

# **General surgery**

## **Specialty Overview**

## Overview

As gauged by the number of surgeons in practice in the specialty, general surgery is one of the two largest in the UK with 31% of the consultant surgical workforce.

During recent years and in common with many other disciplines there has been a trend towards further specialisation within the specialty. These are referred to as 'Areas of Special Interest' within general surgery as they do not have separate specialty advisory committees (SACs) within the Surgical Royal Colleges' structure.

A shared syllabus and the ability at the completion of training to manage an unselected surgical emergency 'take', provide a common purpose across the specialty of general surgery at the time of writing (2007).

The major areas of special interest associated with the specialty of general surgery are as follows:

- Upper Gastrointestinal Surgery (Oesophagogastric and Hepatopancreaticobiliary)
- Colorectal
- A combination of Upper Gastrointestinal Surgery and Coloproctology, known as General Gastrointestinal Surgery or Specialist GI surgery
- Vascular Surgery
- Transplantation (Renal, Hepatic and Pancreatic)
- Breast Surgery (Including Oncoplastic)
- Endocrine Surgery

In addition to these clearly defined disease-based areas of special interest there are others that are less well developed within the syllabus but represent substantial areas of practice:

- Military Surgery
- General Surgery of Childhood
- Remote and Rural Surgery
- Academic Surgery

The variations in the scope of practices within the specialty are highly variable and largely shaped by local circumstances, the needs of the service, and the personal development of the surgeons delivering those services.

All general surgeons are expected to have developed an area of special interest by the time they gain their CCT and some will then go on to practice exclusively in that discipline either straight away or as their individual careers develop.

There is also significant shared ('Interface') practice with other major specialties such as the head and neck specialties, urology and specialist paediatric surgery.

---

# **The Purposes Of Training In The Specialty Of General Surgery**

The purpose of training in the specialty of general surgery is to produce surgeons competent to work as consultant general surgeons in the UK.

This includes:

- Competence to manage patients presenting on an unselected emergency general surgical 'take', diagnosing, assessing and treating or referring on as appropriate.
  - Competence in the management of patients presenting with a range of symptoms and elective conditions as specified in the core syllabus for the specialty of general surgery.
  - Competence to manage an additional range of elective and emergency conditions by virtue of appropriate training and assessment opportunities obtained during training.
  - Professional competences as specified in the syllabus and derived from the CanMeds framework and Good Medical Practice documents of the Canadian Medical Association and the General Medical Council of the UK, respectively.
-

## The Training Pathway In The Specialty Of General Surgery

- The purposes of training in the specialty of general surgery are defined elsewhere.
- The syllabus supports a curriculum that is divided into three Stages, which together form the training continuum through to the level of a CCT in the Specialty of General Surgery.
- The curriculum is competence based and progress is regulated by the acquisition of specific goals set for each stage.
- Within the syllabus, the core areas of learning are listed under Key Topics.
- Variation in the time to achieve the specified learning outcomes is permitted, but an indicative time-frame is set within each stage and these are conveniently considered as annual periods (i.e. ST1, ST2, etc. to fit with the annual RITA panels.
- The indicative time frames for each stage are as follows:
  - The initial stage of training in the specialty of general surgery:
    - 2 years.
    - Emergencies,
    - General care of the surgical patient
    - Minor operative procedures.
    - Some gastrointestinal surgery in ST2
  - The intermediate stage of training in the specialty of general surgery:
    - 2 years
    - Emergency surgery
    - Short introductions to the areas of special interest within general surgery
  - The final stage of training in the specialty of general surgery:
    - 4 years
    - Further general and emergency training
    - Training in an area of specialist interest, in most areas to a level necessary for consultant practice. The special interest element is greater as training progresses
    - For ease of syllabus layout, these phases are shown separately but they will run concurrently
- This gives an overall predicted length of training of 8 years for the majority of trainees entering the specialty.

### Emergency surgery in the syllabus

- At present the great majority of general surgeons cover general surgical on-call duties. The syllabus assumes that all CCT holders will be capable of managing the general surgical “take”.
- Some vascular surgeons cover vascular surgery only.
- Emergency surgery appears throughout the syllabus for all trainees, with a progressive increase in skill levels.
- Much of emergency general surgery is gastrointestinal surgery and therefore a trainee planning to be on call as a consultant for general surgery **must do one year’s training in upper GI surgery and one year in colorectal surgery** during the **final** stage.
- Many of the topics in emergency surgery are located within the areas of special interest in the syllabus and therefore will be covered by trainees who do this type of rotation.

### Training in Breast Surgery

- Training in the care of emergencies and common elective surgical conditions is a part of the compulsory training of a general surgeon with a breast interest, special interest training being additional to this.

- The breast oncoplastic training module, largely dealing with reconstruction is available to both general and plastic surgical trainees, following completion of training to CCT level in either speciality. Full qualification in breast oncoplastic and reconstructive surgery will require a minimum of two years of training in reconstructive techniques.

### **Training in Transplant Surgery**

- The four year subspecialty training period envisaged for transplant surgery will include training in one or other of these subspecialties, with achievement of the necessary competencies.
- The following table illustrates the types of training programme that could be followed for kidney and/or liver transplantation –

### **Training in General Gastrointestinal Surgery**

- Changes in the organisation of hospital services in the UK and Ireland have led to centralisation of very specialist services in areas such as oesophagogastric and hepato-pancreatico-biliary surgery.
- Highly specialised procedures in coloproctology have traditionally been performed in regional units. Away from large centres, consultant surgeons commonly deal with the generality of the gastrointestinal tract, based on endoscopic and laparoscopic skills. Such surgeons do not carry out major oesophagogastric resections or specialised coloproctological procedures, but are well equipped to carry out the emergency on call service and straightforward elective surgery of the GI tract.
- General GI surgeons will therefore receive training in both Upper GI surgery and Coloproctology.

### **Training in Remote and Rural Surgery**

- Surgeons in Remote and Rural Surgery require training in general surgery in the broadest sense. In the last two years of training some time may be spent in an orthopaedic trauma placement and/or a urology placement. An accident and emergency placement is important with secondments to ENT and Eye emergency clinics, plastic surgery, neurosurgical trauma and obstetrics. Because of the particular nature of the training it is vital that placements are in departments with suitable workload and with trainers who are sympathetic to this type of trainee.
- A recent report to the Scottish Executive has suggested that proleptic appointments would be useful so that the last stage of training can be focussed appropriately and has emphasised the need for regular CPD secondments for established consultants, probably in the nearest large centre to which patients are referred.

### **Training in the General Surgery of Children**

- During the drafting of the General Surgical syllabus it was decided to include the common elective surgical procedures in children in a module to be taken by those who wished to operate on children in future consultant practice. This consists of frequently performed day case procedures involving the genitalia and abdominal wall, usually done as day cases.
- All future general surgeons also receive training in the management of common childhood surgical emergencies, such as abdominal pain and appendicitis, during their DGH attachments.

### **Training in Academic Surgery**

- Those considering a career in academic surgery or merely wishing to increase their exposure in this area may have already undertaken a period of research training, of variable length, before embarking on general surgical training.
- Most trainees aspiring to a career in academic surgery will take time out of general surgical training to undertake a period of full-time research (two to three years) leading to a higher degree.
- During this time trainees may continue to undertake limited clinical activity to maintain their clinical skills by, for example, participating in an on call rota. Specific training modules have been suggested by the Academy of Medical Sciences and by the Royal College of Surgeons of England. [www.asgbi.org.uk/consensus\\_statements/default.asp](http://www.asgbi.org.uk/consensus_statements/default.asp)

### **Delivery of training**

- Delivery of the syllabus will depend on local circumstances. In some hospitals it will be appropriate for trainees to have blocks of time dedicated to, for example, emergency surgery or minor operations only. In others the syllabus content for the whole of that stage may be interwoven and delivered as an integrated package. .
- The teaching and learning opportunities available will vary from one hospital to another but will usually include on the job experience and teaching in outpatients, the wards, theatres and multidisciplinary meetings. There will also be some didactic teaching in clinical meetings or courses. Trainees are encouraged to use library resources and on line resources.

## Areas of Special Interest

### Upper Gastrointestinal Surgery

Upper gastrointestinal surgery includes both hepatopancreaticobiliary and oesophagogastric surgery.

Although the majority of this area of special interest involves treatment of patients with malignancy, it also encompasses benign conditions. These include laparoscopic splenectomy, surgery for gastro-oesophageal reflux, anti-obesity surgery and surgery for complex benign biliary and pancreatic conditions.

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 will mostly be based at the large hospitals and fall within the remit of the MDT.

Within each region there will be one or two units providing a specialist service for oesophageal, hepatobiliary and pancreatic conditions.

For further information about both oesophagogastric and hepatopancreaticobiliary surgery please see the Association of Upper Gastrointestinal Surgery website at [www.augis.org](http://www.augis.org)

### Colorectal

Colorectal surgeons deal with diseases of small bowel, colon, rectum and anal canal. They work closely with medical gastroenterologists, radiologists and physiological measurement staff.

It is one of the areas of special interest encompassed by general surgery that carries the heaviest workload on account of the large numbers of patients suffering from large bowel cancer and the high proportion of patients who present as emergencies or requiring urgent treatment.

For this reason and the focus in recent years on the treatment of cancer there has been a rapid increase in the number of surgeons specialising in this area. Most medium sized district general hospitals will have several general surgeons on the staff who deal with the elective and urgent colorectal workload. Not all of these confine themselves to Coloproctology and many practice as general GI surgeons.

For further information about colorectal surgery please see the Association of Coloproctology of Great Britain and Ireland website at [www.acpghi.org.uk](http://www.acpghi.org.uk)

### General Gastrointestinal Surgery

Changes in the organisation of hospital services in the UK and Ireland have led to centralisation of subspecialist services in areas such as oesophagogastric and hepato-pancreatico-biliary surgery. Highly subspecialised procedures in coloproctology have traditionally been performed in regional units. There remains a need, principally but not exclusively in medium sized and small hospitals, for more generally trained surgeons competent in the management of the common conditions of the

gastrointestinal tract, both upper and lower. This pattern of subspecialisation is practised widely and is in demand in both NHS and private sectors.

In broad terms a General GI surgeon will be competent in:

- Upper GI surgery excluding resections for oesophagogastric and hepato-pancreatico-biliary cancer
- Coloproctology including colon cancer but not pouch surgery and sphincter repair
- Upper GI endoscopy.
- Colonoscopy
- Laparoscopic surgery, including anti reflux procedures
- [www.augis.org](http://www.augis.org)
- [www.acpgbi.org.uk](http://www.acpgbi.org.uk)
- [www.alsgbi.org](http://www.alsgbi.org)

## Transplantation

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

Many will also care for 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.

Although some surgeons will provide a service purely in kidney transplantation and access, others will combine this with general surgery, another area of special interest such as vascular surgery, or liver/pancreas transplantation.

Liver transplant surgeons are primarily responsible for all aspects of liver transplantation. Some surgeons will be liver transplant surgeons having perhaps a major commitment to paediatric transplantation, whilst others will combine it with kidney/pancreas transplantation or with hepatopancreaticobiliary surgery.

For further information about transplantation the reader is referred to the British Transplantation Society at [www.bts.org.uk](http://www.bts.org.uk)

## Vascular surgery

Vascular surgeons treat patients with peripheral vascular disease i.e. vascular disease affecting the vessels of the neck, trunk and limbs. It has become one of the most clearly defined areas of special interest within the domain of general surgery.

It is characterised by a high volume of urgent and emergency admissions and the requirement for an extensive supporting infra structure from interventional radiologists, cardiothoracic surgeons, cardiologists and ultrasonographers.

There is ongoing debate about the breadth of vascular practice and training which will include vascular medicine and radiology. The interface between the provision of vascular surgical services and renal transplantation, especially with regard to access for haemodialysis, has always been close and is likely to remain so.



For further information about Vascular Surgery in the UK the reader is referred to the Vascular Society at [www.vascularsociety.org.uk](http://www.vascularsociety.org.uk)

## **Breast Surgery (including Oncoplastic)**

Breast surgeons deal with the vast majority of patients with both benign and malignant breast disease. The small number of breast emergencies such as breast abscesses are managed initially by the on call general surgical team.

The breast surgeon is a key member of a multidisciplinary team engaged in the diagnosis and treatment of both symptomatic and screen detected cancers.

The majority of breast units are now able to offer breast reconstruction following cancer resection, either performed by general surgeons trained in reconstruction or in collaboration with a local plastic and reconstructive service.

For further information about the practice of Breast Surgery in the UK the reader is referred to the Association of Breast Surgery section at the British Association of Surgical Oncology at [www.baso.org.uk](http://www.baso.org.uk)

## **Endocrine Surgery**

Endocrine Surgeons treat patients with benign and malignant disease of the thyroid and parathyroid glands in conjunction with endocrinologists, renal physicians and oncologists as members of a local endocrine MDT.

A close working relationship with head and neck surgeons characterises the centres dealing with thyroid malignancies.

Adrenal and pancreatic endocrine surgery (both part of specialty training) are not within the remit of all endocrine surgeons. Local expertise and service configuration in individual centres (laparoscopic/HPB/urology) will dictate training opportunities and subsequent consultant practice.

For further information about the practice of Endocrine Surgery the reader is referred to the British Association of Thyroid and Endocrine Surgery (previously the British Association of Endocrine Surgeons at [www.baes.info](http://www.baes.info)

## **Military Surgery**

The military general surgeon provides the non-orthopaedic trauma service in war and on stable (peace-keeping) deployments. He or she also provides a general surgery service to deployed military and civilian personnel and occasionally to local civilians.

The usual minimum team on deployment is one consultant general surgeon, one consultant orthopaedic surgeon, two anaesthetists and a consultant physician. There is access to rapid evacuation for seriously ill or injured patients.

The military surgeon must have the full range of general surgical skills and normally maintains these skills as a consultant GI or vascular surgeon. In addition there is the requirement to be competent in managing non-orthopaedic trauma.

These skills cannot readily be gained in most UK surgical practice and therefore parallel training in trauma skills is developed and maintained throughout the career of the surgeon.

## **General Surgery of Childhood**

Specialist paediatric surgical practice aspires to provide care for children and teenagers up to the age of their seventeenth birthday.

Some years ago the introduction of a requirement for all surgeons and anaesthetists practising in this area to have undergone formal training, led to a wholesale shift of paediatric surgical practice into the regional specialist paediatric surgical units.

It became apparent that this model is not universally appropriate and that there is a requirement for the local provision in medium and large hospitals of a service for the general surgery of childhood delivered by properly trained surgeons and anaesthetists.

Much of the elective work of the general surgery of childhood comprises day case surgery and for the most part, emergency work comprises common emergency abdominal conditions such as appendicitis and urogenital tract e.g. torsion of the testicle.

Conditions of greater complexity are the preserve of Specialist Paediatric Surgeons and it is felt inappropriate to train general surgeons in this area. To date, the volume and complexity of the work involved in the general surgery of childhood has not been felt to merit designation as a circumscribed area of special interest, but increasingly Trusts are requiring specific expertise to be provided within the emergency rota and CPD for those providing elective paediatric surgical services.

## **Remote and Rural Surgery**

A small number of surgeons practise in very remote areas such as the Scottish islands. These posts are generally in attractive areas of the country but the work is challenging.

Since other specialist help will not be readily available for emergency cases, particularly good judgement and a wide range of skills and expertise are required.

The maintenance of skills in the subspecialist areas of elective surgery can be difficult.

The range of surgery practised by an individual consultant varies depending on local needs and the skills of other staff.

Accident and emergency department cover is necessary in all posts and in some posts some orthopaedic trauma and elective urology is included.

## **Academic Surgery**

Academic surgery provides an exciting and challenging career for those who wish to combine clinical surgery with a major commitment to research and undergraduate teaching.

Trainees interested in this career pathway will, in addition to completing clinical training in general surgery (and developing an area of special interest), acquire a high level of competency in research (and teaching).

After completing their clinical training those committed to an academic career will pursue a position in a university department as senior lecturer with a longer-term view to promotion to a chair in surgery.

For further information on training in academic medicine the reader is referred to the following web addresses:

- [www.mmc.nhs.uk/download/Medically-and-Dentally-Qualified-academic-staff-recommendations-Report.pdf](http://www.mmc.nhs.uk/download/Medically-and-Dentally-Qualified-academic-staff-recommendations-Report.pdf)
  - [www.asgbi.org.uk/consensus\\_statements/default.asp](http://www.asgbi.org.uk/consensus_statements/default.asp)
-

## **The Configuration and Delivery Of General Surgery Services**

The service comprises emergency and elective elements both of which require significant supporting infrastructure to deliver to modern standards.

The trend, therefore, has been to concentrate specialist services in centres serving a minimum of 500,000 population.

This model works well in cities and where there is rapid access to centralised services, but creates problems of access where the population is more thinly spread and communications less easy.

At the time of writing, hospitals serving populations of 120,000 upwards are able to provide a full general surgical emergency and elective service providing there are at least five consultant surgeons able to support the emergency rota and that they in turn are supported by neighbouring larger units and networking arrangements.

---

## The Medical Staff Delivering General Surgical Services

These comprise consultants, Staff Grades, Associate Specialists and trainees.

Other grades supporting the delivery of the service include Surgical Assistants (surgical care practitioners) and specialist nurses.

Consultant surgeons have admitting rights for patients in the hospitals in which they work. Patients so admitted remain under their care at all times unless specific arrangements are made to devolve the care of those patients to another named consultant colleague.

Consultant general surgeons, while taking the responsibility for the care of their own patients, usually work as part of a larger team (e.g. Surgical Directorates, Multi-disciplinary teams) and in turn lead their own surgical teams.

The composition of these teams is highly variable but may include surgical trainees, foundation trainees, career grade and non-medically qualified staff.

Most, but not all, consultant surgeons will take on one or more of a number of training roles.

Consultants in the specialty of general surgery will be in possession of a CCT in general surgery. At the completion of surgical training a CCT holder will be competent to manage an unselected emergency surgical 'take' and will have a developed interest in one of the areas of special interest associated with general surgery.

The scope of practice and proficiencies will qualify the CCT holder to apply for a consultant post in the specialty, and thereafter to develop his/her practice in accordance with the specifications of the post and further personal development. Some will wish to maintain a broad portfolio of practice and emergency care; others may seek to practice exclusively in the area of special interest.

Other aspects of workforce disposition may be found on the appropriate sections of the Royal College and Specialty Association web sites.

Trainees who, for whatever reason, do not complete their training through to CCT level in UK training schemes may seek to take up a non-career grade post (SAS). The scope of practice will depend very much on the individual proficiencies and the specification of the post. Surgeons in such posts work under the direction of a named consultant(s) and are important members of the team.

The training pathway in general surgery is designed to provide logical break points for those leaving or rejoining training below CCT level.

Vascular emergencies are increasingly dealt with by trained vascular surgeons, often by means of a regional clinical network.

Some highly specialised surgeons (eg breast, vascular, transplantation) may hold posts in which they are not responsible for general surgical emergencies.

# Key Topics

This list defines, in general terms the essential skills and levels of clinical expertise expected of a surgeon emerging from training having completed the surgical specialty CCT. It is unlikely that the expertise will be confined to the descriptions that follow as most surgeons will have developed additional interests and competences (special interests) by the time that they emerge from training. There is flexibility within the curricula to accommodate this.

Where a surgical specialty encompasses formal areas of special interest that have their own syllabus requirements, these are expressed in lists that build on the core requirements of the basic CCT holder.

It should be understood that as a surgical career develops following CCT, the range and levels of expertise will change in response to the demands of the service, personal aspirations and the needs of patients.

Taking into account the present and future requirements of the service, the general surgeon emerging from training at CCT level will expect to see patients presenting with a range of problems. As it is used here, the term 'manage' equates to diagnosis, assessment and treatment or referral as appropriate. The levels of expertise expected are further expressed within the detail of the syllabus.

At CCT, the general surgeon will be able to:

1. Manage patients presenting with an acute abdomen:
  1. Assessment of the acute abdomen;
  2. Peritonitis;
  3. Acute appendicitis;
  4. Acute presentation of gynaecological disease;
  5. Acute intestinal obstruction
2. Manage infections of the skin and superficial tissues:
  1. Superficial sepsis, including necrotising infections
3. Manage primary and recurrent hernia of the abdominal wall in the acute or elective situation:
  1. Elective hernia;
  2. Strangulated hernia
4. Manage the patient with multiple injuries:
  1. The assessment of the multiply injured patient, including children;
  2. Blunt and penetrating injuries;
  3. Abdominal injuries especially splenic, hepatic and pancreatic injuries;
  4. Injuries of the urinary tract;
  5. Vascular injury
5. Manage abdominal trauma:
  1. Abdominal injuries especially splenic, hepatic and pancreatic injuries;
  2. Injuries of the urinary tract
6. Provide specialist surgical support in the management of conditions affecting the reticulo-endothelial and haemopoetic systems:
  1. Conditions affecting the reticulo-endothelial +haemopoetic systems
7. Manage benign and malignant lesions of the skin and subcutaneous tissues:
  1. Lesions of the skin and subcutaneous tissues
8. Manage perforated peptic ulcer:

1. Perforated peptic ulcer
9. Manage acute GI haemorrhage:
  1. Gastrointestinal bleeding;
  2. Upper GI Haemorrhage;
  3. Gastroscopy;
  4. Endoscopy for lower GI Surgeons
10. Manage the patient presenting with upper gastrointestinal symptoms, including dysphagia and dyspepsia:
  1. Elective oesophagogastric disorders
11. Manage the patient presenting with symptoms referable to the biliary tract, including jaundice:
  1. Acute gallstone disease;
  2. Acute pancreatitis;
  3. Elective HPB disorders
12. Manage patients presenting with common benign anorectal disease:
  1. Benign anorectal;
  2. Endoscopy for lower GI Surgeons
13. Manage patients with symptoms of lower gastrointestinal disease such as change in bowel habit:
  1. Benign colon;
  2. Colorectal neoplasia;
  3. Inflammatory bowel disease;
  4. Endoscopy for lower GI Surgeons
14. Manage acute breast infection and recognise common breast conditions:
  1. Acute breast infection
15. Manage straightforward varicose veins:
  1. Venous disease
16. Recognise the acutely ischaemic limb:
  1. Acute limb ischaemia

And will possess the professional skills associated with consultant surgical practice in the UK (including those outlined in CanMEDS and Good Medical Practice).

## Index Procedures

In general surgery these are generally groups of procedures which are common and and/or seen are representing important areas of technical expertise. In the trainee logbook peer comparison graphs are produced for these procedures to give information about the amount of experience gained. The more common procedures are also used during assessment by Surgical Directly Observed Procedural Skills and Procedure Based Assessments.

### Breast

- Axillary clearance
- Duct surgery
- Image guided surgery
- Myocutaneous flaps
- Oncoplastic techniques
- Sentinel node biopsy
- Wide local excision

### Coloproctology

- Anterior resection
- Colonoscopy
- Complex fistula surgery
- Pouch surgery
- Segmental colectomy
- Sphincter repair
- Treatment of haemorrhoids

### Endocrine

- Adrenal Surgery
- Parathyroidectomy
- Re-operative thyroid surgery
- Thyroid lobectomy

Deleted: P

### General

- Hernia repair – all types
- Laparotomy for acute abdomen
- Blunt/penetrating abdominal trauma

### Hepatopancreatobiliary

- Biliary bypass
- Cholecystectomy (both laparoscopic and open)
- Drain pancreatic pseudocyst
- Exploration CBD
- Liver resection
- Pancreatic necrosectomy
- Pancreatic resection
- Repair bile duct injury

### Oesophagogastric

- Anti-reflux surgery (both laparoscopic and open)
- Gastrectomy
- Gastrojejunostomy
- Oesophagogastrectomy
- Re-do anti-reflux surgery
- Re-do gastric surgery

### General Surgery of Childhood

- Laparotomy for acute abdomen
- Orchidopexy
- Paediatric circumcision/prepuceplasty
- Paediatric hernia/hydrocele

### Transplant

- Kidney transplant
- Liver transplant-implantation of donor liver
- Liver transplant-recipient hepatectomy



## **Vascular**

- Aortic aneurysm
- Carotid endarterectomy
- Femoro-distal bypass
- Re-do vascular surgery
- Varicose vein surgery
- Vascular access

# Initial Stage

## Overview of the Initial Stage

For most General Surgical trainees, the initial stage of training will follow the Foundation Years. At this stage the trainee will focus on emergency care of surgical patients and will therefore gain skills in the assessment of the patient with an acute abdomen and the traumatised patient. Having gained skills in caring for the acutely unwell patient in the Foundation Years, these will be built upon to achieve competency in the preoperative assessment, perioperative care and postoperative management of the general surgical patient. Trainees will complete a module 'Core Surgical Skills and Knowledge for All Specialties' which is common across all the surgical specialties. Basic surgical skills will be honed mainly in Day Case and Local Anaesthetic lists and basic urological skills are included as a necessary part of every general surgeon's armamentarium.

These competencies may be gained in some general surgical units where some urology is done but might also be gained by a time in a specific urology unit. The same would apply to the section labelled "skin lesions" which could be achieved in either general surgery or plastic surgery. Some of the generic competencies could be gained in an ITU or HDU post.

Many of the topics covered are generic to all surgical specialties while other areas may also be transferable e.g. trauma skills, skin lesions. The urology topics covered may not be relevant for trainees out with general surgery and urology and if a placement in general surgery is only for 4-6 months in an average general surgical unit, these areas may not be covered.

The second year of training (ST2) should be spent entirely in general surgery. It aims to continue the acquisition of general surgical skills and those specific to general surgical practice through emphasis on the management of minor/intermediate conditions such as hernia and varicose veins. Further emergency work is important and some elective gastrointestinal surgery is included.

These competencies may be gained by several very general surgical placements which include emergency surgery or by a rotation such as:

- 3 months emergency surgery
- 3 months minor/intermediate operations
- 6 months gastrointestinal surgery (both upper and lower).

