By the end of each stage of training, the trainee must be able to demonstrate progress in acquiring these skills and demonstrating these behaviours across a range of situations as detailed in the syllabus.

Under each category heading there are learning objectives in the domains of knowledge, skills and behaviour together with example behaviours. These objectives underpin the activities that are found in the syllabus.

All the workplace based assessments contain elements which assess professional behaviour and leadership skills as DOPS, CBL, PBA,