The aims, content and levels of competence to be attained for the specialty specific topics are defined in detail in the syllabus. Those trainees following an academic pathway will be expected to achieve the same level of competence at the end of ST2 as trainees undertaking a 'Surgery in general – general programme'.

Assessment tools for this stage of the curriculum include mini-PAT, CBD, mini-CEX, surgical DOPS, and the trainee portfolio. It is expected that trainees in ST1 will take the first part of MRCS during ST1 if they have not already passed it in Foundation. They are required to have passed this examination by the end of ST2.

Click on [Workplace Based Assessments](#) to view the assessment forms including DOPS and PBAs

## Topics

Topic	Basic sciences
-------	----------------

<b>Category</b>	Core Surgical Skills and Knowledge for All Specialties
<b>Sub-category:</b>	None
<b>Objective</b>	<p><i>Underpinning basic science knowledge appropriate for the practice of general surgery.</i></p> <p><i>Applied anatomy: Knowledge of anatomy appropriate for surgery</i></p> <p><i>Physiology: Knowledge of physiology relevant to surgical practice</i></p> <p><i>Pathology: Knowledge of pathological principles underlying system specific pathology</i></p> <p><i>Microbiology: Knowledge of microbiology relevant to surgical practice</i></p> <p><i>Radiology: Knowledge of diagnostic and interventional radiology</i></p> <p>Applied anatomy:</p> <p>4 Development, organs and structures, surface and imaging anatomy of thorax, abdomen, pelvis, perineum, limbs, neck as appropriate for surgical operations</p> <p>Physiology:</p> <p>4 Homeostasis</p> <p>3 Thermoregulation</p> <p>3 Metabolic pathways</p> <p>4 Blood loss</p> <p>4 Sepsis</p> <p>4 Fluid balance and fluid replacement therapy</p> <p>3 Metabolic abnormalities</p> <p>Pathology:</p> <p>4 Inflammation</p> <p>4 Wound healing</p> <p>4 Cellular injury</p> <p>4 Vascular disorders</p> <p>4 Disorders of growth, differentiation and morphogenesis</p> <p>4 Tumours</p> <p>3 Surgical immunology</p> <p>3 Surgical haematology</p> <p>Microbiology:</p> <p>4 Surgically important microorganisms</p> <p>4 Sources of infection</p> <p>4 Asepsis and antisepsis</p> <p>4 Sterilisation</p> <p>4 Antibiotics</p> <p>4 High risk patient management</p> <p>Radiology:</p> <p>3 Principles of diagnostic and interventional radiology</p>
<b>Knowledge</b>	

**Clinical Skills** No content  
**Technical Skills and Procedures** No content  
**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

**Topic** **Basic surgical skills**  
**Category** Core Surgical Skills and Knowledge for All Specialties  
**Sub-category:** None  
*Acquisition of basic surgical skills in instrument and tissue handling.*  
*Incision of skin and subcutaneous tissue: Ability to incise superficial tissues accurately with suitable instruments.*  
*Closure of skin and subcutaneous tissue: Ability to close superficial tissues accurately.*  
*Knot tying: Ability to tie secure knots.*

**Objective**  
*Haemostasis: Ability to achieve haemostasis of superficial vessels.*  
*Tissue retraction: Use of suitable methods of retraction.*  
*Use of drains: Knowledge of when to use a drain and which to choose.*  
*Tissue handling: Ability to handle tissues gently with appropriate instruments.*  
*Skill as assistant: Ability to assist helpfully, even when the operation is not familiar.*

Incision of skin and subcutaneous tissue:  
 4 Langer’s lines  
 4 Healing mechanism  
 4 Choice of instrument  
 4 Safe practice  
 4 Basic Surgical Skills course

Closure of skin and subcutaneous tissue:  
 4 Options for closure  
 4 Suture and needle choice  
 4 Safe practice

**Knowledge**  
 Knot tying:  
 4 Choice of material for tensile strength, handling characteristics and knotting

Haemostasis:  
 4 Techniques

Tissue retraction:

4 Choice of instruments

Use of drains:

4 Indications

4 Types

4 Management/removal

Tissue handling:

4 Choice of instruments

Incision of skin and subcutaneous tissue:

4 Ability to use scalpel, diathermy and scissors

Closure of skin and subcutaneous tissue:

4 Accurate and tension free apposition of wound edges

Knot tying:

4 Single handed

4 Double handed

4 Instrument

4 Superficial

4 Deep

Haemostasis:

4 Control of bleeding vessel (superficial)

4 Diathermy

4 Suture ligation

4 Tie ligation

4 Clip application

**Clinical Skills**

Tissue retraction:

4 Tissue forceps

4 Placement of wound retractors

Use of drains:

4 Insertion

4 Fixation

4 Removal

Tissue handling:

4 Appropriate application of instruments and respect for tissues

Skill as assistant:

4 Anticipation of needs of surgeon when assisting

**Technical Skills and Procedures** No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

**Topic** **The Assessment and Management of the Surgical Patient**

**Category** Core Surgical Skills and Knowledge for All Specialties

**Sub-category:** None

**Objective** *Ability to assess the patient and manage the patient, and propose surgical or non-surgical management.*

**Knowledge**  
3 Anatomy  
3 Pathogenesis of shock  
1 Differences In Children  
3 Surgical history and examination (elective and emergency)  
3 Construct a differential diagnosis  
3 Plan investigations  
3 Clinical decision making  
**Clinical Skills**  
3 Case work up and evaluation; risk management  
3 Active participation in MDTs  
3 Taking consent for intermediate level intervention; emergency and elective  
3 Written clinical communication skills  
3 Interactive clinical communication skills: patients  
3 Interactive clinical communication skills: colleagues

**Technical Skills and Procedures** No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

**Topic** **Peri-operative care**

**Category** Core Surgical Skills and Knowledge for All Specialties

**Sub-category:** None

*Ability to manage patient care in the peri-operative period.*

*Pre-operative assessment and management: Ability to assess the patient adequately prior to operation and manage any pre-operative problems appropriately.*

**Objective** *Intraoperative care: Ability to conduct safe surgery in the operating theatre environment.*

*Post-operative care: Ability to care for the patient in the post-operative period.*

*Blood Products: Appropriate use of blood products.*

*Antibiotics: Appropriate use of antibiotics.*

Pre-operative assessment and management:

**Knowledge**  
4 Cardiorespiratory physiology  
3 Diabetes mellitus

- 3 Renal failure
- 4 Pathophysiology of blood loss
- 4 Pathophysiology of sepsis
- 4 Risk factors for surgery and scoring systems
- 3 Principles of day surgery

Intraoperative care:

- 4 Safety in theatre
- 4 Sharps safety
- 4 Diathermy, laser use
- 4 Infection risks
- 3 Radiation use and risks
- 4 Tourniquets
- 3 Principles of local, regional and general anaesthesia

Post-operative care:

- 4 Cardiorespiratory physiology
- 3 Diabetes mellitus
- 3 Renal failure
- 4 Pathophysiology of blood loss
- 4 Pathophysiology of sepsis
- 4 Complications specific to particular operation
- 2 Critical care

Blood Products:

- 4 Components of blood
- 4 Alternatives to use of blood products

Antibiotics:

- 4 Common pathogens in surgical patients
- 4 Antibiotic sensitivities
- 4 Antibiotic side-effects
- 4 Principles of prophylaxis and treatment

Pre-operative assessment and management:

- 4 History and examination
- 4 Interpretation of pre-operative investigations
- 3 Management of comorbidity
- 4 Resuscitation

**Clinical Skills**

Intraoperative care:

- 4 Safe conduct of intraoperative care

Post-operative care:

- 4 Assessment of patient's condition
- 4 Post-operative analgesia
- 4 Fluid and electrolyte management

- 4 Monitoring of post-operative patient
- 4 Detection of impending organ failure
- 4 Initial management of organ failure
- 4 Use of MDT meetings

Blood Products:

- 4 Appropriate use of blood products
- 4 Management of the complications of blood product transfusion

Antibiotics:

- 4 Appropriate prescription of antibiotics

**Technical Skills and Procedures** No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

**Topic** Assessment of multiply injured patients including children

**Category** Core Surgical Skills and Knowledge for All Specialties

**Sub-category:** None

**Objective** *Safely assess the multiply injured patient.*

**Knowledge**

- 3 Anatomy
- 3 Pathogenesis of shock
- 1 Differences In Children
- 4 History and examination
- 3 Investigation
- 4 Resuscitation and early management according to ATLS and APLS guidelines
- 3 Referral to appropriate surgical subspecialties

**Clinical Skills**

**Technical Skills and Procedures**

- 3 Central venous line insertion
- 3 Chest drain insertion
- 2 Diagnostic peritoneal lavage

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

**Topic** Bleeding diathesis

**Category** Core Surgical Skills and Knowledge for All Specialties

**Sub-category:** None

*Understand, Recognise and Manage bleeding diathesis in the surgical patient.*

**Objective** *Diagnosis: Diagnose possible bleeding diathesis in the surgical patient.*

*Treatment: Manage bleeding diathesis in the surgical patient.*

Diagnosis:

**Knowledge**

- 3 Mechanism of haemostasis
- 3 Pathology of impaired haemostasis e.g. haemophilia, liver disease, massive



haemorrhage

Treatment:

3 Understands use of blood products

Diagnosis:

4 Recognition of conditions likely to lead to the diathesis

3 Recognition of abnormal bleeding during surgery

**Clinical Skills**

Treatment:

3 Avoidance by correct surgical techniques

3 Corrective measures, e.g. warming, packing

**Technical Skills  
and Procedures**

No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

**Topic** Venous thrombosis + embolism

**Category** Core Surgical Skills and Knowledge for All Specialties

**Sub-category:** None

*Understanding of practice in the prevention and management of Venous thrombosis and Embolism.*

*Coagulation: Understanding of the physiology and pathophysiology of coagulation.*

**Objective** *Diagnosis: Able to arrange basic investigation of patients with suspected venous thrombosis and embolism.*

*Treatment: Ability to initiate treatment of venous thrombosis and embolism.*

*Prophylaxis: Use of common methods of prophylaxis against venous thrombosis and embolism.*

Coagulation:

2 Clotting mechanism (Virchow Triad)

2 Effect of surgery and trauma on coagulation

2 Tests for thrombophilia and other disorders of coagulation

Diagnosis:

**Knowledge**

2 Methods of investigation for suspected thromboembolic disease

Treatment:

4 Anticoagulation, heparin and warfarin

2 Role of V/Q scanning, CT angiography and thrombolysis

2 Place of pulmonary embolectomy

Prophylaxis:

3 Knowledge of methods of prevention, mechanical and pharmacological

Coagulation:

4 Recognition of patients at risk

Diagnosis:

3 Awareness of symptoms and signs associated with pulmonary embolism and DVT

**Clinical Skills** 2 Role of duplex scanning, venography and d-dimer measurement

Treatment:

3 Initiate and monitor treatment

Prophylaxis:

4 Awareness at all times of the importance of prophylaxis

**Technical Skills and Procedures** No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

**Topic** Nutrition

**Category** Core Surgical Skills and Knowledge for All Specialties

**Sub-category:** None

**Objective** *Recognise the need for artificial nutritional support and arrange enteral nutrition.*

**Knowledge** 3 Effects of malnutrition, both excess and depletion  
3 Methods of screening and assessment

**Clinical Skills** 3 Arrange access to suitable artificial nutritional support, preferably via a nutrition team: Dietary supplements  
2 Arrange access to suitable artificial nutritional support, preferably via a nutrition team: Enteral nutrition  
1 Arrange access to suitable artificial nutritional support, preferably via a nutrition team: Parenteral nutrition

**Technical Skills and Procedures** No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

**Topic** Academic activity

**Category** Core Surgical Skills and Knowledge for All Specialties

**Sub-category:** None

*An introduction to research methodology and to teaching others.*

**Objective** *Research: Ability to perform a simple research study and present the results.*

*Teaching: Ability to teach small groups such as medical students.*

Research:

2 Research methodology

**Knowledge**

Teaching:

2 Teaching methods

Research:

2 Ability to analyse published evidence

**Clinical Skills**

Teaching:

3 Ability to teach small groups

**Technical Skills  
and Procedures**

No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

**Topic** **Management of the dying patient**

**Category** Core Surgical Skills and Knowledge for All Specialties

**Sub-category:** None

*Ability to manage the dying patient appropriately.*

**Objective**

*Palliative Care: Good management of the dying patient in consultation with the palliative care team.*

*Principles of organ donation: Knowledge of the principles of organ donation.*

Palliative Care:

3 Care of the terminally ill

4 Analgesia

3 Antiemetics

3 Laxatives

**Knowledge**

Principles of organ donation:

3 Circumstances in which consideration of organ donation is appropriate

3 Principles of brain death

3 Understanding the role of the coroner and the certification of death

Palliative Care:

**Clinical Skills**

3 Symptom control in the terminally ill patient

**Technical Skills  
and Procedures**

No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

<b>Topic</b>	<b>Endocrine and Metabolic Disorders</b>
<b>Category</b>	Core Surgical Skills and Knowledge for All Specialties
<b>Sub-category:</b>	None
	<i>To identify, investigate and manage surgical patients with common metabolic disorders</i>
	<i>To identify, investigate and manage surgical patients with Thyrotoxicosis</i>
	<i>To identify, investigate and manage surgical patients with Hypothyroidism</i>
<b>Objective</b>	<i>To identify, investigate and manage surgical patients with Hypercalcaemia</i>
	<i>Knowledge of the significance of corticosteroid therapy in patient care</i>
	<i>To identify, investigate and manage surgical patients with diabetes mellitus</i>
	<i>To identify, investigate and manage surgical patients with Hyponatraemia</i>
	Thyrotoxicosis
	4 Pathophysiology of thyroid hormone excess and associated risks from surgery
	Hypothyroidism
	4 Pathophysiology of thyroid hormone deficiency and associated risks from surgery
	Hypercalcaemia
	3 Causes and effects of hypercalcaemia
<b>Knowledge</b>	Cortico-steroid therapy
	4 Complications
	4 Steroid insufficiency
	Diabetes Mellitus
	4 Complications
	Hyponatraemia
	4 Pathophysiology of fluid and electrolyte balance
	4 Causes of hyponatraemia
	Thyrotoxicosis
	4 History and examination
	3 Investigation of thyrotoxicosis
	Hypothyroidism
	4 History and examination
	4 Investigation
<b>Clinical Skills</b>	Hypercalcaemia
	3 Investigation of hypercalcaemia
	3 Treatment of hypercalcaemia
	Cortico-steroid therapy
	4 Peri-operative management of patients on steroid therapy

Diabetes Mellitus  
4 Peri-operative management of diabetic patients

Hyponatraemia  
4 Treatment

**Technical Skills and Procedures** No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

**Topic** **Child Protection**

**Category** Core Surgical Skills and Knowledge for All Specialties

**Sub-category:** None

**Objective** No content

4 Working knowledge of trust and Local Safeguarding Children Boards (LSCBs) Child Protection Procedures

4 Basic understanding of child protection law

4 Understanding of Children's rights

**Knowledge** 4 Working knowledge of types and categories of child maltreatment, presentations, signs and other features (primarily physical, emotional, sexual, neglect, professional)

4 Understanding of one personal role, responsibilities and appropriate referral patterns in child protection

4 Understanding of the challenges of working in partnership with children and families

Ability to:

4 Recognise the possibility of abuse or maltreatment

4 Recognise limitations of own knowledge and experience and seek appropriate expert advice

**Clinical Skills** 4 Urgently consult immediate senior in surgery to enable referral to paediatricians

4 Keep appropriate written documentation relating to child protection matters

4 Communicate effectively with those involved with child protection, including children and their families

**Technical Skills and Procedures** No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

**Topic** **Assessment of patients with possible intra-abdominal injuries**

**Category** ST1 Emergency Trauma

**Sub-category:** None

**Objective** *Safely assess and manage the multiply injured patient, with particular regard to possible abdominal injuries.*

3 Anatomy of abdomen

3 Pathogenesis of shock

**Knowledge** 1 Differences In Children

2 Principles of management of severely injured patients

3 Importance of mechanism of injury

**Clinical Skills** 4 History and examination

- 3 Investigation
- 3 Appropriate use of ultrasound and CT for assessment of abdominal injury
- 2 Indications for intervention in abdominal injury

**Technical Skills and Procedures** 2 Diagnostic peritoneal lavage  
1 Laparotomy/Laparoscopy

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

<b>Topic</b>	<b>Superficial sepsis, including necrotising infections</b>
<b>Category</b>	ST1 Emergency Other
<b>Sub-category:</b>	None <i>Recognition and management of simple infective lesions of skin.</i>  <i>Infected Sebaceous cyst/carbuncle: Recognition and management of infected sebaceous cyst/carbuncle.</i>
<b>Objective</b>	<i>Superficial Abscess: Recognition and management of superficial abscess.</i>  <i>Cellulitis: Recognition and management of Cellulitis.</i>  <i>Infected Ingrown Toenail/Paronychia: Recognition and management of infected ingrown toenail/paronychia.</i> Infected Sebaceous cyst/carbuncle:  3 Natural history 3 Bacteriology 3 Medical conditions associated  Superficial Abscess:  4 Aetiology 4 Natural history 4 Bacteriology
<b>Knowledge</b>	Cellulitis:  3 Aetiology 3 Medical conditions associated 3 Immunocompromised patients 4 Bacteriology 4 Antibiotic therapy  Infected Ingrown Toenail/Paronychia:  4 Aetiology 4 Bacteriology 4 Atherosclerosis 4 Diabetes
<b>Clinical Skills</b>	Infected Sebaceous cyst/carbuncle:

4 History and examination  
3 Medical management of Diabetes peri-operatively

Superficial Abscess:

4 History and examination

Cellulitis:

4 History + examination  
4 IV Therapy

Infected Ingrown Toenail/Paronychia:

4 History + examination

Infected Sebaceous cyst/carbuncle:

4 Abscess-drainage(not breast/anal/abdominal)  
4 Benign skin or subcutaneous lesion-excision biopsy

**Technical Skills and Procedures**

Superficial Abscess:

4 Abscess-drainage(not breast/anal/abdominal)

Infected Ingrown Toenail/Paronychia:

4 Ingrowing toenail-avulsion/wedge resection/phenolisation

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

<b>Topic</b>	<b>Peritonitis</b>
<b>Category</b>	ST1 Emergency Other
<b>Sub-category:</b>	None
<b>Objective</b>	<i>Recognition of peritonitis and initiation of treatment.</i>
<b>Knowledge</b>	3 Anatomy of abdomen and pelvis 2 Differential diagnosis 3 Pathophysiology and treatment of intraperitoneal sepsis, generalised sepsis and septicaemic shock 3 Conditions which do not require surgery 4 History and exam 4 Recognition of severity of illness 2 Investigation 4 Resuscitation including antibiotics, invasive monitoring
<b>Clinical Skills</b>	3 Treat symptoms 2 Timing of intervention 2 Recognition of success/failure of nonoperative treatment 1 Ability to perform emergency laparotomy 2 Recognition of management of complications
<b>Technical Skills and Procedures</b>	1 Laparotomy/laparoscopy 1 Gastro/duodenum-perforated PU closure
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Initial</a> section for these skills

**Topic** **Assessment of the acute abdomen**  
**Category** ST1 Emergency Other  
**Sub-category:** None  
**Objective** *Ability to assess the acute abdomen, resuscitate the patient and judge whether immediate operation is necessary.*  
3 Abdominal anatomy  
3 Aetiology  
**Knowledge** 3 Pathophysiology of shock  
3 Pathophysiology of peritonitis and sepsis  
3 Differential diagnosis  
4 History and examination  
4 Resuscitation  
**Clinical Skills** 2 Investigation  
2 Recognition of indication for surgery  
1 Ability to perform emergency laparotomy/laparoscopy  
**Technical Skills and Procedures** 4 Central venous line insertion  
1 Laparotomy/laparoscopy  
**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

**Topic** **Acute appendicitis**  
**Category** ST1 Emergency Other  
**Sub-category:** None  
**Objective** *Can safely recognise acute appendicitis as a cause of the acute abdomen and deal with some cases with supervision.*  
3 Anatomy of abdomen and its contents  
**Knowledge** 3 Natural history of appendicitis  
3 Pathophysiology of appendicitis  
3 Effects of overwhelming sepsis and its management  
4 History taking, examination and investigation pertinent to acute abdomen  
**Clinical Skills** 4 Resuscitation  
3 Post-operative management  
**Technical Skills and Procedures** 2 Appendicectomy  
**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

**Topic** **Lesions of the skin and subcutaneous tissues**  
**Category** ST1 General  
**Sub-category:** None  
*Recognise benign lesions of skin and subcutaneous tissue and treat when appropriate.*  
**Objective** *Diagnosis of benign lesions of skin and subcutaneous tissues: Recognise benign lesions of skin and subcutaneous tissue.*  
*Treatment of benign lesions of skin and subcutaneous tissues: Appropriate*



*management of benign lesions of skin and subcutaneous tissue.*

Diagnosis of benign lesions of skin and subcutaneous tissues:

4 Anatomy and histology of skin and subcutaneous tissues  
3 Pathology of common lesions, such as naevi, sebaceous cysts, vitiligo, Campbell de Morgan spots, basal cell papillomas

**Knowledge**

Treatment of benign lesions of skin and subcutaneous tissues:

4 Techniques of local anaesthesia  
4 Knowledge of non-surgical treatments

Diagnosis of benign lesions of skin and subcutaneous tissues:

4 Examination technique  
3 Ability to identify those lesions requiring treatment, either surgical or by dermatologist

**Clinical Skills**

Treatment of benign lesions of skin and subcutaneous tissues:

4 Local anaesthetic techniques

Treatment of benign lesions of skin and subcutaneous tissues:

4 Benign skin or subcutaneous lesion-excision biopsy

**Technical Skills and Procedures**

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

**Topic** **Outpatient skills**

**Category** ST1 General

**Sub-category:** None

**Objective** *Take appropriate history and carry out relevant examination, including sigmoidoscopy and proctoscopy where needed, initiate appropriate investigations.*

**Knowledge** 2 Relevant anatomy, physiology and clinical knowledge for the system involved

**Clinical Skills** 3 Focused history taking and examination  
2 Organise appropriate investigations

**Technical Skills and Procedures** 3 Sigmoidoscopy-rigid  
3 Haemorrhoids-OP treatment(injection, banding or infrared coagulation)

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

**Topic** **Conditions Affecting the Scrotum**

**Category** ST1 Urology

**Sub-category:** None

**Objective** *Diagnosis and management of testicular torsion. Diagnosis and management of hydrocele. Diagnosis and management of epididymal cyst. Diagnosis and management of some cases of undescended testis in adults. Diagnosis and appropriate referral of testicular tumours. Diagnosis and management of straightforward cases of epididymo-orchitis.*

Torsion of the Testicle:  
4 Anatomy of the Scrotum and Testicle  
4 Pathophysiology of Torsion  
4 Differential Diagnosis

Hydrocele:  
4 Anatomy of the Scrotum and Testicle  
4 Pathophysiology of Hydrocele  
4 Differential Diagnosis

Epididymal Cysts:  
4 Anatomy and embryology of the Scrotum and Testicle  
3 Pathophysiology of degenerative conditions of the scrotum  
4 Differential Diagnosis  
4 Complications of surgery for epididymal cyst

## **Knowledge**

Undescended Testicle in the adult:  
4 Anatomy and embryology of the Scrotum and Testicle  
4 Pathophysiology of undescended testicle  
4 Differential Diagnosis  
4 Indications for specialist consultation

Tumours of the Testicle:  
4 Anatomy of the Scrotum and Testicle  
4 Pathophysiology of common tumours of the testicle  
4 Differential Diagnosis

Epididymo-orchitis:  
4 Anatomy of the Scrotum and Testicle  
4 Aetiology of epididymo-orchitis  
4 Pathophysiology of local infection  
4 Differential Diagnosis

Torsion of the Testicle:  
4 History and physical Signs  
3 Investigation  
4 Treatment including surgery

Hydrocele:  
4 Elicit appropriate history and physical Signs  
4 Management including conservative treatment or drainage where appropriate

## **Clinical Skills**

Epididymal Cysts:  
4 History and physical Signs  
4 Arrange investigation if necessary  
4 Management including surgery if indicated

Undescended Testicle in the adult:  
4 History and physical Signs  
3 Arrange investigations if necessary  
3 Management including surgery

Tumours of the Testicle:  
4 History and physical Signs

3 Arrange investigations  
4 Refer to specialist once diagnosis made

Epididymo-orchitis:  
4 History and physical Signs  
4 Arrange investigations  
3 Treatment including referral to specialist if appropriate

Torsion of the Testicle:  
4 Testis-orchidopexy  
4 Testis-orchidectomy

Hydrocele:  
4 Testis-hydrocoele repair

**Technical Skills  
and Procedures**

Epididymal Cysts:  
3 Testis-epididymal cyst excision

Undescended Testicle in the adult:  
3 Testis-orchidopexy  
4 Testis-orchidectomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

<b>Topic</b>	<b>Bladder and Urethra</b>
<b>Category</b>	ST1 Urology
<b>Sub-category:</b>	None
<b>Objective</b>	<i>To recognise and institute initial management for common conditions affecting the male urethra.</i> <i>Diagnosis and emergency management of urethral stricture.</i> <i>Diagnosis of urinary retention and ability to relieve retention.</i>
<b>Knowledge</b>	Urethral Stricture: 3 Causes and natural history of urethral stricture 3 Treatment options of urethral stricture
<b>Clinical Skills</b>	Urinary Retention: 4 Pathophysiology of bladder outlet obstruction, including prostatism, stone disease and conditions of the urethral stricture Urethral Stricture: 4 Recognition of the condition before or during instrumentation
<b>Technical Skills and Procedures</b>	Urinary Retention: 3 Diagnose retention and categorise into acute or chronic 4 Appropriate techniques for the relief of urinary retention, including urethral and suprapubic catheterisation  4 Appropriate history, Examination 4 Urethral catheterisation Urethral Stricture: 4 suprapubic catheter insertion  Urinary Retention:

4 Suprapubic catheter

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

<b>Topic</b>	<b>Male Genital Tract</b>
<b>Category</b>	ST1 Urology
<b>Sub-category:</b>	None
<b>Objective</b>	<i>Ability to assess conditions of the foreskin and perform circumcision, male sterilisation.</i> <i>Ability to assess conditions of the foreskin and perform circumcision.</i> <i>Ability to perform male sterilisation.</i>
<b>Knowledge</b>	Conditions affecting the Adult Foreskin: 4 Anatomy and Embryology of the Foreskin 4 Knowledge of conditions affecting the foreskin (Balanitis Xerotica Obliterans, Congenital Phimosis, Carcinoma of the Penis) 3 Complications of the condition and treatment
<b>Clinical Skills</b>	Male Sterilisation: 3 Anatomy and embryology of the Scrotum and Testicle 3 Pathophysiology Spermatogenesis and male and female reproduction 3 Male and female sterilisation Techniques 3 Complications of sterilisation Conditions affecting the Adult Foreskin: 4 Appropriate History and Examination 3 Management including treatment 3 Recognise Cancer of the Penis
<b>Technical Skills and Procedures</b>	Male Sterilisation: 4 Appropriate History and examination 4 Management of complications Conditions affecting the Adult Foreskin: 4 Circumcision - adult
<b>Professional Skills</b>	Male Sterilisation: 4 Vasectomy
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Initial</a> section for these skills

<b>Topic</b>	<b>Urinary Tract</b>
<b>Category</b>	ST1 Urology
<b>Sub-category:</b>	None
<b>Objective</b>	<i>Diagnosis of possible urinary calculi or urinary tract infection and provision of appropriate emergency treatment.</i> <i>Diagnosis of possible urinary tract calculi, particularly complications which require urgent urological consultation.</i> <i>Diagnosis and treatment of uncomplicated urinary tract infection.</i>
<b>Knowledge</b>	Urinary Tract Calculi: 3 Pathophysiology of nephro-uretero lithiasis.

- 4 Presentation and clinical course of condition
- 2 Management options
- 3 Complications of urinary tract calculi

Urinary tract infection:

- 4 Causes and pathophysiology of urinary tract infections, including the complications
- 4 Presentation of urinary tract infection
- 3 Antibiotics and their relevant pharmacology
- 3 Indications for further investigation of urinary tract infection

Urinary Tract Calculi:

- 4 Diagnosis of possible urinary tract calculi
- 3 Investigation of possible urinary tract calculi
- 4 Emergency treatment of uncomplicated urinary tract calculi
- 4 Detection of severe complications such as obstructed kidney, renal failure, perinephric abscess

**Clinical Skills**

Urinary tract infection:

- 4 Diagnosis of urinary tract infection
- 4 Management of uncomplicated urinary tract infection

**Technical Skills and Procedures**

No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

**Topic** Abdominal injuries especially splenic, hepatic and pancreatic injuries

**Category** ST2 Emergency Trauma - see also organ specific topics

**Sub-category:** None

**Objective** *Recognise, investigate abdominal injuries and institute treatment.*

- 3 Aetiology
- 3 Mechanisms of injury and possible consequences, eg GSW, stabbing, seat belt injuries
- 3 Clinical features
- 3 Pathophysiology of shock
- 3 Indications for use of uncrossmatched blood
- 3 Coagulopathy
- 3 Abdominal anatomy
- 3 Pathophysiology of peritonitis and sepsis

**Knowledge**

- 4 Resuscitation
- 4 Investigation
- 2 Recognition of injuries requiring management by other specialities
- 2 Management of hollow organ injury

**Clinical Skills**

- 4 Central venous line insertion
- 3 Diagnostic peritoneal lavage
- 2 Laparotomy- trauma

**Technical Skills and Procedures**

- 1 Liver trauma-debridement/packing
- 1 Pancreatectomy-distal
- 2 Splenectomy
- 1 Splenic repair

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

<b>Topic</b>	<b>Assessment of the acute abdomen</b>
<b>Category</b>	ST2 Emergency Other - see also organ specific topics
<b>Sub-category:</b>	None
<b>Objective</b>	<i>Assessment and resuscitation of the patient with acute abdomen, management including supervised laparotomy in straightforward cases.</i>
	3 Abdominal anatomy
	3 Aetiology
<b>Knowledge</b>	3 Pathophysiology of shock
	3 Pathophysiology of peritonitis and sepsis
	3 Differential diagnosis
	4 History and examination
	4 Resuscitation
<b>Clinical Skills</b>	2 Investigation
	3 Recognition of indication for surgery
	2 Ability to perform emergency laparotomy/laparoscopy
<b>Technical Skills and Procedures</b>	4 Central venous line insertion
	2 Laparotomy/laparoscopy
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Initial</a> section for these skills

<b>Topic</b>	<b>Acute Appendicitis</b>
<b>Category</b>	ST2 Emergency Other - see also organ specific topics
<b>Sub-category:</b>	None
<b>Objective</b>	<i>Ability to diagnose appendicitis and treat the patient from start to finish.</i>
	4 Anatomy of abdomen and pelvis
<b>Knowledge</b>	4 Effects of overwhelming sepsis and its management
	4 Natural history of appendicitis
	4 Pathophysiology of appendicitis
	4 Resuscitation
<b>Clinical Skills</b>	4 History taking, examination and investigation pertinent to acute abdomen
	4 Post-operative management
<b>Technical Skills and Procedures</b>	4 Appendectomy
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Initial</a> section for these skills

<b>Topic</b>	<b>Peritonitis</b>
<b>Category</b>	ST2 Emergency Other - see also organ specific topics
<b>Sub-category:</b>	None
<b>Objective</b>	<i>Recognition of peritonitis and management including supervised straightforward emergency laparotomy.</i>
	4 Anatomy of abdomen and pelvis
	3 Differential diagnosis
<b>Knowledge</b>	4 Pathophysiology and treatment of intra-peritoneal sepsis, generalised sepsis and septicaemic shock
	4 Conditions which do not require surgery

	4 History and exam
	4 Recognition of severity of illness
	3 Investigation
<b>Clinical Skills</b>	4 Resuscitation including antibiotics, invasive monitoring
	4 Treat symptoms
	3 Timing of intervention
	2 Recognition of success/failure of nonoperative treatment
	2 Ability to perform emergency laparotomy
	2 Recognition and management of complications
<b>Technical Skills and Procedures</b>	2 Gastro/duodenum-perforated PU closure
	1 Hartmanns procedure
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Initial</a> section for these skills

<b>Topic</b>	<b>Acute presentation of gynaecological disease</b>
<b>Category</b>	ST2 Emergency Other - see also organ specific topics
<b>Sub-category:</b>	None
<b>Objective</b>	<p><i>Recognise that gynaecological disease may present to the general surgeon.</i></p> <p><i>Pelvic inflammatory disease/Endometriosis/salpingitis: Diagnosis and initial management of pelvic sepsis.</i></p> <p><i>Obstruction secondary to Ovarian Carcinoma: Recognition that bowel obstruction may be due to ovarian carcinoma.</i></p> <p><i>Intra abdominal haemorrhage due to ruptured Ovarian cyst or Ectopic Pregnancy: Recognise the possibility of ectopic pregnancy and refer to the appropriate team.</i></p> <p><i>Iatrogenic injury: Recognise that an iatrogenic injury may be the cause of the patient's symptoms and consult with senior.</i></p> <p>Pelvic inflammatory disease/Endometriosis/salpingitis:</p> <p>4 Anatomy and physiology of Pelvic organs 2 Infective intra abdominal conditions 1 Appropriate management of likely conditions /Antibiotic treatment /referral pathway</p> <p>Obstruction secondary to Ovarian Carcinoma:</p> <p>4 Anatomy and physiology of Pelvic organs 2 Understand investigation of the obstructed colon 2 Understand modern management of Ovarian carcinoma</p> <p>Intra abdominal haemorrhage due to ruptured Ovarian cyst or Ectopic Pregnancy:</p> <p>4 Anatomy and physiology of pelvic organs 1 Management of abnormality discovered</p> <p>Iatrogenic injury:</p>
<b>Knowledge</b>	

4 Anatomy and physiology of abdominal organs  
Pelvic inflammatory disease/Endometriosis/salpingitis:

4 Assessment of acute abdomen - History and examination  
2 Organise pelvic ultrasound /Pregnancy test /CT/tumour markers  
1 Ability to perform diagnostic laparoscopy and/or laparotomy

Obstruction secondary to Ovarian Carcinoma:

4 Assessment of Acute abdomen - History and examination  
2 Nonoperative management  
2 Perform emergency laparotomy

**Clinical Skills**

Intra abdominal haemorrhage due to ruptured Ovarian cyst or Ectopic Pregnancy:

4 Assessment of Acute abdomen - History and examination  
2 Organise pelvic ultrasound /Pregnancy test

Iatrogenic injury:

2 Recognition of nature and extent of injury  
2 Laparotomy/laparoscopy  
1 Hartmanns procedure  
1 Sigmoid colectomy

**Technical Skills and Procedures**

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

**Topic** Superficial sepsis, including necrotising infections

**Category** ST2 Emergency Other - see also organ specific topics

**Sub-category:** None

**Objective** *Diagnosis of gas gangrene and other necrotising infections.*

3 Natural history of condition  
3 Vulnerable individuals  
3 Physiology of associated conditions; diabetes, atherosclerosis, steroid therapy, immunocompromised etc

**Knowledge** 3 Knowledge of bacteriology and toxins involved  
3 Mechanisms of septic shock  
3 Massive blood transfusion complications  
3 Knowledge of appropriate antibiotic therapy  
2 Knowledge of necrotising fasciitis

**Clinical Skills** 4 History and examination  
2 Recognition of the early warning signs  
1 Radical excisional surgery

**Technical Skills and Procedures** 1 Fournier's gangrene/necrotising fasciitis/debridement

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

**Topic** Elective hernia



<b>Category</b>	ST2 General
<b>Sub-category:</b>	None
<b>Objective</b>	<i>Diagnosis + management of abdominal wall hernia, including operative management of primary inguinal hernia.</i>
	3 Anatomy of inguinal region including inguinal canal, femoral canal, abdominal wall and related structures e.g. adjacent retroperitoneum and soft tissues
	3 Relationship of structure to function of anatomical structures
<b>Knowledge</b>	3 Natural history of abdominal wall hernia including presentation, course and possible complications
	3 Treatment options
	3 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
<b>Clinical Skills</b>	4 Diagnose and assess a patient presenting with abdominal wall hernia, including inguinal, femoral, epigastric, umbilical, paraumbilical and incisional hernias
	3 Supervise the post-operative course in hospital and on follow-up
	2 Hernia repair-epigastric
	2 Hernia repair-femoral
<b>Technical Skills and Procedures</b>	2 Hernia repair-incisional
	1 Hernia repair-incisional recurrent
	3 Hernia repair-inguinal
	1 Hernia repair-inguinal recurrent
	2 Hernia repair-umbilical/paraumbilical
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Initial</a> section for these skills

<b>Topic</b>	<b>Colorectal neoplasia</b>
<b>Category</b>	ST2 Colorectal
<b>Sub-category:</b>	None
	<i>Knowledge of the principles of diagnosis and management of common colorectal neoplasia.</i>
	<i>Epidemiology of Colorectal Cancer and Polyps: Knowledge of the epidemiology of colorectal cancer and polyps.</i>
	<i>Aetiology: Knowledge of the aetiology of colorectal neoplasia.</i>
<b>Objective</b>	<i>Colorectal Cancer Screening: Knowledge of the principles of colorectal cancer screening.</i>
	<i>Clinical Presentation: Recognise the symptoms and signs of colorectal cancer at different sites.</i>
	<i>Staging and Prognostic Factors: Understanding of staging and prognostic factors for colorectal cancer.</i>
	<i>Management of Colon Cancer: Knowledge of the principles of management of colon cancer.</i>

*The Detection and Treatment of Recurrent and Metachronous Colon: Knowledge of the risks and patterns of recurrent colorectal cancer and basic palliative care.*

*Miscellaneous Malignant Lesions of the Colon and rectum: Diagnosis and surgical treatment of the more common manifestations of carcinoid tumour.*

*Anal Neoplasia: Knowledge of the pathophysiology of anal neoplasia.*

Epidemiology of Colorectal Cancer and Polyps:

4 Epidemiology of colorectal cancer and polyps including incidence and prevalence, influence of socio-economic, racial and geographic factors

Aetiology:

Aetiological factors in colorectal neoplasia:

4 Diet: fat, fibre, calcium, selenium, vitamins (antioxidants), dietary inhibitors, alcohol and smoking, prostaglandin inhibitors

4 Adenoma-carcinoma sequence: evidence, categorise adenomas into low risk, intermediate and high risk and discuss screening procedures, significance of metaplastic polyps

4 Susceptibility to colorectal cancer (CRC): family history, Personal Past History (CRC, Polyps, Other Cancers), groups at risk

3 Hereditary nonpolyposis colorectal cancer (HNPCC): clinical features

4 Familial adenomatous polyposis: clinical definition, extracolonic lesions, cancer risk

Colorectal Cancer Screening:

Current screening strategies for the following:

**Knowledge**

4 The general population

4 Persons at moderate risk

4 Persons at high risk

Clinical Presentation:

4 Distribution of CRC within the colon

Staging and Prognostic Factors:

4 Current staging systems (Dukes, TNM)

4 Clinical prognostic factors: age, mode of presentation, clinical stage, blood transfusion

4 Histologic/biochemical features: histological grade, mucin secretion, signet-cell histology, venous invasion

2 The significance of extent of disease including patterns of spread: direct continuity, intramural, transmural, distal margins, circumferential margins, transperitoneal, lymphatic, haematogenous implantation

Management of Colon Cancer:

3 The indications and contraindications for surgical treatment

4 Pre and post op care

- 3 Operative technique
- 3 Outcomes and complications of colon cancer

The Detection and Treatment of Recurrent and Metachronous Colon:

- 4 Patterns of recurrence
- 4 Risks and detection of metachronous lesions

Anal Neoplasia:

- 4 Anatomical, aetiology, and epidemiologic features: The significance of the anatomical distinction between the anal margin and the anal canal tumours
- 4 Anatomical, aetiology, and epidemiologic features: The differential lymphatic drainage of the anal canal and margin
- 4 The histological transition of the anal canal

Clinical Presentation:

- 4 Recognise the clinical signs and symptoms of patients presenting with colorectal cancer

The Detection and Treatment of Recurrent and Metachronous Colon:

- Clinical Skills**
- 4 Methods for detection of recurrence: CEA, colonoscopy, imaging
  - 4 Palliative care

Miscellaneous Malignant Lesions of the Colon and rectum:

- 3 Recognise the clinical presentation, assess prognostic factors, and manage carcinoid - Ileal, appendiceal, carcinoid syndrome

**Technical Skills and Procedures** No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

<b>Topic</b>	<b>Benign anorectal</b>
<b>Category</b>	ST2 Colorectal
<b>Sub-category:</b>	None
<b>Objective</b>	<p><i>Competency in the diagnosis and some medical and surgical treatments of common benign anorectal disease.</i></p> <p><i>Haemorrhoids: Diagnosis and the outpatient treatment of haemorrhoids.</i></p> <p><i>Anal Fissure: Diagnosis and the medical treatment of anal fissure.</i></p> <p><i>Abscess and fistula: Diagnosis and management of simple perineal abscess.</i></p> <p><i>Hidradenitis Suppurativa: Diagnosis of hidradenitis suppurativa.</i></p> <p><i>Pilonidal Disease: Diagnosis and the medical and surgical treatment of pilonidal disease.</i></p> <p><i>Anal Stenosis: Knowledge of the aetiology of anal stenosis.</i></p>

*Pruritus Ani: Diagnosis and the medical management of pruritus ani.*

*Sexually Transmitted Diseases: Diagnosis and the medical and surgical treatment of condylomata acuminata.*

Haemorrhoids:

- 4 Aetiology of internal and external haemorrhoids
- 4 Anatomical distinctions between internal and external haemorrhoids
- 4 Classifications for internal haemorrhoids
- 2 Modifications of therapy with: Inflammatory bowel disease (IBD), Pregnancy, HIV, Coagulopathies

Anal Fissure:

- 3 Aetiology of anal fissure
- 4 Anatomical location of a classic anal fissure

Abscess and fistula:

- 4 The origin of cryptoglandular abscess and fistula
- 4 Classification of anorectal cryptoglandular abscess-based on anatomical spaces
- 4 Parks classification of anal fistula
- 4 The natural history of surgically-treated anal abscess, including the risk of fistula formation
- 2 Operative strategy for anal fistula based on sphincter involvement/location
- 3 Complications resulting from abscess/fistula surgery: recurrence, incontinence

**Knowledge**

Pilonidal Disease:

- 4 Pathophysiology of pilonidal disease

Anal Stenosis:

- 4 Aetiology

Pruritus Ani:

- 4 Aetiology and clinical presentation of pruritus ani

Sexually Transmitted Diseases:

- 4 Aetiology of condylomata acuminata

Haemorrhoids:

- 4 Assessment of the signs and symptoms of the following: thrombosed external haemorrhoids, internal haemorrhoids by stage, skin tags
- 3 Management of haemorrhoids including the indications and contraindications for: rubber-band ligation, injection sclerotherapy, infrared coagulation, operative haemorrhoidectomy
- 4 Perform two of the OPD techniques

**Clinical Skills**

3 Manage the complications resulting from OPD management: bleeding, pain, sepsis

Anal Fissure:

- 4 Assessment of the signs and symptoms of anal fissure
- 3 Arrange the nonoperative management of anal fissure, including indications, contraindications, and complications of stool modifications/softeners, topical anaesthetics, topical pharmacology
- 3 Indications, contraindications, and complications of the following: lateral internal sphincterotomy, anal stretch

Abscess and fistula:

- 4 Differentiate cryptoglandular abscess and fistula from other causes
- 3 Assessment of abscess/fistula by techniques designed to elucidate pathological anatomy: Goodsall's rule and digital examination
- 4 Management of anorectal abscess including pre-operative and post-pre-operative care and the appropriate procedure based on anatomical spaces
- 4 Modify therapy for: Fournier's gangrene, necrotising fasciitis
- 3 Assess rectovaginal fistula in terms of aetiology and location

Hidradenitis Suppurativa:

- 4 Assess the symptoms and signs of hidradenitis suppurativa

Pilonidal Disease:

- 4 Assess the symptoms and signs of pilonidal disease: abscess, sinus
- 4 Perform surgical management of pilonidal disease

Pruritus Ani:

- 4 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 pruritus ani

Sexually Transmitted Diseases:

- 4 Diagnosis of condylomata acuminata
- 4 Medical (topical chemicals) and surgical treatment options for condylomata acuminata

Haemorrhoids:

- 3 Haemorrhoids-OP treatment(injection, banding or infrared coagulation)
- 1 Haemorrhoidectomy-operative

**Technical Skills  
and Procedures**

Abscess and fistula:

- 3 Abscess-drainage through perineal region

Pilonidal Disease:

- 4 Pilonidal sinus-lay open
- 3 Pilonidal sinus-excision+suture

Sexually Transmitted Diseases:

- 4 Anal skin tags/warts-excision

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

<b>Topic</b>	<b>Perforated peptic ulcer</b>
<b>Category</b>	ST2 Oesophago-gastric
<b>Sub-category:</b>	None
<b>Objective</b>	<i>Diagnosis and management of simple perforated peptic ulcer, including operation.</i>  <i>Diagnosis and pre-operative management: Diagnosis of perforated peptic ulcer.</i>  <i>Operative management: Operation for simple perforated peptic ulcer cases.</i>  <i>Post-operative management: Post-operative management of patients who have had surgery for simple perforated peptic ulcer.</i> Diagnosis and pre-operative management: <ul style="list-style-type: none"><li>3 Anatomy of abdominal wall and intra abdominal organs</li><li>3 Patho- physiology of ulcer development and management</li><li>4 Management of Shock</li><li>4 ASA Grade of patient</li><li>3 Treatment of underlying process</li></ul>
<b>Knowledge</b>	Operative management: <ul style="list-style-type: none"><li>3 Other pathologies found in upper abdomen</li><li>3 Knowledge of types and positions of perforation</li></ul> Post-operative management: <ul style="list-style-type: none"><li>3 Post operative complications</li></ul> Diagnosis and pre-operative management: <ul style="list-style-type: none"><li>4 Assessment of acute abdomen</li><li>4 History and examination</li><li>4 Recognise from history and examination likely differential diagnosis</li><li>4 Identify appropriate investigations</li><li>4 Resuscitation</li></ul>
<b>Clinical Skills</b>	Operative management: <ul style="list-style-type: none"><li>3 Recognise position of perforation</li></ul>

Post-operative management:

- 4 Post op pain management
- 3 Recognition of complications

Diagnosis and pre-operative management:

- 4 Central venous line insertion

**Technical Skills and Procedures**

Operative management:

- 3 Gastro/duodenum-perforated PU closure

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

**Topic** Acute gallstone disease

**Category** ST2 Hepatopancreatobiliary

**Sub-category:** None

**Objective** *Diagnose and early management of acute gallstone disease, including acute cholecystitis, empyema, acute biliary colic and cholangitis.*

**Knowledge**

- 2 Anatomy
- 2 Pathophysiology
- 2 Microbiology
- 2 Complications
- 2 Post-operative problems

**Clinical Skills**

- 4 History & examination
- 4 Investigation
- 4 Resuscitation
- 2 Decision making re conservative v. surgical treatment and early v. delayed operation
- 2 Non-operative treatment including ERCP, cholecystostomy
- 2 Operative options
- 3 Post-operative management

**Technical Skills and Procedures**

- 1 Cholecystectomy
- 1 Biliary-CBD-exploration
- 1 Cholecystostomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills

**Topic** Venous disease

**Category** ST2 Vascular

**Sub-category:** None

**Objective** *Primary varicose veins: Ability to assess and manage primary varicose veins.*

**Knowledge**

- 4 Aetiology
- 4 Anatomy of the venous system
- 4 Indications for surgery for varicose veins
- 4 Complications of varicose veins

**Clinical Skills**

- 4 Examination of the venous system of the lower limbs
- 3 Select patients who require pre-operative investigations such as Duplex scanning
- 4 Select patients who require surgery

4 Non-operative management

Varicose veins - primary varicose veins

**Technical Skills  
and Procedures**

4 Vvs-long saphenous-SFJ ligm+/-strip+/-avulsions

4 Vvs-SPJ ligation+/-strip+/-avulsions

4 Vvs-multiple stab avulsions

**Professional Skills** Please see the [Professional Skills and Behaviour » Initial](#) section for these skills



# Intermediate Stage

## Overview of the Intermediate Stage

The intermediate phase includes further training in emergency surgery and intermediate surgery but also some more specialist surgery, with the opportunity to be exposed to all of the major specialist areas over the two years. There should also be the opportunity for a limited exposure to one of the smaller areas of special interest such as paediatrics, transplant or remote and rural surgery.

These areas could be covered either by specific attachments to emergency/day case/specialist units or by working in a smaller hospital where practice is more general and emergency exposure gained throughout the entire period. This would depend on the local situation.

A possible rotation might be as follows:

- Four months of emergency surgery probably in at least two blocks
- Four attachments of four months in Breast and Endocrine; Vascular; Upper GI and Colorectal surgery
- Four month “elective” period when the trainee can choose between Transplant surgery; Paediatric surgery, Remote and Rural surgery and a research project.

Depending on local circumstances different combinations of specialties might be more suitably combined but experience should be gained in each of the specialties above.

Click on [Workplace Based Assessments](#) to view the assessment forms including DOPS and PBAs

## Topics

<b>Topic</b>	<b>Abdominal injuries especially splenic, hepatic and pancreatic injuries</b>
<b>Category</b>	Emergency Trauma - see also organ specific topics
<b>Sub-category:</b>	None
<b>Objective</b>	<i>Identify abdominal injuries and be able to manage straightforward cases.</i>
	4 Aetiology
	4 Mechanisms of injury and possible consequences, eg GSW, stabbing, seat belt injuries
	4 Clinical features
<b>Knowledge</b>	4 Pathophysiology of shock
	4 Indications for use of uncrossmatched blood
	4 Coagulopathy
	4 Abdominal anatomy
	4 Pathophysiology of peritonitis and sepsis
	4 Resuscitation
<b>Clinical Skills</b>	4 Investigation
	3 Recognition of injuries requiring management by other specialities
	3 Management of hollow organ injury
	4 Central venous line insertion
<b>Technical Skills and Procedures</b>	4 Diagnostic peritoneal lavage
	3 Laparotomy-trauma
	2 Liver trauma-debridement/packing

2 Pancreatectomy-distal  
3 Splenectomy  
2 Splenic repair

**Professional Skills** Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

**Topic** **Blunt and penetrating injuries**

**Category** Emergency Trauma - see also organ specific topics

**Sub-category:** None

*Assessment and initial management of blunt and penetrating injury.*

*Closed thoracic injury: Assessment and initial management of blunt injury of the thorax.*

**Objective**

*Penetrating thoracic injury: Assessment and initial management of penetrating injury of the thorax.*

*Closed and penetrating abdominal injury: Assessment and initial management of blunt and penetrating injury of the abdomen.*

*Blunt and penetrating soft tissue and skeletal injury: Assessment and initial management of blunt and penetrating injury of the soft tissues and skeleton.*

Closed thoracic injury:

3 Anatomy  
2 Concept of low energy, high energy transfer injury  
3 Pathogenesis of shock

Penetrating thoracic injury:

2 Anatomy  
2 Concept of low energy, high energy transfer injury  
3 Pathogenesis of shock

**Knowledge**

Closed and penetrating abdominal injury:

3 Anatomy  
2 Concept of low energy, high energy transfer injury  
3 Pathogenesis of shock

Blunt and penetrating soft tissue and skeletal injury:

3 Anatomy  
2 Concept of low energy, high energy transfer injury  
3 Pathogenesis of shock

Closed thoracic injury:

**Clinical Skills** 3 Assessment and initial management of multiply injured patient  
2 Recognise need for operative intervention and organise

Penetrating thoracic injury:

- 3 Assessment of and initial management of multiply injured patient
- 3 Recognise and treat sucking chest wound
- 2 Recognise need for operative intervention and organise

Closed and penetrating abdominal injury:

- 3 Assessment and initial management of multiply injured patient
- 2 Recognise need for laparotomy and organise

Blunt and penetrating soft tissue and skeletal injury:

- 3 Assessment and initial management of multiply injured patient
- 3 Arrest of haemorrhage by pressure and tourniquet
- 3 Appropriate immobilisation during assessment
- 2 Recognition of major vascular trauma
- 2 Assessment of ischaemic limb

Closed thoracic injury:

- 4 Chest drain insertion

Penetrating thoracic injury:

- 4 Chest drain insertion

**Technical Skills and Procedures**

Closed and penetrating abdominal injury:

- 3 Diagnostic peritoneal lavage

**Professional Skills**

Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

<b>Topic</b>	<b>Acute intestinal obstruction</b>
<b>Category</b>	Emergency Other - see also organ specific topics
<b>Sub-category:</b>	None
<b>Objective</b>	<i>Recognise and manage acute intestinal obstruction, including supervised laparotomy in straightforward cases</i>
<b>Knowledge</b>	<ul style="list-style-type: none"> <li>3 Abdominal anatomy</li> <li>3 Aetiology of intestinal obstruction</li> <li>3 Pathophysiology of shock, sepsis</li> <li>3 Differential diagnosis</li> <li>3 Treatment options</li> </ul>
<b>Clinical Skills</b>	<ul style="list-style-type: none"> <li>4 History and examination</li> <li>4 Resuscitation</li> <li>3 Investigation</li> <li>3 Nutritional support</li> <li>3 Ability to perform emergency laparotomy</li> </ul>
<b>Technical Skills and Procedures</b>	<ul style="list-style-type: none"> <li>4 Central venous line insertion</li> <li>2 Laparotomy</li> <li>2 Laparotomy+division of adhesions</li> </ul>

**Professional Skills** Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

<b>Topic</b>	<b>Strangulated hernia</b>
<b>Category</b>	Emergency Other - see also organ specific topics
<b>Sub-category:</b>	None
	<i>Recognise and initiate treatment for most strangulated hernia, operation with assistance.</i>
	<i>Strangulated inguinal hernia: Recognise and treat strangulated inguinal hernia, including operation for a straightforward case.</i>
<b>Objective</b>	<i>Strangulated femoral hernia: Recognise and initiate treatment for strangulated femoral hernia.</i>
	<i>Strangulated incisional hernia: Recognise and initiate treatment of strangulated incisional hernia.</i>
	Strangulated inguinal hernia:  3 Anatomy of inguinal region including inguinal canal, femoral canal, abdominal wall and related structures e.g. adjacent retroperitoneum and soft tissues 4 Pathophysiology of strangulated hernia 3 Post-operative complications of repair of strangulated hernia
	Strangulated femoral hernia:
<b>Knowledge</b>	3 Anatomy of inguinal region including inguinal canal, femoral canal, abdominal wall and related structures e.g. adjacent retroperitoneum and soft tissues 4 Pathophysiology of strangulated hernia 2 Post-operative complications of repair of strangulated hernia
	Strangulated incisional hernia:  3 Anatomy of abdominal wall 4 Pathophysiology of strangulated hernia 2 Post-operative complications of strangulated hernia
	Strangulated inguinal hernia:  4 History and examination to identify strangulated hernia 4 Resuscitation 4 Investigation of possible strangulated inguinal hernia 2 Operative strategy for strangulated inguinal hernia
<b>Clinical Skills</b>	2 Post-operative management
	Strangulated femoral hernia:  4 History and examination to identify strangulated hernia 4 Resuscitation

- 3 Investigation of possible strangulated femoral hernia
- 2 Operative strategy for strangulated femoral hernia
- 2 Post-operative management

Strangulated incisional hernia:

- 4 History and examination
- 4 Resuscitation
- 3 Investigation of possible strangulated incisional hernia
- 2 Operative strategy
- 2 Post-operative management

Strangulated inguinal hernia:

- 2 Small bowel resection
- 2 Hernia repair-inguinal

Strangulated femoral hernia:

**Technical Skills and Procedures**

- 2 Small bowel resection
- 2 Hernia repair-femoral

Strangulated incisional hernia:

- 2 Small bowel resection
- 2 Hernia repair-incisional

**Professional Skills**

Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

**Topic**            **Gastrointestinal bleeding**

**Category**        Emergency Other - see also organ specific topics

**Sub-category:**    None

*Initial assessment of patients with GI bleeding and the basics of their ongoing care.*

*Blood loss and Hypotension: Understanding of the pathophysiology of blood loss and its emergency management.*

**Objective**

*Recognition of cause of gastrointestinal bleeding: Ability to assess the likely cause of GI bleeding and arrange investigation.*

*Treatment: Initial treatment and arranging investigations for GI bleeding.*

*Post-operative care: Supervised post-operative care of patients who have had surgery for GI bleeding.*

*Complications: Knowledge of complications of GI bleeding and recognition of rebleeding.*

Blood loss and Hypotension:

**Knowledge**

- 4 Physiology of hypovolaemia
- 3 Coagulopathy

Recognition of cause of gastrointestinal bleeding:

4 All causes of GI bleeding

Treatment:

2 Treatment options

2 Indications for operation

2 Role of endoscopic procedures and interventional radiology

Post-operative care:

3 Fluid balance

Complications:

2 All complications likely after emergency treatment

Blood loss and Hypotension:

4 Resuscitation of hypotensive patient

2 HDU care

Recognition of cause of gastrointestinal bleeding:

4 Clinical assessment

2 Ability to organise appropriate endoscopy or other investigation

Treatment:

**Clinical Skills** 2 Appropriate surgery

Post-operative care:

4 Analgesia

2 Nutrition

2 Recognition of complications

Complications:

3 Early recognition of rebleeding and post-operative problems

1 Treatment of complications

**Technical Skills  
and Procedures** No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

**Topic** Lesions of the skin and subcutaneous tissues  
**Category** General  
**Sub-category:** None  
**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.*

Basal cell carcinoma:

- 4 Anatomy
- 4 Histopathology
- 4 Natural history

Malignant melanoma:

**Knowledge**

- 4 Anatomy
- 4 Histopathology
- 4 Natural history
- 3 Staging

Squamous cell carcinoma:

- 4 Anatomy
- 4 Histopathology
- 3 Natural history of malignant transformation in chronic ulcers

Basal cell carcinoma:

- 3 Assess skin lesion
- 4 Biopsy of large skin lesions to plan treatment
- 2 Closure of large defects after excision by split skin grafts, full thickness grafts, flap closure

**Clinical Skills**

Malignant melanoma:

- 2 Assess skin lesion
- 2 Indications for wider excision, lymph node biopsy, axillary or groin block dissection based on staging

Squamous cell carcinoma:

- 3 Assess skin lesion including incisional biopsy

Basal cell carcinoma:

- 4 Malignant skin lesion-excision biopsy SCC/BCC

**Technical Skills and Procedures**

Malignant melanoma:

- 3 Malignant skin lesion-treatment of melanoma

Squamous cell carcinoma:

4 Malignant skin lesion-excision biopsy SCC/BCC

**Professional Skills** Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

**Topic** Abdominal wall

**Category** General

**Sub-category:** None

**Objective** *Management of abnormalities of the abdominal wall, excluding hernia.*

*Diagnosis: Ability to diagnose abdominal wall masses.*

*Treatment: Ability to manage abdominal wall masses.*

Diagnosis:

4 Knowledge of the anatomy of the abdominal wall

4 Pathology of the acute and chronic conditions; Haematoma, Sarcoma,

**Knowledge** Desmoid Tumours

Treatment:

4 Principles of management of desmoid tumours and sarcomas

Diagnosis:

3 Ability to determine that a swelling is in the abdominal wall

**Clinical Skills** 3 Initiate appropriate investigation

Treatment:

3 Conservative management of haematoma

**Technical Skills and Procedures** No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

**Topic** Conditions affecting the reticulo-endothelial + haemopoetic systems

**Category** General

**Sub-category:** None

*Knowledge of general surgical support needed in the management of conditions affecting the reticulo-endothelial and haemopoetic systems.*

**Objective** *Lymphatic conditions: Knowledge of the general surgical support needed in the management of conditions affecting the Lymphatic system. Simple lymph node biopsy.*

*Conditions involving the spleen: Knowledge of the general surgical support needed in the management of conditions affecting the spleen.*

Lymphatic conditions:

**Knowledge** 3 Non Hodgkin's Lymphoma

3 Lymphadenopathy



3 Hodgkin's disease  
2 Staging classifications

Conditions involving the spleen:

3 Indications for elective splenectomy-haemolytic anaemia, ITP, Thrombocytopaenia, myeloproliferative disorders  
4 Indications for emergency splenectomy  
3 Sequelae of splenectomy  
2 Splenic conditions  
3 Thrombophilia  
Lymphatic conditions:

3 Planning appropriate diagnostic tests

**Clinical Skills**

Conditions involving the spleen:

2 Planning appropriate treatment schedule in consultation with haematologist

Lymphatic conditions:

4 Biopsy-FNA  
2 Liver biopsy  
3 Lymph node biopsy-groin, axilla

**Technical Skills and Procedures**

Conditions involving the spleen:

2 Splenectomy

**Professional Skills**

Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

**Topic** Venous thrombosis + embolism

**Category** General

**Sub-category:** None

*Full understanding of prevention and management of Venous thrombosis and Embolism.*

*Coagulation: Understanding of the physiology and pathophysiology of coagulation.*

**Objective** *Diagnosis: Knowledge and clinical skills in the common means of diagnosis of Venous thrombosis and Embolism*

*Treatment: Ability to treat Venous Thrombosis and Embolism.*

*Prophylaxis: Knowledge and clinical skills in common methods of prophylaxis against Venous thrombosis and Embolism.*

Coagulation:

**Knowledge**

4 Clotting mechanism (Virchow Triad)  
4 Effect of surgery and trauma on coagulation

4 Tests for thrombophilia and other disorders of coagulation

Diagnosis:

3 Methods of investigation for suspected thromboembolic disease

Treatment:

4 Anticoagulation, heparin and warfarin

3 Role of V/Q scanning, CT angiography and thrombolysis

3 Place of pulmonary embolectomy

Prophylaxis:

4 Detailed knowledge of methods of prevention, mechanical and pharmacological

Coagulation:

4 Recognition of patients at risk

Diagnosis:

4 Awareness of symptoms and signs associated with pulmonary embolism and DVT

**Clinical Skills** 3 Role of duplex scanning, venography and d-dimer measurement

Treatment:

4 Initiate and monitor treatment

Prophylaxis:

4 Awareness at all times of the importance of prophylaxis

**Technical Skills and Procedures** No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

**Topic** Genetic aspects of surgical disease

**Category** General

**Sub-category:** None

*Basic understanding of genetically determined diseases.*

*Endocrine: Basic understanding of the influence of genetics on endocrine disease.*

**Objective**

*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.*

Endocrine:

3 Principal genetically influenced endocrine diseases and syndromes, MEN I, MEN II, Thyroid, Parathyroid, Pancreas and adrenal

Colorectal:

3 Outline knowledge of genetic changes which predispose to colorectal cancer including familial adenomatous polyposis, HNPCC and other polyposis syndromes

Breast:

3 Outline knowledge of genetic changes which predispose to breast cancer; BRCA1, BRCA2, P53

**Knowledge**

Upper GI/HPB:

3 Principal genetically influenced upper gastrointestinal diseases and syndromes, including Duodenal polyposis, familial gastric cancer, Peutz-Jeger syndrome and polycystic disease of the liver

Clinical and molecular genetics:

3 Modes of inheritance

3 Genetic Testing

3 Screening

3 Prophylactic intervention

3 Therapeutic intervention

3 Ethics

**Clinical Skills** No content

**Technical Skills and Procedures** No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

**Topic** Oncology

**Category** General

**Sub-category:** None

**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
- Environmental and genetic factors in carcinogenesis
- Evaluate risk factors for malignant disease
- Terminology in epidemiology

#### Staging, prognosis and treatment planning

- Prognosis and natural history of malignant disease
- Mechanisms and patterns in local, regional and distant spread
- Differences in course between hereditary and sporadic cancers
- Diseases predisposing to cancer e.g. inflammatory bowel disease
- Prognostic/predictive factors
- Genetics of hereditary malignant diseases

#### 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)

#### Tumour immunology

- Tumour immunology: cellular and humoral components of the immune system; regulatory mechanisms of immune system; tumour antigenicity; immune mediated antitumour cytotoxicity; effects of cytokines on tumours; effects of tumours on anti-tumour immune mechanisms; potential adverse effects of surgery, surgery-related events (e.g. blood transfusion) on immunologic responses

#### Basic principles of cancer treatments and their evaluation

- Basic principles of cancer treatment: surgery; radiotherapy; chemotherapy; endocrine therapy; immunotherapy
- Surgical pathology
- Evaluation of response to treatment(s)
- Adverse effects of treatment(s)
- Interactions of other therapies with surgery
- Ability to evaluate published clinical studies
- 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

#### Cancer epidemiology and presentations

- Recognise symptoms and signs of cancer
- Initiate appropriate diagnostic and staging investigations for common solid tumours

#### **Clinical Skills**

##### Staging, prognosis and treatment planning

- Perform prognostic assessment for patients with common solid tumours
- Define the role of surgery for given common solid tumours
- Participation in multi-disciplinary team discussion
- Undertake adequate pre-operative work-up
- Manage post-operative care

- Decide on and perform adequate follow-up
- Diagnose, score and treat side effects and complications of surgical treatment
- Recognise common side effects of other treatment modalities

Basic principles of cancer treatments and their evaluation

- The conduct of clinical studies
- Design and implement a prospective database (part of audit skills)
- Elementary principles in biostatistics and commonly used statistical methods (parametric versus non-parametric etc.)
- Ethical and legal aspects of research
- Present local audits; publication, presentation of case reports

<b>Technical Skills and Procedures</b>	Staging, prognosis and treatment planning 3 Malignant skin lesion-excision biopsy 3 Malignant skin lesion-treatment of melanoma 3 Lymph node biopsy-groin, axilla 4 Central venous line insertion 2 Laparotomy/laparoscopy
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Intermediate</a> section for these skills

<b>Topic</b>	<b>The basics of endoscopy</b>
<b>Category</b>	General
<b>Sub-category:</b>	None
<b>Objective</b>	<i>Attendance at a basic endoscopic skills course and some experience in gastroscopy and flexible sigmoidoscopy. Complete JAG defined competence is not expected at the stage.</i> - Knowledge of the principles of flexible endoscopy - Ability to consent a patient for endoscopy - Ability to sedate a patient safely for endoscopy - Ability to perform proctoscopy - Ability to perform rigid sigmoidoscopy - Some experience in diagnostic gastroscopy - Some experience in flexible sigmoidoscopy
<b>Knowledge</b>	Equipment 3 Structure and function of an endoscope, processor and accessories, including diathermy  Consent 3 Medical and legal issues concerning consent and provision of information  Sedation and monitoring 4 Sedative and analgesic drugs and side-effects 4 Appropriate patient monitoring 4 Treatment of adverse effects  Proctoscopy 4 Indications for Proctoscopy

4 Complications of Proctoscopy

Rigid Sigmoidoscopy

4 Indications for rigid sigmoidoscopy

4 Patient preparation and documentation

Gastroscopy

4 Indications for gastroscopy

4 Complications of gastroscopy

4 Patient preparation and documentation

4 Basic skills in Endoscopy course

Flexible Sigmoidoscopy

4 Indications for flexible sigmoidoscopy

4 Complications of flexible sigmoidoscopy

4 Patient preparation and documentation

4 Basic skills in Endoscopy course

Equipment

3 Clean and disinfect equipment in accordance with BSG guidelines

Consent

**Clinical Skills** 4 Ability to consent a patient for endoscopy

Sedation and Monitoring

4 Ability to safely and effectively sedate a patient for endoscopy

4 Monitor appropriately before, during and after procedure

Equipment

3 Use equipment in accordance with manufacturer's instructions

Proctoscopy

4 Proctoscopy

4 Haemorrhoids - OP treatment (injection, banding or infrared coagulation)

**Technical Skills  
and Procedures**

Rigid sigmoidoscopy

4 Sigmoidoscopy-rigid

Gastroscopy

2 Gastroscopy - diagnostic

Flexible sigmoidoscopy

2 Sigmoidoscopy - flexible

**Professional Skills**

Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

**Topic** Upper GI haemorrhage

**Category** Oesophago-gastric

**Sub-category:** None

**Objective**

*Diagnosis of the presence of upper gastrointestinal haemorrhage, resuscitation and early management.*

*Diagnosis: Principles of diagnosis of upper GI haemorrhage.*

*Management: Ability to resuscitate patients with UGI haemorrhage and knowledge of the principles of surgery.*

*Post-operative care: Straightforward post-operative care of patients who have had surgery for UGI haemorrhage.*

Diagnosis:

- 4 Anatomy
- 4 Pathophysiology

Management:

- Knowledge**
- 3 Treatment options available
  - 2 Indications for surgery

Post-operative care:

- 2 Complications
- 2 Investigations
- 2 Management options

Diagnosis:

- 4 History and examination
- 4 Resuscitation

Management:

- Clinical Skills**
- 2 Selection of patients for appropriate intervention

Post-operative care:

- 2 Management of leak
- 2 Need for re-operation
- 1 Re-operation for complication
- 2 Nutrition

Diagnosis:

- 1 Gastroscopy-diagnostic

**Technical Skills and Procedures**

Management:

- 1 Gastroscopy+bleeding therapy
- 1 Gastroscopy+variceal therapy
- 1 Gastro/duodenum-under-running of bleeding PU
- 1 Gastrectomy-distal

**Professional Skills** Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

**Topic**      **Liver trauma**

<b>Category</b>	Hepatopancreatobiliary
<b>Sub-category:</b>	None
<b>Objective</b>	<i>Diagnosis and initiate early management of liver trauma.</i>
<b>Knowledge</b>	3 Anatomy 3 Pathophysiology 3 Complications
<b>Clinical Skills</b>	4 History & examination 2 Investigation 4 Resuscitation 2 Management options
<b>Technical Skills and Procedures</b>	1 Liver-trauma-debridement/packing
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Intermediate</a> section for these skills

<b>Topic</b>	<b>Injuries to the biliary tract</b>
<b>Category</b>	Hepatopancreatobiliary
<b>Sub-category:</b>	None
<b>Objective</b>	<i>Awareness of the possibility and initial management of injuries to biliary tract, including iatrogenic.</i>
<b>Knowledge</b>	2 Anatomy 2 Pathophysiology 2 Complications 2 Post-operative problems 1 Methods of bile duct repair - primary repair over a T-tube; hepaticojejunostomy with Roux-en-Y reconstruction
<b>Clinical Skills</b>	4 History & examination 2 Investigation 4 Resuscitation 1 Management Options 1 Laparotomy for biliary peritonitis with placement of drains
<b>Technical Skills and Procedures</b>	1 Biliary-bile duct injury repair 1 Biliary-Hepaticojejunostomy
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Intermediate</a> section for these skills

<b>Topic</b>	<b>Acute pancreatitis</b>
<b>Category</b>	Hepatopancreatobiliary
<b>Sub-category:</b>	None
<b>Objective</b>	<i>Diagnosis and early management of acute pancreatitis.</i>
<b>Knowledge</b>	3 Abdominal anatomy 3 Differential diagnosis 3 Aetiology 3 Clinical features 3 Scoring system - recognition of severity



	4 Pathophysiology
	2 Complications
	2 Investigations CRP, US,CT
	2 Treatment options
	1 Role of systemic antibiotics
	1 Management of pancreatic necrosis
	1 ERCP, MRCP
	4 Resuscitation
<b>Clinical Skills</b>	1 Surgical approaches
	1 Insertion of nasojejunal tube
	2 Central venous line insertion
	1 Laparotomy
	1 ERCP
<b>Technical Skills and Procedures</b>	1 Cholecystectomy-laparoscopic
	1 Cholecystectomy-open
	1 Biliary-CBD-exploration
	1 Pancreatectomy-distal
	1 Pancreatic debridement
	1 Pancreatic pseudocyst drainage
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Intermediate</a> section for these skills

<b>Topic</b>	<b>Liver metastases</b>
<b>Category</b>	Hepatopancreatobiliary
<b>Sub-category:</b>	None
<b>Objective</b>	<i>Basic investigation and management of liver metastases.</i>
	3 Anatomy of liver and segments
	3 Physiology of liver and liver function
	3 Understanding of metastatic process
	3 Pathology of primary colorectal cancer and liver metastases
	3 Prognostic factors
<b>Knowledge</b>	2 Diagnostic techniques including modern imaging
	2 Role of tumour markers in early diagnosis
	3 Screening and surveillance following surgery for colorectal cancer
	2 Modern chemotherapy, both intrahepatic and systemic for liver metastases
	1 Different forms of in-situ ablative techniques, including radiofrequency ablation
	1 Full knowledge of factors influencing surgical outcome following resection
	3 Techniques of liver biopsy
<b>Clinical Skills</b>	3 Post-operative management of major liver resection
	3 Management of liver failure
<b>Technical Skills and Procedures</b>	3 Laparoscopy
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Intermediate</a> section for these skills

<b>Topic</b>	<b>Elective hepato-biliary and pancreatic disorders</b>
<b>Category</b>	Hepatopancreatobiliary

<b>Sub-category:</b>	None <i>To understand the symptoms, signs, investigations and principles of management of patients with hepatopancreatobiliary disorders eg. gallstones</i>  <i>To understand the symptoms, signs, and principles of investigation of HPB disorders</i>
<b>Objective</b>	<i>To understand the principles of management of patients with hepatopancreatobiliary disorders eg gallstones, malignancy of the biliary tree, pancreas and liver</i>  <i>Post-operative management of elective HPB disorders in straightforward cases</i>
<b>Knowledge</b>	Diagnosis 4 Applied anatomy and physiology of liver, biliary system, pancreas and duodenum 4 Symptoms and investigations for: Acute gallbladder and biliary disorders, Acute pancreatitis and its complications 4 Symptoms and investigations for benign and malignant conditions such as: carcinoma of pancreas
<b>Clinical Skills</b>	Management 4 Treatment options available  Post-operative care 2 Complications 2 Investigations 2 Management options Diagnosis 4 History and examination 3 Organising investigations  Post-operative care 2 Diagnosis 2 Organising investigations 2 Interpreting investigations 2 Management of leak 2 Need for re-operation 2 Nutrition
<b>Technical Skills and Procedures</b>	Management 2 Both open and laparoscopic cholecystectomy 2 Cholecystectomy Post-operative care
<b>Professional Skills</b>	1 Re-exploration for complication Please see the <a href="#">Professional Skills and Behaviour » Intermediate</a> section for these skills
<b>Topic</b>	<b>Stomas</b>

<b>Category</b>	Colorectal
<b>Sub-category:</b>	None
	<i>Basic knowledge of the management of stomas in consultation with stoma care nurses.</i>
	<i>Indications for stomas: Understanding of the indications for stomas.</i>
	<i>Pre-operative Evaluation for stomas: Competency in the pre-operative care of a patient requiring a stoma.</i>
	<i>Stoma creation and closure: Some experience in construction of an ileostomy and a colostomy.</i>
<b>Objective</b>	<i>Post-operative Care: Basic post-operative care of patients after stoma formation.</i>
	<i>Complications: Knowledge of some complications of stoma formation.</i>
	<i>Stoma Management: Usual management of stomas in consultation with stoma care nurses.</i>
	<i>Stoma Physiology: Knowledge of the physiology of different stomas.</i>
	<i>Patient Education and Counselling: Knowledge of the effect of a stoma on medication absorption.</i>
	Indications for stomas:
	4 Indications for colostomy
	4 Indications for ileostomy
	Complications:
	3 High-output ileostomy
	Stoma Management:
<b>Knowledge</b>	3 Stoma appliances, and appropriate selection
	Stoma Physiology:
	4 the physiologic changes associated with ileostomy, colostomy, urostomy
	4 normal ileostomy function including anticipated daily outputs and changes that occur in output with post-operative adaptation
	4 Causes of high output stomas
	4 Differential diagnosis of high output
	Patient Education and Counselling:
	4 The possible effects that a stoma may have on medication dosage and absorption
<b>Clinical Skills</b>	Pre-operative Evaluation for stomas:

4 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

Stoma creation and closure:

2 Perform stoma construction and closure

Post-operative Care:

4 Appreciate the normal post-operative course for colostomy and ileostomy function

2 Recognise the signs, symptoms and management for the following complications that occur in the immediate post-operative period: ischaemia, mucocutaneous separation

Complications:

3 Recognise and manage high-output ileostomy

4 Recognise ileostomy food obstruction

Stoma Management:

4 Early post-operative management of conventional stoma

3 Advise on various skin barriers and accessory products available for the management of stomas

3 Advise on dietary considerations for patients with an ileostomy or a colostomy, including impact of diet on stoma output, flatus, odour, bolus obstruction

Stoma Physiology:

4 Appropriately manage fluid and electrolyte abnormalities

Stoma creation and closure:

2 Ileostomy-construction

**Technical Skills and Procedures**

2 Colostomy-construction

1 Ileostomy-closure

1 Colostomy-closure

2 Hartmann's procedure

1 Hartmann's reversal

**Professional Skills** Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

**Topic** Inflammatory bowel disease

**Category** Colorectal

**Sub-category:** None

**Objective** *Basic understanding of the diagnosis and the emergency surgical treatment of inflammatory bowel disease.*

*Inflammatory Bowel Disease-Aetiology: Knowledge of the aetiology of*

*inflammatory bowel disease.*

*Inflammatory Bowel Disease-Epidemiology: Knowledge of the epidemiology of inflammatory bowel disease.*

*Inflammatory Bowel disease-Clinical manifestations: Recognition of the clinical manifestations of inflammatory bowel disease.*

*Inflammatory Bowel Disease-Differential diagnosis: Understanding of the means of diagnosing inflammatory bowel disease.*

*Ulcerative colitis-Medical management: Basic medical management of ulcerative colitis in consultation with gastroenterology.*

*Ulcerative colitis- surgical management: Knowledge of the indications for emergency surgical treatment of ulcerative colitis.*

*Crohn's disease-medical management: Basic medical management of Crohn's disease in consultation with gastroenterology.*

*Crohn's disease-complications: Knowledge of the complications of Crohn's disease which might require emergency surgery.*

*Crohn's disease -surgical management: Basic knowledge of the commonest surgical procedures for Crohn's disease*

*Crohn's Disease-anorectal: Emergency management of anorectal Crohn's disease.*

*Other inflammatory conditions-ischaemic colitis: Understanding of the aetiology and management of ischaemic colitis.*

*Other inflammatory conditions-radiation bowel disease: Awareness of radiation bowel disease.*

*Other inflammatory conditions-infectious colitis: Diagnosis and management of infectious colitis in consultation with infectious disease physicians.*

**Inflammatory Bowel Disease-Aetiology:**

4 The contribution of genetics and immune function to the development of inflammatory bowel disease (IBD)

4 The possible influence of infectious agents, psychological issues and environmental factors

**Knowledge**

**Inflammatory Bowel Disease-Epidemiology:**

4 The epidemiologic features of Crohn's disease and ulcerative colitis

**Inflammatory Bowel Disease-Differential diagnosis:**

4 The endoscopic, radiographic, and laboratory findings of ulcerative colitis and Crohn's disease

3 The distinguishing histologic characteristics of ulcerative colitis and disease

#### 4 The differential diagnosis of Inflammatory Bowel Disease

Ulcerative colitis-Medical management:

3 The mechanism of action, indication, appropriate dosage, side effects, and toxicity of the drugs used for the treatment of ulcerative colitis:  
aminosalicylates, corticosteroids, antibiotics

Ulcerative colitis- Surgical management:

4 Be able to identify the indications for surgery for ulcerative colitis including:  
severe acute colitis, toxic megacolon, haemorrhage

Crohn's disease-medical management:

3 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

Other inflammatory conditions-ischaemic colitis:

4 Vascular anatomy of the colon  
4 The aetiology of acute colonic ischemia

Other inflammatory conditions-radiation bowel disease:

4 Vascular anatomy of the colon

Other inflammatory conditions-infectious colitis:

4 Epidemiology, aetiology, pathogenesis, laboratory and endoscopic evaluation, medical management and indications for surgery for clostridium difficile colitis

3 In suspected infectious colitis understand relevance of travel history, role of stool culture, testing for ova, cysts and parasites and hot stool sample for amoebiasis, role of lower GI endoscopy with biopsy for histological evaluation and culture, role of rectal and perineal swabs, role of serology in the detection of amoebiasis and strongyloidiasis, infectious colitis as a precipitating factor for inflammatory bowel disease

3 Management of diarrhoea in the immunocompromised patient including HIV

Inflammatory Bowel disease-Clinical manifestations:

4 Recognise and compare the clinical pattern, presenting symptoms, physical findings and natural history of ulcerative colitis and Crohn's disease

3 The extraintestinal manifestations of IBD

**Clinical Skills** Ulcerative colitis-Medical management:

4 Recognise the presentation and manage proctitis, left-sided colitis, extensive colitis, severe acute colitis, toxic megacolon

4 Joint management of a patient unresponsive to initial treatment

Crohn's disease-medical management:

4 Initial treatment specific to the site of involvement in a patient with Crohn's disease

Crohn's disease-complication:

3 Management of the following complications of Crohn's disease: obstruction/stenosis, fistula, abscess, perforation, haemorrhage, toxic megacolon, severe acute colitis

Crohn's disease -surgical management:

4 Indications and contraindications, operative technique, post-operative care, functional results, risk of recurrence, and complications of operations for Crohn's disease

Crohn's Disease-anorectal:

4 Management of the following manifestations of anorectal Crohn's disease: abscess

Other inflammatory conditions- ischaemic colitis:

4 Clinical presentation of ischaemic colitis  
3 Natural history, diagnosis, and be able to manage ischaemic colitis  
Crohn's disease -surgical management:

**Technical Skills and Procedures**

2 Colectomy-right  
2 Crohn's-ileocaecectomy

**Professional Skills**

Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

**Topic**

**Functional disorders**

**Category**

Colorectal

**Sub-category:**

None

*Basic understanding of common functional disorders of the bowel.*

*Faecal Incontinence- Epidemiology: Understanding of the epidemiology of faecal incontinence.*

*Faecal Incontinence-Evaluation: Ability to make an initial suggestion of the type of incontinence after history and examination.*

**Objective**

*Faecal Incontinence- Non-operative Management: Simple conservative management of faecal incontinence.*

*Rectal Prolapse: Knowledge of the epidemiology and incidence of rectal prolapse.*

*Constipation-General Consideration: Understanding of causes and treatment of simple constipation.*

*Constipation-Specific Conditions- Motility Disorders: Basic management of colonic pseudo-obstruction.*

*Irritable Bowel Syndrome: Competency in the management of irritable bowel syndrome.*

Faecal Incontinence-Epidemiology:

4 Classification of the various types of incontinence, their incidence and their pathophysiology

Rectal Prolapse:

2 The incidence, pathophysiology and epidemiology of rectal prolapse

Constipation-General Consideration:

**Knowledge**

4 Normal colonic physiology (including gut hormones and peptides) and the process of defecation

4 Definition of constipation and its epidemiology

3 Classification of types and causes of constipation differential diagnosis in a patient with constipation

4 Different types of laxatives and describe the indications, contraindications, modes of action, and complications of each: stimulant, osmotic, bulk-forming, lubricant

Constipation-Specific Conditions:

4 Common causative factors for colonic pseudo-obstruction

Faecal Incontinence-Evaluation:

3 Take a directed history to differentiate types of incontinence

3 Perform a physical examination to differentiate types of incontinence

Faecal Incontinence-Non-operative Management:

3 Outline a non-operative bowel management plan incorporating : dietary measures

Rectal Prolapse:

**Clinical Skills**

3 Clinical presentation and findings in rectal prolapse

Constipation-General Consideration:

4 Take a directed history for a patient with constipation and perform a directed physical examination

Constipation-Specific Conditions:

4 Evaluate a patient with suspected colonic pseudo-obstruction

Irritable Bowel Syndrome:



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

**Technical Skills and Procedures**

No content

**Professional Skills**

Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

**Topic** Benign colon

**Category** Colorectal

**Sub-category:** None

*Competency in the diagnosis and initial treatment of common benign colonic disease.*

*Diverticular Disease: Diagnosis of diverticular disease, elective medical management and initial emergency management of complications.*

*Volvulus: Diagnosis of possible colonic volvulus*

**Objective**

*Rectal bleeding: Ability to appropriately investigate rectal bleeding*

*Massive lower GI bleeding: Resuscitation and initial management of massive lower GI tract bleeding*

*Colon Trauma: Diagnosis of colon trauma*

*Rectal Trauma: Recognition of possible rectal trauma*

*Foreign Bodies: Evaluation of patients with rectal foreign bodies.*

Diverticular Disease:

4 Aetiology of colonic diverticular disease

4 Incidence and epidemiology of colonic diverticular disease

4 Complications and classification of diverticular disease including: bleeding, perforation, abscess, fistula, stricture

Volvulus:

4 Aetiology of volvulus of the colon

4 Incidence and epidemiology of volvulus of the colon

4 Complications of colonic volvulus including obstruction, ischaemia, perforation

**Knowledge**

Rectal bleeding:

4 Aetiology of lower GI bleeding

Massive lower GI bleeding:

4 Aetiology of massive lower GI bleeding

Colon Trauma:

Uses and limitations of the following imaging and diagnostic tests in the evaluation of blunt abdominal trauma

- 3 Plain abdominal films
- 3 Computed tomography scan
- 3 Ultrasound
- 3 Peritoneal lavage

Rectal Trauma:

4 Identify clinical situations requiring evaluation for rectal trauma

Diverticular Disease:

- 3 Recognise the clinical patterns (including right sided diverticular disease) presenting symptoms, physical findings and natural history of colonic diverticular disease
- 3 Arrange appropriate diagnostic studies in suitable sequence in the evaluation of both acute and chronic colonic diverticular disease
- 4 Medical and dietary management of colonic diverticular disease
- 3 Medical management for acute diverticulitis
- 3 Pre-operative assessment including awareness of the indications for surgery, surgical procedures, and complications for acute diverticulitis
- 4 Peri-operative care for surgical procedures

Volvulus:

- 4 Recognise the clinical patterns, presenting symptoms, physical findings, and natural history of colonic volvulus based upon its site
- 4 Arrange diagnostic studies in appropriate sequence

**Clinical Skills**

Rectal bleeding:

- 4 Arrange appropriate evaluation of the patient based on age and other medical conditions

Massive lower GI bleeding:

- 4 Assess haemodynamic stability and outline a resuscitation plan
- 3 Outline an algorithm for the evaluation of lower GI bleeding including exclusion of coagulopathy, gastroscopy, colonoscopy

Colon Trauma:

3 Manage the patient with penetrating abdominal trauma with understanding of the criteria for exploratory laparotomy, wound exploration, peritoneal lavage

Rectal Trauma:

4 Diagnosis of rectal trauma and associated injuries

Foreign Bodies:

4 Evaluate patients with rectal foreign bodies

**Technical Skills and Procedures** No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

**Topic** **Colorectal neoplasia**

**Category** Colorectal

**Sub-category:** None

**Objective**

*To begin to develop competency in the diagnosis and management of common colorectal neoplasia*

- *Knowledge of the epidemiology of colorectal cancer and polyps*
- *Knowledge of the aetiology of colorectal neoplasia*
- *Knowledge of the principles of colorectal cancer screening*
- *Recognise the symptoms and signs of colorectal cancer at different sites*
- *Understanding of staging and prognostic factors for colorectal cancer*
- *Knowledge of the principles of management of colon cancer*
- *Diagnosis of rectal cancer and referral to specialist*
- *Knowledge of the risks and patterns of recurrent colorectal cancer and basic palliative care*
- *Diagnosis and surgical treatment of the more common manifestations of carcinoid tumour*
- *Knowledge of the pathophysiology of anal neoplasia*

Epidemiology of Colorectal Cancer and Polyps

4 Epidemiology of colorectal cancer and polyps including incidence and prevalence, influence of socio-economic, racial and geographic factors

Aetiology

4 Diet: fat, fibre, calcium, selenium, vitamins(antioxidants), dietary inhibitors, alcohol and smoking, prostaglandin inhibitors

4 Adenoma-carcinoma sequence: evidence, categorise adenomas into low risk, intermediate and high risk and discuss screening procedures, significance of metaplastic polyps

4 Susceptibility to colorectal cancer (CRC): family history, Personal Past History (CRC, Polyps, Other cancers), groups at risk

3 Hereditary nonpolyposis colorectal cancer (HNPCC): clinical features

**Knowledge** 4 Familial adenomatous polyposis: clinical definition, extracolonic lesions, cancer risk

Colorectal Cancer Screening

4 The general population

4 Persons at moderate risk

4 Persons at high risk

Clinical presentation

4 Distribution of CRC within the colon

Staging and Prognostic Factors

4 Current staging systems (Dukes, TNM)

4 Clinical prognostic factors: age, mode of presentation, clinical stage, blood

transfusion

- 4 Histologic/biochemical features: histological grade, mucin secretion, signet-cell histology, venous invasion
- 2 The significance of extent of disease including patterns of spread: direct continuity, intramural, transmural, distal margins, circumferential margins, transperitoneal, lymphatic, haematogenous, implantation

Management of Colon Cancer

- 3 The indications and contraindications for surgical treatment
- 4 pre and post op care
- 3 operative technique
- 3 outcomes and complications of colon cancer

Management of Rectal Cancer

- 2 Sphincter-sparing resections
- 2 rationale and indications for the use of adjuvant chemoradiotherapy

The Detection and Treatment of Recurrent and Metachronous Colon

- 4 Patterns of recurrence
- 4 Risks and detection of metachronous lesions

Anal Neoplasia

- 4 The significance of the anatomical distinction between the anal margin and the anal canal tumours
- 4 The differential lymphatic drainage of the anal canal and margin
- 4 The histological transition of the anal canal

Clinical Presentation

- 4 Recognise the clinical signs and symptoms of patients presenting with colorectal cancer

Management of Colon Cancer

- 2 Familiarity with the indications and contraindications to surgery, operative technique, pre and post operative care, outcomes and the complications of colon cancer

**Clinical Skills** Management of Rectal Cancer  
3 Diagnosis of rectal cancer

The Detection and Treatment of Recurrent and Metachronous Colon

- 4 Methods for detection of recurrence: CEA, Colonoscopy, imaging
- 4 Palliative care

Miscellaneous Malignant Lesions of the Colon and rectum

- 3 Recognise the clinical presentation, assess prognostic factors, and manage carcinoid - Ileal, appendiceal, carcinoid syndrome

Management of Colon Cancer

**Technical Skills  
and Procedures** 2 Hartmann's Procedure  
2 Colectomy-left  
2 Colectomy-right  
2 Colectomy-sigmoid

2 Colostomy-construction  
2 Ileostomy-construction

**Professional Skills** Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

**Topic** **Chronic lower limb ischaemia**

**Category** Vascular

**Sub-category:** None

*Ability to identify the chronically ischaemic limb and perform femoral exploration and anastomosis under supervision.*

*Atherosclerosis: Knowledge of the basic pathophysiology of chronic lower limb ischaemia*

*Chronic Lower Limb Ischaemia - Assessment: Diagnosis and principles of investigation of chronic lower limb ischaemia.*

**Objective**

*Chronic lower limb ischaemia - Surgery: Basic knowledge of possible surgical intervention for chronic limb ischaemia*

*Chronic lower limb ischaemia - Conservative Management: Ability to arrange suitable conservative management of chronic lower limb ischaemia.*

*Amputation: Recognise indications for amputation and know how to perform common amputations with assistance for less common procedures.*

Atherosclerosis:

3 Pathology of atherosclerosis (atherothrombosis) and complications.  
3 Recognise risk factors for arterial disease  
2 Natural history of lower limb arterial disease  
3 Critical limb ischaemia

Chronic Lower Limb Ischaemia - Assessment:

4 Anatomy of arteries supplying the lower limb.  
2 Role of ultrasound and angiography and other imaging (e.g. MRA)  
1 Role of angioplasty

**Knowledge**

Chronic lower limb ischaemia - Surgery:

3 Indications for intervention  
2 Surgical approaches to infra-inguinal vessels  
3 Types of anaesthesia  
2 Potential complications of vascular surgery  
1 Technical components of vascular anastomosis and commonly occurring problems

Chronic lower limb ischaemia - Conservative Management:

2 Basic principles of management of hypertension and hyperlipidaemia and diabetes

4 Epidemiology of tobacco smoking  
3 Role of antiplatelet drugs

Amputation:

3 Types of amputation and advantages of each  
3 Potential complications of amputation

Chronic Lower Limb Ischaemia - Assessment:

4 Ability to take a relevant history and examine vascular system  
2 Use of ankle pressure measurements  
3 Duplex ultrasound  
1 Interpretation of angiograms  
2 Selection for surgery and angioplasty

**Clinical Skills** Chronic lower limb ischaemia - Surgery:

2 Expose femoral vessels  
2 Vascular anastomosis

Chronic lower limb ischaemia - Conservative Management:

2 Management of graft surveillance programme/clinic  
2 Ability to run risk factor clinic

Chronic Lower Limb Ischaemia - Assessment:

1 Percutaneous angiography

Chronic lower limb ischaemia - Surgery:

**Technical Skills  
and Procedures**

1 Occlusive-Aorto-femoral bypass  
1 Occlusive-Axillo-femoral bypass  
1 Lower limb-femoro-femoral cross-over graft

Amputation:

2 Amputation-digit(s)  
1 Amputation-BK  
1 Amputation-AK

**Professional Skills** Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

**Topic** Ruptured abdominal aortic aneurysm

**Category** Vascular

**Sub-category:** None

**Objective** *For recognition, initial resuscitation and referral of ruptured aortic aneurysm.*  
*- The diagnosis of ruptured aortic aneurysm*  
*- The assessment and pre-operative management of most patients with ruptured aortic aneurysm*  
*- To assist at surgery for ruptured aortic aneurysm*  
*- Have knowledge of the principles of post-operative management of ruptured*

*aortic aneurysm*

- *The recognition of complications following surgery for ruptured aneurysm.*

Diagnosis

- 4 Patients at risk
- 4 Clinical features
- 3 Role and timing of investigation

Initial Management

- 3 Hypovolaemia relevant to the condition
- 4 Understands importance of immediate intervention

Operation

- 3 Anatomy of the abdomen and major vessels
- 2 Basic physiology of aortic clamping
- 3 Coagulopathy

**Knowledge**

Post-operative Care

- 2 Nutrition
- 3 Fluid Balance
- 3 Respiratory and renal physiology
- 3 Cardiac function

Complications

- 3 Early and late complications
- 2 Indications for investigation such as CT scan

Diagnosis

- 4 History and examination

Initial Management

- 2 Patient Selection

Operation

- 3 Assist at operation
- 3 Recognises signs of coagulopathy
- 3 Able to initiate basic treatment of coagulopathy

**Clinical Skills**

Post-operative care

- 2 Understands need for nutritional support
- 3 Fluid requirements
- 2 Able to work in an ITU environment

Complications

- 2 Clinical recognition of complications
- 2 Recognise need for early and late re-intervention
- 1 Carry out appropriate surgery with other disciplines as necessary

**Technical Skills and Procedures**

Operation

- 1 AAA-bifurcated graft-complete operation
- 1 AAA-tube graft-complete operation

**Professional Skills**

Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

<b>Topic</b>	<b>Acute limb ischaemia</b>
<b>Category</b>	Vascular
<b>Sub-category:</b>	None
	<i>The ability to recognise acute limb ischaemia and initiate emergency management.</i>
<b>Objective</b>	<ul style="list-style-type: none"> <li>- To recognise and initiate emergency treatment for acute limb ischaemia</li> <li>- To recognise some of the complications of treatment of acute limb ischaemia</li> <li>- The understanding of the management of thrombolysis</li> </ul>
	Acute limb ischaemia
	3 Pathophysiology of acute limb ischaemia
	3 Anatomy of the arterial system
	2 Risk factors for acute limb ischaemia
	4 Knowledge of causes of acute limb ischaemia
	3 Indications for emergency intervention
	2 Indications for embolectomy, thrombolysis, primary amputation
	2 Subsequent management and investigation of patient with acute limb ischaemia
<b>Knowledge</b>	
	Complications of acute limb ischaemia
	2 Ischaemia reperfusion injury and systemic effects
	1 Ways of attenuating effects of reperfusion
	Thrombolysis
	3 Knowledge of methods and agents used for Thrombolysis
	3 Describe indications for Thrombolysis
	3 Describe complications of Thrombolysis
	Acute Limb ischemia
	4 History and examination to detect acute limb ischaemia
	2 Arrange appropriate urgent investigations: duplex, angiogram
	3 Can recognise when intervention is not appropriate
	Complications of acute limb ischaemia
<b>Clinical Skills</b>	2 Manage patient when embolectomy fails
	1 Manage patient with rhabdomyolosis
	1 Peroperative thrombolysis
	1 Emergency bypass
	Thrombolysis
	3 Manage patient undergoing Thrombolysis
	2 Management of complications of Thrombolysis
	Acute Limb ischaemia
<b>Technical Skills and Procedures</b>	2 Thrombo-embolectomy-arterial-femoral
	2 Peroperative angiogram
	Complications of acute limb ischaemia
	3 Fasciotomy
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Intermediate</a> section for these skills

**Topic**      **Neck swellings**



**Category** Endocrine  
**Sub-category:** None  
**Objective** *Assessment of neck swellings.*  
 3 Anatomy of triangles of the neck including: submental / submandibular / anterior / posterior  
**Knowledge** 3 Causes of enlargement of salivary glands / thyroid gland incl. thyroglossal cyst / lymph nodes / other (vascular, skin & soft tissue incl. branchial cyst)  
 4 History and examination of neck swellings  
**Clinical Skills** 3 Investigation of neck swellings including diagnostic imaging, ENT assessment, pathology and biochemistry  
**Technical Skills and Procedures** 3 Biopsy-FNA  
 2 Lymph node biopsy-cervical  
**Professional Skills** Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

**Topic** **Acute breast infection**  
**Category** Breast  
**Sub-category:** None  
**Objective** *Assess and manage breast abscess and mastitis.*  
 4 Normal breast anatomy and physiology  
**Knowledge** 4 Effects of pregnancy and lactation  
 3 Imaging and role of conservative treatment  
 4 Bacteriology of breast infection  
**Clinical Skills** 4 Breast examination  
**Technical Skills and Procedures** 3 Abscess-breast-treatment  
**Professional Skills** Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

**Topic** **Renal transplantation**  
**Category** Transplant  
**Sub-category:** None  
**Objective** *Gain early exposure to renal transplantation; understand and apply principles of pre- and post-operative care and observe deceased donor and live donor transplantation.* Deleted: cadaveric  
 Acute and chronic renal failure:  
 3 Causes  
 3 Pathophysiology  
 3 Treatment options  
 3 Complications  
**Knowledge** Indications and contraindications for:  
 2 Kidney transplantation  
 2 Deceased donor and live kidney donation Deleted: Cadaveric  
 Anatomy:  
 3 Kidney anatomy and anomalies

3 Implantation site

Immunology:

2 HLA matching.

2 Cytotoxic cross match

2 Rejection

2 Immunosuppression

2 Principles of pre-op preparation and post-op management

2 Select appropriate patient from the waiting list

Manage post-op care:

2 Investigations

2 Fluid management

2 Drug therapy

2 Renal biopsy

**Clinical Skills**

Identify and treat post-op complications:

2 Vascular complications

2 Ureteric complications

2 Rejection

2 Infection

2 Drug side effects

1 Kidney transplant-donor operation-~~deceased donor~~

1 Kidney transplant-donor operation-live donor

1 Kidney transplant

Deleted: cadaver

**Technical Skills and Procedures**

Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

**Professional Skills**

**Topic**

**Access for dialysis**

**Category**

Transplant

**Sub-category:**

None

**Objective**

*Gain early exposure to access for renal dialysis; understand and apply principles of pre- and post-operative care, perform peritoneal access and observe vascular access*

Renal Dialysis:

3 Classification

3 Causes

3 Pathophysiology

3 Treatment options

**Knowledge**

Renal Dialysis:

2 Indications

2 Types of Dialysis

2 Access sites

2 Complications

2 Timing of access

3 Vascular anatomy of the upper and lower limbs

3 Principles of pre-operative preparation and post-operative management including assessment of cardiac function and venous conduits

Assess patients referred for vascular access:

2 Prepare patients for theatre

2 Arrange appropriate investigations

3 Identify appropriate access site

Construct A-V fistula:

1 radio-cephalic

1 brachio-cephalic

1 brachio-basilic

Needling techniques

1 buttonhole

1 rope-ladder

1 Use of PTFE grafts

**Clinical Skills**

3 Insert central venous dialysis catheter including tunnelled catheters

3 Insert and remove peritoneal dialysis catheter

Manage post-op care:

2 investigations

2 Fluid Management

2 Drug therapy

2 Vascular complications - steal, venous hypertension, cardiac failure and aneurysm

Manage complications:

2 Thrombosis

2 Haemorrhage

2 Infection

2 CAPD peritonitis including sclerosing peritonitis

3 Peritoneal dialysis catheter-insert

3 Peritoneal dialysis catheter-removal

**Technical Skills  
and Procedures**

3 Central venous line insertion

1 Access-arterio-venous fistula

1 Access-arterio-venous fistula-ligation

1 Access-secondary vascular

**Professional Skills** Please see the [Professional Skills and Behaviour » Intermediate](#) section for these skills

# Final Stage

## Overview of the Final Stage

The final phase consists of two strands, which are shown separately for ease of understanding, but which run concurrently throughout ST5-8.

- An emergency/general strand which must be covered by all trainees including those who have taken an academic pathway. Topics are described on the basis of indicative years throughout ST5-8.
- Training in areas of special interest. The degree of subspecialisation desired by the trainee may vary depending on his/her career aims. The principles are that the four indicative years are divided into eight 6 monthly modules (labelled A, B, C etc for each indicative 6 month slot) and that the trainee chooses a suitable combination of modules within one or more areas of special interest.

In order to participate in the general surgical on call rota as a consultant at least a year must be spent in both upper and lower GI surgery. However it must be emphasised that sufficient competency and experience to participate as a consultant covering general surgical emergencies will not be gained overall until CCT has been obtained. Even at this stage it is anticipated that certain complex cases will require consultation with more experienced or subspecialist consultants.

Thus a colorectal trainee would undertake 2 modules of upper GI surgery to equip them to provide a gastrointestinal acute service. Similarly, a trainee with an upper gastrointestinal interest would undertake two modules in lower GI surgery. A trainee from a non-gastrointestinal subspecialty would expect to undertake 4 GI modules in order to deal with an acute GI take. Some breast and vascular trainees may wish to gain this experience but others may wish to confine themselves to their own specialty. A small number of superspecialised areas will not be fully covered before CCT is gained e.g. liver transplantation, major upper GI resections, pelvic floor surgery and complex or redo pelvic surgery.

This schema allows the amount of flexibility needed for a variety of situations, including trainees who are pursuing an academic pathway, yet permits specialisation in a narrow field if this is appropriate. Academic trainees will be expected to demonstrate that they have achieved all the essential requirements of the CCT. It is however acknowledged that academic trainees are likely to take longer to achieve the essential competencies.

Click on [Workplace Based Assessments](#) to view the assessment forms including DOPS and PBAs

## Topics

<b>Topic</b>	<b>ST5 Peritonitis</b>
<b>Category</b>	Final All Trainees
<b>Sub-category:</b>	Emergency Surgery
<b>Objective</b>	<i>Recognition of peritonitis and management of most cases</i> 4 Anatomy of abdomen and pelvis 4 Differential diagnosis
<b>Knowledge</b>	4 Pathophysiology and treatment of intra-peritoneal sepsis, generalised sepsis and septicaemic shock 4 Conditions which do not require surgery

	4 History and exam
	4 Recognition of severity of illness
	4 Investigation
	4 Resuscitation including antibiotics, invasive monitoring
<b>Clinical Skills</b>	4 Treat symptoms
	4 Timing of intervention
	3 Recognition of success/failure of nonoperative treatment
	3 Ability to perform emergency laparotomy
	3 Recognition and management of complications
<b>Technical Skills and Procedures</b>	4 Gastro/duodenum-perforated PU closure
	3 Hartmann's procedure
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>ST5 Assessment of the acute abdomen</b>
<b>Category</b>	Final All Trainees
<b>Sub-category:</b>	Emergency Surgery
<b>Objective</b>	<i>Assessment, resuscitation and management of most patients with acute abdomen.</i>
	4 Abdominal anatomy
	4 Aetiology
<b>Knowledge</b>	4 Pathophysiology of shock
	4 Pathophysiology of peritonitis and sepsis
	4 Differential diagnosis
	4 History and examination
<b>Clinical Skills</b>	4 Resuscitation
	3 Investigation
	3 Recognition of indication for surgery
<b>Technical Skills and Procedures</b>	4 Central line insertion
	3 laparotomy
	3 laparoscopy
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>ST5 Gastrointestinal bleeding</b>
<b>Category</b>	Final All Trainees
<b>Sub-category:</b>	Emergency Surgery
	<i>Manage Gastrointestinal bleeding in straightforward cases.</i>
	<i>Blood loss and Hypotension: Understanding and management of blood loss.</i>
<b>Objective</b>	<i>Recognition of cause of gastrointestinal bleeding: Ability to assess the likely causes of GI bleeding, supervised endoscopic investigation in straightforward cases.</i>
	<i>Treatment: Understanding of the principles of treatment of GI bleeding and management of straightforward cases.</i>
	<i>Post-operative care: Post-op care of most patients who have had surgery for GI bleeding.</i>

*Complications: Initiate management of most complications after GI bleeding.*

Blood loss and Hypotension:

- 4 Physiology of hypovolaemia
- 4 Coagulopathy

Recognition of cause of gastrointestinal bleeding:

- 4 All causes of GI bleeding

Treatment:

**Knowledge**

- 3 Treatment options
- 3 Indications for operation
- 3 Role of endoscopic procedures and interventional radiology

Post-operative care:

- 4 Fluid balance

Complications:

- 3 All complications likely after emergency treatment

Blood loss and Hypotension:

- 4 Resuscitation of hypotensive patient
- 3 HDU care

Recognition of cause of gastrointestinal bleeding:

- 4 Clinical assessment
- 4 Ability to organise appropriate endoscopy or other investigation

Treatment:

**Clinical Skills**

- 3 appropriate surgery

Post-operative care:

- 4 Analgesia
- 3 Nutrition
- 3 Recognition of complications

Complications:

- 4 Early recognition of rebleeding and post-operative problems
- 2 Treatment of complications

Recognition of cause of gastrointestinal bleeding:

**Technical Skills  
and Procedures**

- 3 Gastroscopy-diagnostic
- 3 Sigmoidoscopy-flexible

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>ST6 Acute presentation of gynaecological disease</b>
<b>Category</b>	Final All Trainees
<b>Sub-category:</b>	Emergency Surgery
	<i>Recognise that gynaecological disease may present to the general surgeon. Appropriate initial management and referral.</i>
	<i>Pelvic inflammatory disease/Endometriosis/salpingitis: Diagnosis and appropriate referral of pelvic sepsis of gynaecological origin</i>
<b>Objective</b>	<i>Obstruction secondary to Ovarian Carcinoma: Initial management of bowel obstruction due to ovarian carcinoma</i>
	<i>Intra abdominal haemorrhage due to ruptured Ovarian cyst or Ectopic Pregnancy: Recognise ectopic pregnancy and refer to appropriate team</i>
	<i>Iatrogenic injury: Recognise the possibility of iatrogenic injury to other organs during gynaecological surgery and arrange appropriate emergency management</i>
	Pelvic inflammatory disease/Endometriosis/salpingitis:  4 Anatomy and physiology of pelvic organs 3 Infective intra abdominal conditions 4 Appropriate management of likely conditions /Antibiotic treatment /referral pathway
	Obstruction secondary to Ovarian Carcinoma:  4 Anatomy and physiology of pelvic organs 3 Understand investigation of the obstructed colon 2 Understand modern management of Ovarian Carcinoma
<b>Knowledge</b>	Intra abdominal haemorrhage due to ruptured Ovarian cyst or Ectopic Pregnancy:  4 Anatomy and physiology of pelvic organs 2 Management of abnormality discovered
	Iatrogenic injury:  4 Anatomy and physiology of abdominal organs Pelvic inflammatory disease/Endometriosis/salpingitis:  4 Assessment of acute abdomen - History and examination 0 Organise pelvic ultrasound /Pregnancy test /CT/tumour markers
<b>Clinical Skills</b>	3 Ability to perform diagnostic laparoscopy and/or laparotomy
	Obstruction secondary to Ovarian Carcinoma:  4 Assessment of Acute abdomen - History and examination

2 Nonoperative management  
2 Perform emergency laparotomy

Intra abdominal haemorrhage due to ruptured Ovarian cyst or Ectopic Pregnancy:

4 Assessment of Acute abdomen ?History and examination  
3 Organise pelvic ultrasound /Pregnancy test

Iatrogenic injury:

3 Recognition of nature and extent of injury  
3 Ability to perform emergency laparotomy  
Pelvic inflammatory disease/Endometriosis/salpingitis:

3 Laparotomy  
3 Laparoscopy

**Technical Skills and Procedures** Obstruction secondary to Ovarian Carcinoma:

2 Hartmann's procedure  
2 Sigmoid colectomy

Iatrogenic injury:

3 Laparotomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>ST6 Acute intestinal obstruction</b>
<b>Category</b>	Final All Trainees
<b>Sub-category:</b>	Emergency Surgery
<b>Objective</b>	<i>Recognise and manage most cases of acute intestinal obstruction</i>
<b>Knowledge</b>	4 Abdominal anatomy 4 Aetiology of intestinal obstruction 4 Pathophysiology of shock, sepsis 4 Differential diagnosis 4 Treatment options 4 History and examination 4 Resuscitation
<b>Clinical Skills</b>	3 Investigation 3 Nutritional support 3 Ability to perform emergency laparotomy
<b>Technical Skills and Procedures</b>	4 Central venous line insertion 3 Laparotomy and division of adhesions
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

**Topic** **ST6 Strangulated hernia**  
**Category** Final All Trainees



**Sub-category:** Emergency Surgery

*Recognise and treat most common strangulated hernia.*

*Strangulated inguinal hernia: Recognise and treat most strangulated inguinal hernia.*

**Objective**

*Strangulated femoral hernia: Recognise and treat strangulated femoral hernia, including operative treatment of a straightforward case.*

*Strangulated incisional hernia: Recognise and treat strangulated incisional hernia, including operation for a straightforward case.*

*Strangulated internal hernia: Recognise and treat strangulated hernia.*

Strangulated inguinal hernia:

3 Anatomy of inguinal region including inguinal canal, femoral canal, abdominal wall and related structures e.g. adjacent retroperitoneum and soft tissues

4 Pathophysiology of strangulated hernia

3 Post-operative complications of repair of strangulated hernia

Strangulated femoral hernia:

3 Anatomy of inguinal region including inguinal canal, femoral canal, abdominal wall and related structures e.g. adjacent retroperitoneum and soft tissues

**Knowledge**

4 Pathophysiology of strangulated hernia

3 Post-operative complications of repair of strangulated hernia

Strangulated incisional hernia:

3 Anatomy of abdominal wall

4 Pathophysiology of strangulated hernia

3 Post-operative complications of strangulated hernia

Strangulated internal hernia:

4 Anatomy

4 Pathophysiology

4 Post-operative complications

Strangulated inguinal hernia:

4 History and examination to identify strangulated hernia

4 Resuscitation

4 Investigation of possible strangulated inguinal hernia

3 Operative strategy for strangulated inguinal hernia

**Clinical Skills**

3 Post-operative management

Strangulated femoral hernia:

4 History and examination to identify strangulated hernia

4 Resuscitation

4 Investigation of possible strangulated femoral hernia

3 Operative strategy for strangulated femoral hernia  
3 Post-operative management

Strangulated incisional hernia:

4 History and examination  
4 Resuscitation  
4 Investigation of possible strangulated incisional hernia  
3 Operative strategy  
3 Post-operative management

Strangulated internal hernia:

4 History and examination  
4 Resuscitation  
4 Investigation  
3 Operative strategy  
3 Post-operative management

Strangulated inguinal hernia:

3 Small bowel resection  
4 Hernia repair-inguinal

Strangulated femoral hernia:

3 Small bowel resection  
3 Hernia repair-femoral

**Technical Skills  
and Procedures**

Strangulated incisional hernia:

3 Small bowel resection  
3 Hernia repair-incisional

Strangulated internal hernia:

3 Small bowel resection  
3 Hernia repair-other

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>ST6 Superficial sepsis, including necrotising infections</b>
<b>Category</b>	Final All Trainees
<b>Sub-category:</b>	Emergency Surgery
<b>Objective</b>	<i>Diagnosis and basic management of gas gangrene and other necrotising infections.</i> 4 Natural history of condition 4 Vulnerable individuals
<b>Knowledge</b>	0 Physiology of associated conditions; diabetes, atherosclerosis, steroid therapy, immunocompromised etc 3 Knowledge of bacteriology and toxins involved 4 Mechanisms of septic shock 3 Massive blood transfusion complications

	4 Knowledge of appropriate antibiotic therapy
	4 Knowledge of necrotising fasciitis
	4 History and examination
<b>Clinical Skills</b>	4 Recognition of the early warning signs
	2 Radical excisional surgery
<b>Technical Skills and Procedures</b>	2 Fournier's gangrene/necrotising fasciitis/debridement
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>ST7+8 Peritonitis</b>
<b>Category</b>	Final All Trainees
<b>Sub-category:</b>	Emergency Surgery
<b>Objective</b>	<i>Recognition and management of peritonitis.</i>
	4 Anatomy of abdomen and pelvis
	4 Differential diagnosis
<b>Knowledge</b>	4 Pathophysiology and treatment of intra-peritoneal sepsis, generalised sepsis and septicæmic shock
	4 Conditions which do not require surgery
	4 History and exam
	4 Recognition of severity of illness
	4 Investigations
	4 Resuscitation including antibiotics, invasive monitoring
<b>Clinical Skills</b>	4 Treat symptoms
	4 Timing of intervention
	4 Recognition of success/failure of nonoperative treatment
	4 Ability to perform emergency laparotomy
	4 Recognition and management of complications
<b>Technical Skills and Procedures</b>	4 Gastro/duodenum-perforated PU closure
	4 Hartmann's procedure
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>ST7+8 Assessment of the acute abdomen</b>
<b>Category</b>	Final All Trainees
<b>Sub-category:</b>	Emergency Surgery
<b>Objective</b>	<i>Assessment, resuscitation and management of patients with acute abdomen.</i>
	4 Abdominal anatomy
	4 Aetiology
<b>Knowledge</b>	4 Pathophysiology of shock
	4 Pathophysiology of peritonitis and sepsis
	4 Differential diagnosis
	4 History and examination
	4 Resuscitation
<b>Clinical Skills</b>	4 Investigation
	4 Recognition of indication for surgery
<b>Technical Skills and Procedures</b>	4 Central line insertion
	4 Laparotomy

#### 4 Laparoscopy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>ST7+8 Acute presentation of gynaecological disease</b>
<b>Category</b>	Final All Trainees
<b>Sub-category:</b>	Emergency Surgery
<b>Objective</b>	<i>To Recognise, manage and appropriately refer acute gynaecological disease.</i> <i>-The diagnosis of pelvic sepsis of gynaecological origin, emergency operative management if necessary.</i> <i>-The management of bowel obstruction due to ovarian carcinoma</i> <i>- To recognise ectopic pregnancy and refer to the appropriate team. Emergency operative management if needed.</i> <i>- To recognise and manage iatrogenic injury to other organs during gynaecological surgery in consultation with appropriate specialists.</i>
<b>Knowledge</b>	Pelvic Inflammatory disease/Endometriosis/salpingitis 4 Anatomy and physiology of Pelvic organs 3 Infective intra abdominal conditions 4 Appropriate management of likely conditions/Antibiotic treatment /referral pathway  Obstruction secondary to Ovarian Cancer 4 Anatomy and physiology of pelvic organs 3 Understand investigation of the obstructed colon 2 Understand modern management of Ovarian Cancer  Intra abdominal haemorrhage due to ruptured Ovarian Cyst or ectopic pregnancy 4 Anatomy and physiology of pelvic organs 3 Management of abnormality discovered  Iatrogenic Injury 4 Anatomy and physiology of abdominal organs  Pelvic Inflammatory disease/Endometriosis/Salpingitis 4 Assessment of acute abdomen - History and examination 4 organise pelvic ultrasound/Pregnancy test/CT/tumour markers 4 Ability to perform diagnostic laparoscopy and/or laparotomy  Obstruction secondary to ovarian cancer 4 Assessment of acute abdomen History and examination 3 Non-operative management 4 Perform emergency laparotomy
<b>Clinical Skills</b>	Intra abdominal haemorrhage due to ruptured Ovarian Cyst or Ectopic Pregnancy 4 Assessment of Acute abdomen - History and examination 3 Organise pelvic ultrasound/pregnancy test 4 Ability to perform diagnostic laparoscopy and/or laparotomy  Iatrogenic Injury 4 Recognition of nature and extent of injury

4 Appropriate surgical treatment  
4 Ability to perform emergency laparotomy  
Pelvic Inflammatory disease/Endometriosis/Salpingitis  
4 Laparotomy  
4 Laparoscopy

Obstruction secondary to ovarian cancer  
3 Hartmanns procedure  
3 Sigmoid colectomy

**Technical Skills and Procedures**

Intra abdominal haemorrhage due to ruptured Ovarian Cyst or Ectopic Pregnancy  
4 Laparotomy  
4 Laparoscopy

Iatrogenic Injury  
4 Laparotomy  
4 Laparoscopy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** ST7+8 Acute intestinal obstruction

**Category** Final All Trainees

**Sub-category:** Emergency Surgery

**Objective** *Recognise and manage acute intestinal obstruction.*

4 Abdominal anatomy  
4 Aetiology of intestinal obstruction  
4 Pathophysiology of shock, sepsis  
4 Differential diagnosis  
4 Treatment options

**Knowledge**

4 History and examination  
4 Resuscitation

**Clinical Skills**

4 Investigation  
4 Nutritional support  
4 Ability to perform emergency laparotomy

**Technical Skills and Procedures**

4 Central venous line insertion  
4 Laparotomy and division of adhesions

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** ST7+8 Strangulated hernia

**Category** Final All Trainees

**Sub-category:** Emergency Surgery

*To recognise and treat strangulated hernia.*

**Objective** *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.*

*Other strangulated external hernias: Recognise and treat other strangulated external hernia.*

*Strangulated internal hernia: Recognise and treat strangulated hernia.*

Strangulated inguinal hernia:

4 Anatomy of inguinal region including inguinal canal, femoral canal, abdominal wall and related structures e.g. adjacent retroperitoneum and soft tissues

4 Pathophysiology of strangulated hernia

4 Post-operative complications of repair of strangulated hernia

Strangulated femoral hernia:

4 Anatomy of inguinal region including inguinal canal, femoral canal, abdominal wall and related structures e.g. adjacent retroperitoneum and soft tissues

4 Pathophysiology of strangulated hernia

4 Post-operative complications of repair of strangulated hernia

**Knowledge** Strangulated incisional hernia:

4 Anatomy of abdominal wall

4 Pathophysiology of strangulated hernia

4 Post-operative complications of strangulated hernia

Other strangulated external hernias:

4 Anatomy of abdominal wall and inguinal region

4 Pathophysiology of strangulated hernia

4 Post-operative complications of strangulated hernia

Strangulated internal hernia:

4 Anatomy

4 Pathophysiology

4 Post-operative complications

Strangulated inguinal hernia:

4 History and examination to identify strangulated hernia

4 Resuscitation

4 Investigation of possible strangulated inguinal hernia

4 Operative strategy for strangulated inguinal hernia

**Clinical Skills** 4 Post-operative management

Strangulated femoral hernia:

4 History and examination to identify strangulated hernia

4 Resuscitation

4 Investigation of possible strangulated femoral hernia

- 4 Operative strategy for strangulated femoral hernia
- 4 Post-operative management

Strangulated incisional hernia:

- 4 History and examination
- 4 Resuscitation
- 4 Investigation of possible strangulated incisional hernia
- 4 Operative strategy
- 4 Post-operative management

Other strangulated external hernias:

- 4 History and examination
- 4 Resuscitation
- 4 Investigation
- 4 Operative strategy
- 4 Post-operative management

Strangulated internal hernia:

- 4 History and examination
- 4 Resuscitation
- 4 Investigation
- 4 Operative strategy

4 Post-operative management

Strangulated inguinal hernia:

- 4 Small bowel resection
- 4 Hernia repair-inguinal
- 4 Hernia repair-inguinal recurrent

Strangulated femoral hernia:

- 4 Small bowel resection
- 4 Hernia repair-femoral

Strangulated incisional hernia:

**Technical Skills  
and Procedures**

- 4 Small bowel resection
  - 4 Hernia repair-incisional
  - 4 Hernia repair-incisional recurrent
- Other strangulated external hernias:

- 4 Small bowel resection
- 4 Hernia repair-other

Strangulated internal hernia:

- 4 Small bowel resection
- 4 Hernia repair-other

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>ST7+8 Gastrointestinal bleeding</b>
<b>Category</b>	Final All Trainees
<b>Sub-category:</b>	Emergency Surgery
	<i>Assessment of all cases of gastrointestinal bleeding, management and referral to subspecialists as needed.</i>
	<i>Blood loss and Hypotension: Understanding and management of blood loss.</i>
	<i>Recognition of cause: Assessment of likely cause of GI bleeding and basic diagnostic endoscopy.</i>
<b>Objective</b>	<i>Treatment: Assessment and management of all cases of gastrointestinal bleeding with referral to subspecialist if needed.</i>
	<i>Post-operative care: Post-op care of patients who have had surgery for GI bleeding.</i>
	<i>Complications: Manage complications after GI bleeding and refer appropriately.</i>
	Blood loss and Hypotension:
	4 Physiology of hypovolaemia
	4 Coagulopathy
	Recognition of cause
	4 All causes of GI bleeding
	Treatment:
<b>Knowledge</b>	4 Treatment options
	4 Indications for operation
	4 Role of endoscopic procedures and interventional radiology
	Post-operative care:
	4 Fluid balance
	Complications:
	4 All complications likely after emergency treatment
	Blood loss and Hypotension:
	4 Resuscitation of hypotensive patient
	4 HDU care
<b>Clinical Skills</b>	Recognition of cause:
	4 Clinical assessment
	4 Ability to organise appropriate endoscopy or other investigation



Treatment:

4 Appropriate surgery

Post-operative care:

4 Analgesia

4 Nutrition

4 Recognition of complications

Complications:

4 Early recognition of rebleeding and post-operative problems

4 Treatment of complications

Recognition of cause:

**Technical Skills  
and Procedures**

4 Gastroscopy-diagnostic

4 Sigmoidoscopy-flexible

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** ST7+8 Superficial sepsis, including necrotising infections

**Category** Final All Trainees

**Sub-category:** Emergency Surgery

**Objective** *Diagnosis and management of gas gangrene and other necrotising infections*

4 Natural history of condition

4 Vulnerable individuals

3 Physiology of associated conditions; diabetes, atherosclerosis, steroid therapy, immunocompromised etc

**Knowledge** 3 Knowledge of bacteriology and toxins involved

4 Mechanisms of septic shock

3 Massive blood transfusion complications

4 Knowledge of appropriate antibiotic therapy

4 Knowledge of necrotising fasciitis

4 History and examination

**Clinical Skills** 4 Recognition of the early warning signs

4 Radical excisional surgery

**Technical Skills  
and Procedures**

4 Fournier's gangrene/necrotising fasciitis/debridement

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** ST8 Mesenteric Ischaemia

**Category** Final All Trainees

**Sub-category:** Emergency Surgery

**Objective** *The diagnosis of mesenteric ischaemia and general surgical role in management to include:*

*\* The recognition of the possibility of mesenteric ischaemia and basic knowledge of investigation*

*\* Competence in decision making and the general surgical aspects of management of mesenteric ischaemia*  
*\* Understanding of the ongoing management of mesenteric ischaemia in consultation with other specialties*

Diagnosis and assessment  
3 Anatomy of aorta and mesenteric vessels  
3 Pathology of mesenteric ischaemia

**Knowledge**  
Treatment  
2 Means of treatment of chronic mesenteric ischaemia both via operation and interventional radiology in consultation with the appropriate specialists  
3 Treatment of comorbidity  
2 Means of treatment of acute mesenteric ischaemia

Ongoing care  
2 Complications of treatment  
3 Means of nutritional support including home parenteral nutrition in suitable patients  
Diagnosis and assessment  
4 History and examination  
3 Arrange appropriate investigation to exclude other pathology  
2 Arrange appropriate investigation to identify mesenteric ischaemia  
1 Interpretation of the clinical picture with the radiological abnormalities

**Clinical Skills**  
Treatment  
3 Selection of patients for appropriate intervention whether emergency or elective

Ongoing care  
3 Detection of complications such as ongoing ischaemia in consultation with the appropriate specialists  
2 Management of organ failure  
3 Management of comorbidity  
2 Nutritional support

**Technical Skills and Procedures**  
Treatment  
4 Small bowel resection  
4 Hartmann's procedure

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **ST5 Injuries of the urinary tract**  
**Category** Final All Trainees  
**Sub-category:** Emergency Trauma  
*Recognition and basic emergency management of injuries of the urinary tract.*  
**Objective**  
*Urethral injury: Recognition of injuries of the urethra*  
*Bladder injury: Recognition of injuries of the bladder*  
*Ureteric injury: Recognition of injuries of the ureter*

*Renal Injury: Recognition of injuries of the kidney*

Urethral injury:

- 4 Anatomy
- 4 Management of the multiply injured patient
- 3 Mechanisms of urethral injury

Bladder injury:

- 4 Anatomy of bladder
- 3 Mechanisms of bladder injury, surgical, blunt and penetrating injury

**Knowledge**

Ureteric injury:

- 4 Anatomy of ureter and retroperitoneum
- 3 Mechanisms of ureteric injury, surgical, penetrating injury

Renal Injury:

- 4 Anatomy of kidney and retroperitoneum
- 3 Mechanisms of renal injury, blunt and penetrating injury

Urethral injury:

- 4 Assessment and initial management of the multiply injured patient
- 2 Assessment of the patient with pelvic and perineal injury
- 2 Recognition of possible urethral damage
- 2 Assessment of the urethra by urethrography in the emergency situation
- 4 Appropriate referral for specialist management

Bladder injury:

- 2 Recognition of bladder injury from external trauma or during surgery
- 2 Bladder repair, safe passage of urethral catheter. Free drainage of bladder until bladder healed
- 4 Appropriate referral for specialist management

**Clinical Skills**

Ureteric injury:

- 2 Recognition of ureteric damage
- 1 Direct repair over stent
- 1 Reimplantation
- 4 Appropriate referral for definitive repair and follow up

Renal Injury:

- 4 Assessment and management of multiply injured patient
- 3 Recognition of potential renal damage
- 3 Assess renal function before or during surgery (Contrast CT of trauma patient), on table IVU if indicated
- 1 Nephrectomy for shattered kidney with urologist
- 4 Options for renal preservation ? referral to appropriate specialist

**Technical Skills**

Urethral injury:

**and Procedures**

3 Suprapubic catheter insertion

Renal Injury:

1 Nephrectomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** ST7+8 Blunt and penetrating injuries

**Category** Final All Trainees

**Sub-category:** Emergency Trauma

*Assessment and management of blunt and penetrating injury.*

*Closed thoracic injury: Assessment and emergency management of blunt injury of the thorax.*

**Objective**

*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.*

*Blunt and penetrating soft tissue and skeletal injury: Assessment and management of blunt and penetrating injury of the soft tissues and skeleton.*

Closed thoracic injury:

4 Anatomy

4 Concept of low energy, high energy transfer injury

4 Pathogenesis of shock

Penetrating thoracic injury:

4 Anatomy

4 Concept of low energy, high energy transfer injury

4 Pathogenesis of shock

**Knowledge**

Closed and penetrating abdominal injury:

4 Anatomy

4 Concept of low energy, high energy transfer injury

4 Pathogenesis of shock

Blunt and penetrating soft tissue and skeletal injury:

4 Anatomy

4 Concept of low energy, high energy transfer injury

4 Pathogenesis of shock

Closed thoracic injury:

**Clinical Skills**

4 Assessment and initial management of multiply injured patient

4 Recognise need for operative intervention and organise

- 3 Understand indications for ER thoracotomy
- 4 Post-operative management and recognition of complications

Penetrating thoracic injury:

- 4 Assessment and initial management of multiply injured patient
- 4 Recognise and treat sucking chest wound
- 4 Recognise need for operative intervention and organise
- 3 Understand indications for ER thoracotomy
- 4 Post-operative management and recognition of complications

Closed and penetrating abdominal injury:

- 4 Assessment and initial management of multiply injured patient
- 4 Recognise need for laparotomy
- 3 Arrest haemorrhage by suture, ligation or packing
- 3 Recognise need for application of pelvic fixator
- 3 Use of drains for biliary and pancreatic injury
- 3 Management of retroperitoneal haematoma
- 4 Post-operative management and recognition of complications

Blunt and penetrating soft tissue and skeletal injury:

- 4 Assessment and initial management of multiply injured patient
- 4 Arrest of haemorrhage by pressure and tourniquet
- 4 Appropriate immobilisation during assessment
- 4 Recognition of major vascular trauma
- 4 Assessment of ischaemic limb and appropriate management
- 4 Recognition and treatment of acute compartment syndrome
- 4 Femoral artery exposure
- 4 Post-operative management and recognition of complications

Closed thoracic injury:

- 4 Chest drain insertion
- 3 Thoracotomy-lateral

Penetrating thoracic injury:

- 4 Chest drain insertion
- 3 Thoracotomy-lateral

**Technical Skills  
and Procedures**

Closed and penetrating abdominal injury:

- 4 Diagnostic peritoneal lavage
- 4 Laparotomy-trauma
- 4 Splenectomy
- 4 Small bowel resection
- 4 Ileostomy-construction
- 4 Colostomy-construction

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** ST7+8 Abdominal injuries especially splenic, hepatic and pancreatic

**injuries**

<b>Category</b>	Final All Trainees
<b>Sub-category:</b>	Emergency Trauma
<b>Objective</b>	<i>Identify and manage the majority of abdominal injuries.</i>
	4 Aetiology
	4 Mechanisms of injury and possible consequences, eg Gun Shot Wound, stabbing, seat belt injuries
	4 Clinical features
<b>Knowledge</b>	4 Pathophysiology of shock
	4 Indications for use of uncrossmatched blood
	4 Coagulopathy
	4 Abdominal anatomy
	4 Pathophysiology of peritonitis and sepsis
	4 Resuscitation
<b>Clinical Skills</b>	4 Investigation
	4 Recognition of injuries requiring management by other specialities
	3 Management of hollow organ injury
	4 Central venous line insertion
	4 Diagnostic peritoneal lavage
<b>Technical Skills and Procedures</b>	4 Laparotomy- trauma
	4 Liver trauma-debridement/packing
	3 Pancreatectomy-distal
	4 Splenectomy
	4 Splenic repair
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

**Topic** ST7+8 Injuries of the urinary tract

<b>Category</b>	Final All Trainees
<b>Sub-category:</b>	Emergency Trauma
	<i>Recognition and emergency management of some injuries of the urinary tract in consultation with urology.</i>
	<i>Urethral injury: Recognition and emergency management of injuries of the urethra</i>
<b>Objective</b>	<i>Bladder injury: Recognition and emergency management of injuries of the bladder</i>
	<i>Ureteric injury: Recognition and emergency management of injuries of the ureter</i>
	<i>Renal Injury: Recognition and emergency management of injuries of the kidney</i>
	Urethral injury:
<b>Knowledge</b>	4 Anatomy
	4 Management of the multiply injured patient
	4 Mechanisms of urethral injury
	Bladder injury:

- 4 Anatomy of bladder
- 4 Mechanisms of bladder injury, surgical, blunt and penetrating injury

Ureteric injury:

- 4 Anatomy of ureter and retroperitoneum
- 4 Mechanisms of ureteric injury, surgical, penetrating injury

Renal Injury:

- 4 Anatomy of kidney and retroperitoneum
- 4 Mechanisms of renal injury, blunt and penetrating injury

Urethral injury:

- 4 Assessment and initial management of the multiply injured patient
- 3 Assessment of the patient with pelvic and perineal injury
- 3 Recognition of possible urethral damage
- 4 Assessment of the urethra by urethrography in the emergency situation
  
- 4 Appropriate referral for specialist management

Bladder injury:

- 4 Recognition of bladder injury from external trauma or during surgery
- 4 Bladder repair, safe passage of urethral catheter. Free drainage of bladder until bladder healed
- 4 Appropriate referral for specialist management

#### **Clinical Skills**

Ureteric injury:

- 4 Recognition of ureteric damage
- 2 Direct repair over stent
- 2 Reimplantation
- 4 Appropriate referral for definitive repair and follow up

Renal Injury:

- 4 Assessment and management of multiply injured patient
- 4 Recognition of potential renal damage
- 4 Assess renal function before or during surgery (Contrast CT of trauma patient), on table IVU if indicated
- 3 Nephrectomy for shattered kidney with urologist
- 2 Options for renal preservation - referral to appropriate specialist

Urethral injury:

- 4 Suprapubic catheter insertion

#### **Technical Skills and Procedures**

Renal Injury:

- 2 Nephrectomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>ST7+8 Vascular injury</b>
<b>Category</b>	Final All Trainees
<b>Sub-category:</b>	Emergency Trauma <i>Identification and initial assessment of injuries to blood vessels.</i>  <i>Mechanism of acute arterial injury: Ability to diagnose arterial injury.</i>
<b>Objective</b>	<i>Management: Ability to control bleeding.</i>  <i>Complications: Diagnose complications of arterial injury, including management of compartment syndrome.</i> Mechanism of acute arterial injury:  4 Situations when arterial injury may occur  Management:
<b>Knowledge</b>	3 Indications for investigation 4 Anatomy of approach to major vascular structures  Complications:  3 Potential complications eg. blood loss, compartment syndrome, nerve injury, venous injury Mechanism of acute arterial injury:  3 Diagnose arterial injury  Management:
<b>Clinical Skills</b>	3 Arrange appropriate investigations eg angiography 3 Control bleeding 1 Arterial trauma  Complications:  1 Diagnose and investigate complications appropriately  Management:
<b>Technical Skills and Procedures</b>	2 Arterial trauma operation  Complications:  3 Fasciotomy
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>ST6 Elective hernia</b>
<b>Category</b>	Final All Trainees
<b>Sub-category:</b>	General



<b>Objective</b>	<i>Diagnosis + management, including operative management of primary and most recurrent abdominal wall hernia.</i>
	4 Anatomy of inguinal region including inguinal canal, femoral canal, abdominal wall and related structures e.g. adjacent retroperitoneum and soft tissues.
	4 Relationship of structure to function of anatomical structures.
<b>Knowledge</b>	4 Natural history of abdominal wall hernia including presentation, course and possible complications.
	4 Treatment options
	4 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
<b>Clinical Skills</b>	4 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
	3 Supervise the post-operative course in hospital and on follow-up
	4 Hernia repair-femoral
	3 Hernia repair-incisional
<b>Technical Skills and Procedures</b>	3 Hernia repair-incisional recurrent
	4 Hernia repair-inguinal
	3 Hernia repair-inguinal recurrent
	4 Hernia repair-umbilical/paraumbilical
	4 Hernia repair-epigastric
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>ST6 Outpatient skills</b>
<b>Category</b>	Final All Trainees
<b>Sub-category:</b>	General
	<i>Assess individual outpatients adequately, manage a single outpatient clinic.</i>
<b>Objective</b>	<i>Individual patient assessment: Ability to assess individual outpatients.</i>
	<i>Management of an outpatient clinic: Management of a single outpatient clinic.</i>
	Individual patient assessment:
<b>Knowledge</b>	4 Relevant anatomy, physiology and clinical knowledge for the system involved.
	Individual patient assessment:
	4 Focused history taking and examination.
	4 Organise appropriate investigations.
<b>Clinical Skills</b>	Management of an outpatient clinic:
	3 Ability to allocate patients to appropriate staff members
	3 Ability to prioritise urgent patient investigations and operation
	Individual patient assessment:
<b>Technical Skills and Procedures</b>	4 Sigmoidoscopy-rigid.
	4 Haemorrhoids-OP treatment(injection/banding or infrared coagulation)

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>ST6 Conditions affecting the reticulo-endothelial + haemopoetic systems</b>
<b>Category</b>	Final All Trainees
<b>Sub-category:</b>	General <i>Provision of general surgical support in the management of conditions affecting the reticulo-endothelial and haemopoetic systems in straightforward cases.</i>
<b>Objective</b>	<i>Lymphatic conditions: Provision of general surgical support in the management of conditions affecting the lymphatic system in straightforward cases.</i>  <i>Conditions involving the spleen: Provision of general surgical support in the management of conditions affecting the spleen. Management of splenic injury under supervision.</i> Lymphatic conditions:  3 Non Hodgkin's Lymphoma 3 Lymphadenopathy 3 Hodgkin's disease 3 Staging classifications
<b>Knowledge</b>	Conditions involving the spleen:  3 Indications for elective splenectomy-haemolytic anaemia, ITP, Thrombocytopaenia, myeloproliferative disorders 4 Indications for emergency splenectomy 4 Sequelae of splenectomy 3 Splenic conditions 3 Thrombophilia Lymphatic conditions:  4 Liver biopsy 3 Planning appropriate treatment schedule in consultation with haematologist
<b>Clinical Skills</b>	Conditions involving the spleen:  3 Planning appropriate treatment schedule in consultation with haematologist Lymphatic conditions:  4 Biopsy-FNA 4 Lymph node biopsy-groin, axilla
<b>Technical Skills and Procedures</b>	Conditions involving the spleen:  3 Splenectomy
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>ST7+8 Conditions affecting the reticulo-endothelial + haemopoetic systems</b>
<b>Category</b>	Final All Trainees
<b>Sub-category:</b>	General
	<i>Provision of specialist surgical support in the management of conditions affecting the reticulo-endothelial and haemopoetic systems.</i>
<b>Objective</b>	<i>Lymphatic conditions: Provision of specialist surgical support in the management of conditions affecting the lymphatic system.</i>
	<i>Conditions involving the spleen: Provision of specialist surgical support in the management of conditions affecting the spleen. Management of splenic injury.</i>
	Lymphatic conditions:
	4 Non Hodgkin's Lymphoma
	4 Lymphadenopathy
	4 Hodgkin's disease
	4 Staging classifications
<b>Knowledge</b>	Conditions involving the spleen:
	4 Indications for elective splenectomy-haemolytic anaemia, ITP, Thrombocytopaenia, myeloproliferative disorders
	Indications for emergency splenectomy
	4 Sequelae of splenectomy
	4 Splenic conditions
	4 Thrombophilia
	Lymphatic conditions:
	4 Liver biopsy
	4 Laparoscopic lymph node biopsy
<b>Clinical Skills</b>	4 Planning appropriate treatment schedule in consultation with haematologist
	Conditions involving the spleen:
	4 Planning appropriate treatment schedule in consultation with haematologist
	Lymphatic conditions:
	4 Biopsy-FNA
	4 Lymph node biopsy-cervical
<b>Technical Skills and Procedures</b>	4 Lymph node biopsy-groin, axilla
	Conditions involving the spleen:
	4 Laparoscopy
	4 Splenectomy
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>ST7+8 Elective hernia</b>
<b>Category</b>	Final All Trainees
<b>Sub-category:</b>	General

<b>Objective</b>	<i>Diagnosis + management, including operative management of primary and recurrent abdominal wall hernia.</i>
	4 Anatomy of inguinal region including inguinal canal, femoral canal, abdominal wall and related structures e.g. adjacent retroperitoneum and soft tissues.
	4 Relationship of structure to function of anatomical structures.
<b>Knowledge</b>	4 Natural history of abdominal wall hernia including presentation, course and possible complications.
	4 Treatment options
	4 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.
<b>Clinical Skills</b>	4 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 Supervise the post-operative course in hospital and on follow-up
	4 Hernia repair-epigastric
	4 Hernia repair-femoral
<b>Technical Skills and Procedures</b>	4 Hernia repair-incisional
	4 Hernia repair-incisional recurrent
	4 Hernia repair-inguinal
	4 Hernia repair-inguinal recurrent
	4 Hernia repair-umbilical/paraumbilical
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>ST7+8 Nutrition</b>
<b>Category</b>	Final All Trainees
<b>Sub-category:</b>	General
<b>Objective</b>	<i>Recognise the need for artificial nutritional support, assess whether this is appropriate and arrange treatment.</i>
<b>Knowledge</b>	3 Effects of malnutrition, both excess and depletion
	3 Methods of screening and assessment
	4 Arrange access to suitable artificial nutritional support, preferably via a nutrition team
<b>Clinical Skills</b>	3 Dietary supplements
	2 Enteral nutrition
	1 Parenteral nutrition
<b>Technical Skills and Procedures</b>	<b>No content</b>
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>ST7+8 Outpatient skills</b>
<b>Category</b>	Final All Trainees
<b>Sub-category:</b>	General
<b>Objective</b>	<i>Assess individual outpatients, manage outpatient clinics and organise a consultant led OP service.</i>
	<i>Individual patient assessment: Ability to assess individual outpatients.</i>

*Management of an outpatient clinic: Management of a single outpatient clinic.*

*Organisation of outpatient service: Ability to organise the outpatient service led by a consultant.*

Individual patient assessment:

4 Relevant anatomy, physiology and clinical knowledge for the system involved

**Knowledge**

Organisation of outpatient service:

3 Understanding of the administrative system of the hospital

4 Relevant guidelines for disease management

Individual patient assessment:

4 Focused history taking and examination

4 Organise appropriate investigations

Management of an outpatient clinic:

**Clinical Skills**

3 Ability to allocate patients to appropriate staff members

3 Ability to prioritise urgent patient investigations and operation

Organisation of outpatient service:

4 Prioritisation of patient appointments

Individual patient assessment:

**Technical Skills and Procedures**

4 Sigmoidoscopy-rigid

4 Haemorrhoids-OP treatment(injection, banding or infrared coagulation)

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Perforated peptic ulcer**

**Category** Final Special Interest Oesophago-gastric

**Sub-category:** OG-A

*Diagnosis and management of perforated peptic ulcer.*

*Diagnosis and pre-operative management: Diagnosis of perforated peptic ulcer and assess for operation.*

**Objective**

*Operative management: Operation for most perforated peptic ulcer cases, including gastric ulcer.*

*Post-operative management: Post-operative management of patients who have had surgery for perforated peptic ulcer.*

Diagnosis and pre-operative management

**Knowledge**

4 Anatomy of abdominal wall and intra abdominal organs

4 Patho-physiology of ulcer development and management

4 Management of Shock

4 ASA Grade of patient  
4 Treatment of underlying process

Operative management

4 Other Pathologies found in upper abdomen  
4 Knowledge of types and positions of perforation

Post-operative management

4 Post-operative complications  
Diagnosis and pre-operative management

4 Assessment of acute abdomen  
4 History and examination  
4 Recognise from history and examination likely differential diagnosis  
4 Identify appropriate investigations  
4 Resuscitation  
4 Arrange and coordinate theatre team

**Clinical Skills**

Operative management

3 Recognise position of perforation

Post-operative management

4 Post-operative pain management  
4 Recognition of complications  
Diagnosis and pre-operative management

4 Central venous line insertion

**Technical Skills  
and Procedures**

Operative management

4 Gastro/duodenum-perforated PU closure  
3 Gastric lesion-local excision  
2 Gastrectomy-distal

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Upper GI haemorrhage</b>
<b>Category</b>	Final Special Interest Oesophago-gastric
<b>Sub-category:</b>	OG-A
<b>Objective</b>	<i>Endoscopic diagnosis of most cases of upper GI haemorrhage, operative management of some cases where endostasis has failed. Diagnosis: Endoscopic diagnosis of upper GI haemorrhage. Management: Operative management of some cases of upper GI haemorrhage where endostasis has failed. Post-operative care: Post-operative care of most patients who have had surgery for UGI haemorrhage.</i>

Diagnosis:

- 4 Anatomy
- 4 Pathophysiology

Management:

- Knowledge**
- 4 Treatment options available
  - 4 Indications for surgery

Post-operative care:

- 4 Complications
- 4 Investigations
- 4 Management options

Diagnosis:

- 4 History and examination
- 4 Resuscitation

**Clinical Skills**

Post-operative care:

- 4 Diagnosis
- 4 Organising investigations
- 3 Interpreting investigations
- 3 Management of leak
- 3 Need for re-operation
- 2 Re-operation for complication
- 4 Nutrition

Diagnosis:

- 3 Gastroscopy-diagnostic

**Technical Skills and Procedures**

Management:

- 2 Gastroscopy+bleeding therapy
- 1 Gastroscopy+variceal therapy
- 2 Gastro/duodenum-under-running of bleeding PU
- 2 Gastrectomy-distal

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Oesophageal emergencies

**Category** Final Special Interest Oesophago-gastric

**Sub-category:** OG-A

**Objective** *To recognise the symptoms and signs and initiate the management of oesophageal emergencies.*

*Diagnosis: Appreciation of the possible diagnoses in oesophageal emergencies.*

*Management: Ability to resuscitate the patient with rupture of the oesophagus or food bolus obstruction.*

*Operation: Basic understanding of the possible treatment of oesophageal emergencies.*

*Post-operative care: basic understanding of the post-operative care of patients with oesophageal emergencies*

Diagnosis:

3 Anatomy of oesophagus and cardia

3 Mechanism of iatrogenic and spontaneous (Boerhaave) rupture of oesophagus

4 Mechanism of food bolus obstruction

3 Investigations

Management:

**Knowledge** 2 Understanding of treatment options

Operation:

1 Operative approaches

1 Operative strategies

Post-operative care:

2 Complications

2 Investigations

Diagnosis:

2 Interpretation of clinical signs/symptoms and X-ray appearances (chest X-ray and contrast swallow)

Management:

4 Resuscitation including chest drainage

**Clinical Skills** Operation:

2 Pre-op assessment

Post-operative care:

2 Recognition of complications

2 Organising investigations and interpretation

1 Management of failed surgery/leak

2 Nutritional support

Management:

**Technical Skills** 4 Chest drain insertion

**and Procedures** Operation:

1 Oesophagus-repair of rupture



- 2 Feeding jejunostomy
- 2 Endoscopic removal of food bolus obstruction
- 1 Thoracotomy-lateral

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Acute gastric volvulus</b>
<b>Category</b>	Final Special Interest Oesophago-gastric
<b>Sub-category:</b>	OG-A
<b>Objective</b>	<p><i>To recognise the symptoms and signs and initiate early management of acute gastric volvulus.</i></p> <p><i>Diagnosis: Recognise the symptoms and signs of acute gastric volvulus.</i></p> <p><i>Management: Be aware of the early management of acute gastric volvulus.</i></p> <p><i>Operation: Be aware of the operative options for Gastric volvulus.</i></p> <p><i>Post-operative care: Supervised post-operative care after surgery for gastric volvulus.</i></p> <p>Diagnosis:</p> <ul style="list-style-type: none"> <li>4 Anatomy of hiatus and mechanism behind gastric volvulus</li> <li>4 Investigations</li> </ul> <p>Management:</p> <ul style="list-style-type: none"> <li>4 Understanding of complications and how they can be avoided/identified</li> </ul>
<b>Knowledge</b>	<p>Operation:</p> <ul style="list-style-type: none"> <li>3 Indications for early/urgent surgery when decompression fails to resolve acute condition</li> <li>3 Operative strategies</li> </ul> <p>Post-operative care:</p> <ul style="list-style-type: none"> <li>4 Complications</li> <li>4 Investigations</li> </ul> <p>Diagnosis:</p> <ul style="list-style-type: none"> <li>2 Interpretation of clinical signs/symptoms and X-ray appearances (chest X-ray and contrast swallow)</li> </ul> <p>Management:</p>
<b>Clinical Skills</b>	<ul style="list-style-type: none"> <li>2 Recognition of complications and early management by means of nasogastric decompression</li> <li>2 Recognition of success/failure</li> </ul> <p>Operation:</p> <ul style="list-style-type: none"> <li>2 Pre-op assessment</li> <li>2 Recognition as to when resection required</li> <li>1 Open and laparoscopic approaches</li> </ul>

Post-operative care:

- 2 Recognition of complications
- 2 Organising investigations and interpretation
- 2 Management of failed surgery/leak
- 2 Nutritional support

Operation:

- Technical Skills and Procedures**
- 1 Gastric volvulus reduction+gastropexy
  - 1 Gastric volvulus reduction+anti-reflux surgery
  - 1 Gastrectomy-total
  - 1 Gastrectomy-subtotal
  - 2 Feeding jejunostomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Elective oesophago-gastric disorders</b>
<b>Category</b>	Final Special Interest Oesophago-gastric
<b>Sub-category:</b>	OG-A
<b>Objective</b>	<i>To understand the symptoms, signs, investigations and principles of management of patients with gastro-oesophageal disorders, including motility disorders and malignancy of the oesophagus and stomach.</i> <i>Diagnosis: To understand the symptoms, signs, and investigation of patients with gastro-oesophageal disorders including motility disorders and malignancy of the oesophagus and stomach.</i> <i>Management: To understand the principles of management of patients with gastro-oesophageal disorders, including motility disorders and malignancy of the oesophagus and stomach.</i> <i>Post-operative care: Understanding of the principles of post-operative management in oesophago-gastric surgery.</i> Diagnosis:  4 Anatomy of oesophagus, stomach and adjacent structures 4 Signs and symptoms for malignant conditions such as oesophageal carcinoma, gastric carcinoma 2 Signs and symptoms for malignant conditions such as oesophageal motility disorders such as oesophageal reflux, achalasia
<b>Knowledge</b>	Management:  3 Treatment options available  Post-operative care:  2 Complications 2 Investigations 2 Management options  Diagnosis:
<b>Clinical Skills</b>	4 History and examination

3 Organising investigations

Management:

2 Open and laparoscopic surgical procedures

Post-operative care:

2 Diagnosis

2 Organising investigations

2 Interpreting investigations

2 Management of leak

2 Need for re-operation

1 Re-exploration for complication

2 Nutrition

Diagnosis:

4 Gastroscopy-diagnostic

Management:

1 Anti-reflux surgery

1 Heller's myotomy

3 Gastroenterostomy

2 Gastrectomy-distal

**Technical Skills and Procedures** 2 Gastric lesion-local excision

2 Gastrectomy-subtotal

1 Gastrectomy-D2 subtotal

2 Gastrectomy-total

1 Gastrectomy-D2 total

1 Gastrectomy and distal pancreatectomy

1 Oesophagogastrrectomy-left thoraco-oesophagogastrrectomy/total gastrectomy

1 Oesophagogastrrectomy-2 phase-Ivor Lewis

1 Oesophagogastrrectomy-radical 2 field lymphadenectomy

1 Oesophagogastrrectomy-3 phase

1 Oesophagus-cervical exposure

2 Feeding jejunostomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Perforated peptic ulcer

**Category** Final Special Interest Oesophago-gastric

**Sub-category:** OG-B

*Diagnosis and management of perforated peptic ulcer.*

*Diagnosis and pre-operative management: Diagnosis of perforated peptic ulcer and assess for operation.*

**Objective** *Operative management: Operation for perforated peptic ulcer.*

*Post-operative management: post-operative management of patients who have had surgery for perforated peptic ulcer.*

Diagnosis and pre-operative management:

- 4 Anatomy of abdominal wall and intra abdominal organs
- 4 Patho- physiology of ulcer development and management
- 4 Management of Shock
- 4 ASA Grade of patient
- 4 Treatment of underlying process

**Knowledge**

Operative management:

- 4 Other pathologies found in upper abdomen
- 4 Knowledge of types and positions of perforation

Post-operative management:

- 4 Post-operative complications

Diagnosis and pre-operative management:

- 4 Assessment of acute abdomen
- 4 History and examination
- 4 Recognise from history and examination likely differential diagnosis
- 4 Identify appropriate investigations
- 4 Resuscitation

**Clinical Skills**

Operative management:

- 4 Recognise position of perforation

Post-operative management:

- 4 Post op pain management
- 4 Recognition of complications

Diagnosis and pre-operative management:

- 4 Central venous line insertion

**Technical Skills and Procedures**

Operative management:

- 4 Gastro/duodenum-perforated PU closure
- 4 Gastric lesion-local excision
- 4 Gastrectomy-distal

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Upper GI haemorrhage

**Category** Final Special Interest Oesophago-gastric

**Sub-category:** OG-B

**Objective** *Endoscopic diagnosis of upper GI haemorrhage, endoscopic management of some cases, operative management of cases where endostasis has failed.*

*Diagnosis: endoscopic diagnosis of upper GI haemorrhage.*  
*Management: endoscopic management of some cases of upper GI haemorrhage, operative management where endostasis has failed.*  
*Post-operative care: post-operative care of most patients who have had surgery for UGI haemorrhage.*

Diagnosis:

- 4 Anatomy
- 4 Pathophysiology

Management:

- Knowledge**
- 4 Treatment options available
  - 4 Indications for surgery

Post-operative care:

- 4 Complications
- 4 Investigations
- 4 Management options

Diagnosis:

- 4 History and examination
- 4 Resuscitation

Post-operative care:

- Clinical Skills**
- 4 Diagnosis
  - 4 Organising investigations
  - 4 Interpreting investigations
  - 3 Management of leak
  - 4 Need for re-operation
  - 3 Re-operation for complication
  - 4 Nutrition

Diagnosis:

- 4 Gastroscopy-diagnostic

**Technical Skills and Procedures**

Management:

- 2 Gastroscopy+bleeding therapy
- 1 Gastroscopy+variceal therapy
- 4 Gastro/duodenum-under-running of bleeding PU
- 4 Gastrectomy-Distal

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Oesophageal emergencies  
**Category** Final Special Interest Oesophago-gastric  
**Sub-category:** OG-B  
**Objective** *To recognise the symptoms and signs and early management of oesophageal*

*emergencies.*

*Diagnosis: Diagnosis of oesophageal emergencies.*

*Management: Ability to manage the general care of rupture of the oesophagus and food bolus obstruction.*

*Operation: Ability to deal endoscopically with most cases of food bolus obstruction and refer patients with rupture of the oesophagus appropriately.*

*Post-operative care: Post-operative care of patients with food bolus obstruction and understanding of the post-operative management of rupture of the oesophagus.*

Diagnosis:

4 Anatomy of oesophagus and cardia

4 Mechanism of iatrogenic and spontaneous (Boerhaave) rupture of oesophagus

4 Mechanism of food bolus obstruction

4 Investigations

Management:

4 Understanding of treatment options

Operation:

4 Operative approaches

4 Operative strategies

Post-operative care:

3 Complications

3 Investigations

Diagnosis:

4 Interpretation of clinical signs/symptoms and X-ray appearances (chest X-ray and contrast swallow)

Management:

4 Resuscitation including chest drainage

**Clinical Skills** Operation:

4 Pre-op assessment

Post-operative care:

3 Recognition of complications

3 Organising investigations and interpretation

2 Management of failed surgery/leak

2 Nutritional support

Management:

**Technical Skills  
and Procedures**

4 Chest drain insertion

Operation:

- 2 Oesophagus-repair of rupture
- 4 Feeding jejunostomy
- 3 Endoscopic removal of food bolus obstruction
- 2 Thoracotomy-lateral

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Acute gastric volvulus</b>
<b>Category</b>	Final Special Interest Oesophago-gastric
<b>Sub-category:</b>	OG-B
<b>Objective</b>	<i>Recognise the symptoms and signs and early management of acute gastric volvulus.</i> <i>Diagnosis: Recognise the symptoms and signs of acute gastric volvulus and arrange appropriate investigation.</i> <i>Management: Early management of acute gastric volvulus.</i> <i>Operation: Perform operation for Gastric volvulus in less complex cases.</i> <i>Post-operative care: Post-operative care of patients with acute gastric volvulus, with assistance for complications.</i>
	Diagnosis:
	4 Anatomy of hiatus and mechanism behind gastric volvulus 4 Investigations
	Management:
	4 Understanding of complications and how they can be avoided/identified
<b>Knowledge</b>	Operation:
	4 Indications for early/urgent surgery when decompression fails to resolve acute condition 4 Operative strategies
	Post-operative care:
	4 Complications 4 Investigations
	Diagnosis:
	4 Interpretation of clinical signs/symptoms and X-ray appearances (chest X-ray and contrast swallow)
<b>Clinical Skills</b>	Management:
	4 Recognition of complications and early management by means of nasogastric decompression

4 Recognition of success/failure

Operation:

4 Pre-op assessment

4 Recognition as to when resection required

4 Open and laparoscopic approaches

Post-operative care:

4 Recognition of complications

4 Organising investigations and interpretation

3 Management of failed surgery/leak

4 Nutritional support

Operation:

4 Gastric volvulus reduction+gastropexy

2 Gastric volvulus reduction+hiatus hernia repair+fundoplication

**Technical Skills  
and Procedures**

3 Gastrectomy-total

3 Gastrectomy-subtotal

4 Feeding jejunostomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Elective oesophagogastric disorders

**Category** Final Special Interest Oesophago-gastric

**Sub-category:** OG-B

*Basic management of patients with gastro-oesophageal disorders, including motility disorders, diagnosis and assessment of malignancy of the oesophagus and stomach. FULL COMPETENCY IN ALL AREAS OF MANAGEMENT NOT EXPECTED BY CCT.*

**Objective**

*Diagnosis: Ability to diagnose accurately oesophagogastric disorders.*

*Management: Ability to assess patients with elective oesophagogastric conditions and refer appropriately.*

*Post-operative care: Ability to manage most of the post-operative care of patients with elective oesophagogastric conditions, not including major resections.*

Diagnosis:

**Knowledge**

4 Anatomy of oesophagus, stomach and adjacent structures

4 Symptoms and investigations for malignant conditions such as Oesophageal carcinoma

2 Symptoms and investigations for benign conditions such as Oesophageal motility disorders such as oesophageal reflux, achalasia, nutcracker oesophagus, Chaga's disease (2)

4 Symptoms and investigations for malignant conditions such as Gastric carcinoma



- 3 Symptoms and investigations for benign and malignant conditions such as Gastric lymphoma and leiomyoma
- 4 Symptoms and investigations for benign conditions such as Peptic ulcer disease
- 2 Symptoms and investigations for benign and malignant conditions such as Zollinger-Ellison syndrome

Management:

- 4 Treatment options available

Post-operative care:

- 4 Complications
- 4 Investigations
- 4 Management options

Diagnosis:

- 4 History and examination
- 4 Organising investigations

Management:

- 2 Open and laparoscopic surgical procedures

**Clinical Skills**

Post-operative care:

- 4 Diagnosis
- 4 Organising investigations
- 4 Interpreting investigations
- 2 Management of leak
- 2 Need for re-operation
- 2 Re-exploration for complication
- 3 Nutrition

Diagnosis:

- 4 Gastroscopy-diagnostic

Management:

- 4 Gastroscopy-dilatation
- 2 Gastroscopy-variceal therapy
- 2 Gastroscopy-stent insertion
- 2 Gastroscopy-PEG insertion
- 1 Gastroscopy-tumour debulking
- 2 Anti-reflux surgery
- 1 Heller's myotomy
- 1 Heller's myotomy+fundoplication
- 1 Anti-reflux surgery-revisional
- 4 Gastroenterostomy
- 4 Gastrectomy-distal
- 4 Gastric lesion-local excision
- 3 Gastrectomy-subtotal

**Technical Skills and Procedures**

- 2 Gastrectomy-D2 subtotal
- 3 Gastrectomy-total
- 2 Gastrectomy-D2 total
- 2 Gastrectomy and distal pancreatectomy
- 2 Oesophagogastrectomy-left thoraco-oesophagogastrectomy/total gastrectomy
- 2 Oesophagogastrectomy-2 phase-Ivor Lewis
- 1 Oesophagogastrectomy-radical 2 phase lymphadenectomy
- 1 Oesophagogastrectomy-3 phase
- 1 Cervical exposure of oesophagus
- 4 Feeding jejunostomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Gastroscopy</b>
<b>Category</b>	Final Special Interest Oesophago-gastric
<b>Sub-category:</b>	OG-B
<b>Objective</b>	<p><i>Competency in diagnostic gastroscopy.</i></p> <p><i>This section is based on guidelines from the Joint Advisory Group in Endoscopy.</i></p> <p><i>Equipment: Knowledge of the principles of flexible endoscopy.</i></p> <p><i>Sedation and monitoring: Ability to sedate a patient safely for endoscopy.</i></p> <p><i>Gastroscopy: Ability to perform diagnostic gastroscopy.</i></p>
<b>Knowledge</b>	<p>Equipment:</p> <p>3 Structure and function of an endoscope, processor and accessories, including diathermy</p> <p>Sedation and monitoring:</p> <p>4 Sedative and analgesic drugs and side-effects</p> <p>4 Appropriate patient monitoring</p> <p>4 Treatment of adverse effects</p> <p>Gastroscopy:</p> <p>4 Indications for gastroscopy</p> <p>4 Complications of gastroscopy</p> <p>4 Patient preparation and documentation</p> <p>4 Basic Skills in Endoscopy course</p> <p>Equipment:</p> <p>3 Clean and disinfect equipment in accordance with BSG guidelines</p> <p>3 Use equipment in accordance with manufacturer's instructions</p>
<b>Clinical Skills</b>	<p>Sedation and monitoring:</p> <p>4 Ability to safely and effectively sedate a patient for endoscopy</p> <p>4 Monitor appropriately before, during and after procedure</p> <p>Gastroscopy:</p>

- 4 Gastroscopy – diagnostic
- 4 Deal appropriately with findings, including biopsy
- 4 Weekly list for at least 6 months with at least 200 supervised procedures done within one year
- 4 Total minimum number of procedures 300

**Technical Skills and Procedures** No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Oesophageal emergencies</b>
<b>Category</b>	Final Special Interest Oesophago-gastric
<b>Sub-category:</b>	OG-C+D
<b>Objective</b>	<p><i>Ability to manage food bolus obstruction and to manage most cases of rupture of the oesophagus with assistance.</i></p> <p><i>Diagnosis: Diagnosis of oesophageal emergencies.</i></p> <p><i>Management: Ability to manage the general care of rupture of the oesophagus and food bolus obstruction.</i></p> <p><i>Operation: Ability to deal endoscopically with food bolus obstruction and perform surgery for rupture of the oesophagus, may need some assistance.</i></p> <p><i>Post-operative care: Post-operative care of patients with food bolus obstruction and rupture of the oesophagus, may need assistance with complications.</i></p> <p>Diagnosis:</p> <ul style="list-style-type: none"> <li>4 Anatomy of oesophagus and cardia</li> <li>4 Mechanism of iatrogenic and spontaneous (Boerhaave) rupture of oesophagus</li> <li>4 Mechanism of food bolus obstruction</li> <li>4 Investigations</li> </ul> <p>Management:</p> <ul style="list-style-type: none"> <li>4 Understanding of treatment options</li> </ul> <p>Operation:</p> <ul style="list-style-type: none"> <li>4 Operative approaches</li> <li>4 Operative strategies</li> </ul> <p>Post-operative Care:</p> <ul style="list-style-type: none"> <li>4 Complications</li> <li>4 Investigations</li> </ul> <p>Diagnosis:</p> <ul style="list-style-type: none"> <li>4 Interpretation of clinical signs/symptoms and X-ray appearances (chest X-ray and contrast swallow)</li> </ul> <p>Management:</p> <ul style="list-style-type: none"> <li>4 Resuscitation including chest drainage</li> </ul>
<b>Knowledge</b>	
<b>Clinical Skills</b>	

Operation:

4 Pre-op assessment

Post-operative care:

3 Recognition of complications

3 Organising investigations and interpretation

3 Management of failed surgery/leak

3 Nutritional support

Management:

4 Chest drain insertion

**Technical Skills  
and Procedures**

Operation:

3 Oesophagus-repair of rupture

4 Feeding jejunostomy

3 Endoscopic removal of food bolus obstruction

3 Thoracotomy-lateral

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic**

**Acute gastric volvulus**

**Category**

Final Special Interest Oesophago-gastric

**Sub-category:**

OG-C+D

*Ability to diagnose and manage most cases of acute gastric volvulus, with some assistance.*

*Diagnosis: Ability to diagnose acute gastric volvulus.*

*Management: Ability to manage most cases of acute gastric volvulus.*

**Objective**

*Operation: Perform surgical procedures for acute gastric volvulus, with assistance.*

*Post-operative care: Post-operative care of patients with acute gastric volvulus, with assistance for complications.*

Diagnosis:

4 Anatomy of hiatus and mechanism behind gastric volvulus

4 Investigations

Management:

**Knowledge**

4 Understanding of complications and how they can be avoided/identified

Operation:

4 Indications for early/urgent surgery when decompression fails to resolve acute condition

4 Operative strategies

Post-operative care:

4 Complications  
4 Investigations

Diagnosis:

4 Interpretation of clinical signs/symptoms and X-ray appearances (chest X-ray and contrast swallow)

Management:

4 Recognition of complications and early management by means of nasogastric decompression  
4 Recognition of success/failure

**Clinical Skills** Operation:

4 Pre-op assessment  
4 Recognition as to when resection required  
3 Open and laparoscopic approaches

Post-operative care:

4 Recognition of complications  
4 Organising investigations and interpretation  
3 Management of failed surgery/leak  
4 Nutritional support

Operation:

**Technical Skills and Procedures**  
4 Gastric volvulus reduction + gastropexy  
3 Gastric volvulus reduction + hiatus hernia repair + fundoplication  
4 Gastrectomy-total  
4 Gastrectomy-subtotal  
4 Feeding jejunostomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Elective oesophagogastric disorders  
**Category** Final Special Interest Oesophago-gastric  
**Sub-category:** OG-C+D

*Ability to manage the care of patients with oesophagogastric disorders as part of a team. FULL COMPETENCY IN ALL AREAS OF MANAGEMENT IS NOT EXPECTED AT THIS LEVEL.*

**Objective**  
*Diagnosis: Ability to diagnose accurately oesophagogastric disorders.  
Management: Ability to assess and treat patients with elective oesophagogastric conditions, BUT NOT including major resections and advanced laparoscopic procedures.  
Post-operative care: Ability to manage the post-operative care of patients with elective oesophagogastric conditions, not including major resections.*

**Knowledge**  
Diagnosis:  
4 Anatomy of oesophagus, stomach and adjacent structures

- 4 Symptoms and investigations for malignant conditions such as Oesophageal carcinoma
- 3 Symptoms and investigations for benign conditions such as Oesophageal motility disorders such as oesophageal reflux, achalasia, nutcracker oesophagus, Chaga's disease
- 4 Symptoms and investigations for malignant conditions such as Gastric carcinoma
- 4 Symptoms and investigations for benign and malignant conditions such as Gastric lymphoma and leiomyoma
- 4 Symptoms and investigations for benign conditions such as Peptic ulcer disease
- 3 Symptoms and investigations for benign and malignant conditions such as Zollinger-Ellison syndrome

Management:

- 4 Treatment options available

Post-operative care:

- 4 Complications
- 4 Investigations
- 4 Management options

Diagnosis:

- 4 History and examination
- 4 Organising investigations

Management:

- 3 Open and laparoscopic surgical procedures

### **Clinical Skills**

Post-operative care:

- 4 Diagnosis
- 4 Organising investigations
- 4 Interpreting investigations
- 4 Management of leak
- 4 Need for re-operation
- 2 Re-exploration for complication
- 4 Nutrition

Diagnosis:

- 4 Gastroscopy-diagnostic

Management:

### **Technical Skills and Procedures**

- 4 Gastroscopy-dilatation
- 4 Gastroscopy-variceal therapy
- 3 Gastroscopy-stent insertion
- 4 Gastroscopy-PEG insertion
- 3 Gastroscopy-tumour debulking
- 3 Anti-reflux surgery

- 2 Heller's myotomy
- 2 Heller's myotomy+fundoplication
- 2 Anti-reflux surgery-revisional
- 4 Gastroenterostomy
- 4 Gastrectomy-distal
- 4 Gastric lesion-local excision
- 4 Gastrectomy-subtotal
- 3 Gastrectomy-D2 subtotal
- 3 Gastrectomy-total
- 2 Gastrectomy-D2 total
- 3 Gastrectomy and distal pancreatectomy
- 2 Oesophagogastrectomy-left thoraco-oesophagogastrectomy/total gastrectomy
- 2 Oesophagogastrectomy-2 phase-Ivor Lewis
- 2 Oesophagogastrectomy-radical 2 field lymphadenectomy
- 1 Oesophagogastrectomy-3 phase
- 1 Cervical exposure of oesophagus
- 4 Feeding jejunostomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Nutrition for GI surgeons</b>
<b>Category</b>	Final Special Interest Oesophago-gastric
<b>Sub-category:</b>	OG-C+D
<b>Objective</b>	<i>Recognise the need for artificial nutritional support, assess whether this is appropriate and manage straightforward treatment with enteral or parenteral nutrition.</i> Malnutrition:  3 Effects of malnutrition, both excess and depletion 3 Methods of screening and assessment
<b>Knowledge</b>	Artificial Nutritional Support:  4 Indications for enteral and parenteral nutrition 4 Means of access for enteral and parenteral nutrition 4 Complications of enteral and parenteral nutrition Malnutrition:  3 Arrange access to suitable artificial nutritional support, preferably via a nutrition team: Dietary supplements 3 Arrange access to suitable artificial nutritional support, preferably via a nutrition team: Enteral nutrition
<b>Clinical Skills</b>	2 Arrange access to suitable artificial nutritional support, preferably via a nutrition team: Parenteral nutrition  Artificial Nutritional Support:  2 Assessment of nutritional requirements with the aid of a dietician 2 Prescription of parenteral feed with the aid of a pharmacist
<b>Technical Skills and Procedures</b>	Artificial Nutritional Support:

- 2 Gastroscopy+PEG insertion
- 3 Central venous line insertion

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Upper GI Haemorrhage</b>
<b>Category</b>	Final Special Interest Oesophago-gastric
<b>Sub-category:</b>	OG-E+F
<b>Objective</b>	<p><i>Endoscopic diagnosis of upper GI haemorrhage, endoscopic management of most cases, operative management of cases where endostasis has failed, including management of complications.</i></p> <p><i>Diagnosis: Endoscopic diagnosis of upper GI haemorrhage.</i></p> <p><i>Management: Endoscopic management of most cases of upper GI haemorrhage, operative management where endostasis has failed.</i></p> <p><i>Post-operative care: Post-operative care of all patients who have had surgery for UGI haemorrhage, including management of complications.</i></p>
<b>Knowledge</b>	<p>Diagnosis:</p> <ul style="list-style-type: none"> <li>4 Anatomy</li> <li>4 Pathophysiology</li> </ul> <p>Management:</p> <ul style="list-style-type: none"> <li>4 Treatment options available</li> <li>4 Indications for surgery</li> </ul> <p>Post-operative care:</p> <ul style="list-style-type: none"> <li>4 Complications</li> <li>4 Investigations</li> <li>4 Management options</li> </ul> <p>Diagnosis:</p> <ul style="list-style-type: none"> <li>4 History and examination</li> <li>4 Resuscitation</li> </ul> <p>Post-operative care:</p>
<b>Clinical Skills</b>	<ul style="list-style-type: none"> <li>4 Diagnosis</li> <li>4 Organising investigations</li> <li>4 Interpreting investigations</li> <li>4 Management of leak</li> <li>4 Need for re-operation</li> <li>4 Re-operation for complication</li> <li>4 Nutrition</li> </ul> <p>Diagnosis:</p>
<b>Technical Skills and Procedures</b>	<ul style="list-style-type: none"> <li>4 Gastroscopy-diagnostic</li> </ul> <p>Management:</p>



- 4 Gastroscopy+bleeding therapy
- 3 Gastroscopy+variceal therapy
- 4 Gastro/duodenum-under-running of bleeding PU
- 4 Gastrectomy-distal

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Oesophageal emergencies</b>
<b>Category</b>	Final Special Interest Oesophago-gastric
<b>Sub-category:</b>	OG-E+F
<b>Objective</b>	<p><i>Ability to manage oesophageal emergencies.</i></p> <p><i>Diagnosis: Diagnosis of oesophageal emergencies.</i></p> <p><i>Management: Ability to manage rupture of the oesophagus and food bolus obstruction.</i></p> <p><i>Operation: Operative treatment of rupture of the oesophagus and food bolus obstruction.</i></p> <p><i>Post-operative care: Post-operative care of all patients with oesophageal emergencies.</i></p> <p>Diagnosis:</p> <ul style="list-style-type: none"> <li>4 Anatomy of oesophagus and cardia</li> <li>4 Mechanism of iatrogenic and spontaneous (Boerhaave) rupture of oesophagus</li> <li>4 Mechanism of food bolus obstruction</li> <li>4 Investigations</li> </ul> <p>Management:</p>
<b>Knowledge</b>	<p>4 Understanding of treatment options</p> <p>Operation:</p> <ul style="list-style-type: none"> <li>4 Operative approaches</li> <li>4 Operative strategies</li> </ul> <p>Post-operative care:</p> <ul style="list-style-type: none"> <li>4 Complications</li> <li>4 Investigations</li> </ul> <p>Diagnosis:</p> <ul style="list-style-type: none"> <li>4 Interpretation of clinical signs/symptoms and X-ray appearances (chest X-ray and contrast swallow)</li> </ul>
<b>Clinical Skills</b>	<p>Management:</p> <ul style="list-style-type: none"> <li>4 Resuscitation including chest drainage</li> </ul> <p>Operation:</p>

4 Pre-op assessment

Post-operative care:

4 Recognition of complications  
4 Organising investigations and interpretation  
4 Management of failed surgery/leak  
4 Nutritional support

Management:

4 Chest drain insertion

**Technical Skills and Procedures** Operation:

4 Oesophagus-repair of rupture  
4 Feeding jejunostomy  
4 Endoscopic removal of food bolus obstruction  
4 Thoracotomy-lateral

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Acute gastric volvulus**

**Category** Final Special Interest Oesophago-gastric

**Sub-category:** OG-E+F

**Objective**

*Ability to diagnose and manage acute gastric volvulus, including operation.*

*Diagnosis: Ability to diagnose acute gastric volvulus.*

*Management: Ability to manage acute gastric volvulus.*

*Operation: Perform surgical procedures for acute gastric volvulus.*

*Post-operative care: Post-operative care of patients with acute gastric volvulus.*

Diagnosis:

4 Anatomy of hiatus and mechanism behind gastric volvulus  
4 Investigations

Management:

4 Understanding of complications and how they can be avoided/identified

**Knowledge** Operation:

4 Indications for early/urgent surgery when decompression fails to resolve acute condition  
4 Operative strategies

Post-operative care:

4 Complications  
4 Investigations

Diagnosis:

4 Interpretation of clinical signs/symptoms and X-ray appearances (chest X-ray and contrast swallow)

Management:

4 Recognition of complications and early management by means of nasogastric decompression

4 Recognition of success/failure

**Clinical Skills** Operation:

4 Pre-op assessment

4 Recognition as to when resection required

4 Open and laparoscopic approaches

Post-operative care:

4 Recognition of complications

4 Organising investigations and interpretation

4 Management of failed surgery/leak

4 Nutritional support

Operation:

**Technical Skills and Procedures**

4 Gastric volvulus reduction + gastropexy

4 Gastric volvulus reduction + hiatus hernia repair + fundoplication

4 Gastrectomy-total

4 Gastrectomy-subtotal

4 Feeding jejunostomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Elective oesophagogastric disorders

**Category** Final Special Interest Oesophago-gastric

**Sub-category:** OG-E+F

*Ability to manage the care of patients with oesophagogastric disorders as part of a team. Mentoring of new consultants is expected for major resections.*

*Diagnosis: Ability to diagnose accurately oesophagogastric disorders*

**Objective** *Management: Ability to assess and treat patients with elective oesophagogastric conditions, including major resections.*

*Post-operative care: Ability to manage the post-operative care of patients with elective oesophagogastric conditions, including major resections.*

Diagnosis:

4 Anatomy of oesophagus, stomach and adjacent structures

4 Symptoms and investigations for malignant conditions such as Oesophageal carcinoma

**Knowledge**

3 Symptoms and investigations for benign conditions such as Oesophageal motility disorders such as oesophageal reflux, achalasia, nutcracker oesophagus, Chaga's disease

4 Symptoms and investigations for malignant conditions such as Gastric

carcinoma  
4 Symptoms and investigations for benign and malignant conditions such as Gastric lymphoma and leiomyoma  
4 Symptoms and investigations for benign conditions such as Peptic ulcer disease  
3 Symptoms and investigations for benign and malignant conditions such as Zollinger-Ellison syndrome

Management:

4 Treatment options available

Post-operative care:

4 Complications  
4 Investigations  
4 Management options

Diagnosis:

4 History and examination  
4 Organising investigations

Management:

4 Open and laparoscopic surgical procedures

## **Clinical Skills**

Post-operative care:

4 Diagnosis  
4 Organising investigations  
4 Interpreting investigations  
4 Management of leak  
4 Need for re-operation  
3 Re-exploration for complication  
4 Nutrition

Diagnosis:

4 Gastroscopy-diagnostic

Management:

## **Technical Skills and Procedures**

4 Gastroscopy-dilatation  
4 Gastroscopy-variceal therapy  
3 Gastroscopy-stent insertion  
4 Gastroscopy-PEG insertion  
4 Gastroscopy-tumour debulking  
4 Anti-reflux surgery  
4 Heller's myotomy  
4 Heller's myotomy+fundoplication  
4 Anti-reflux surgery-revisional  
4 Gastroenterostomy  
4 Gastrectomy-distal  
4 Gastric lesion-local excision

- 4 Gastrectomy-subtotal
- 4 Gastrectomy-D2 subtotal
- 4 Gastrectomy-total
- 4 Gastrectomy-D2 total
- 4 Gastrectomy and distal pancreatectomy
- 3 Oesophagogastrectomy-left thoraco-oesophagogastrectomy/total gastrectomy
- 3 Oesophagogastrectomy-2 phase-Ivor Lewis
- 3 Oesophagogastrectomy-radical 2 field lymphadenectomy
- 3 Oesophagogastrectomy-3 phase
- 3 Cervical exposure of oesophagus
- 4 Feeding jejunostomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Liver trauma</b>
<b>Category</b>	Final Special Interest Hepatopancreatobiliary
<b>Sub-category:</b>	HPB-A
<b>Objective</b>	<i>Diagnosis and early management of liver trauma.</i>
<b>Knowledge</b>	4 Anatomy 4 Pathophysiology 4 Complications
<b>Clinical Skills</b>	4 History & examination 3 Investigation 4 Resuscitation 3 Management options
<b>Technical Skills and Procedures</b>	2 Liver-trauma-debridement/packing

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Injuries to the biliary tract</b>
<b>Category</b>	Final Special Interest Hepatopancreatobiliary
<b>Sub-category:</b>	HPB-A
<b>Objective</b>	<i>Recognition of biliary tract injury and initial management. Injuries to biliary tree, including iatrogenic. Recognition of biliary tract injury and initial management.</i>
<b>Knowledge</b>	3 Anatomy 3 Pathophysiology 3 Complications 3 Post-operative problems
<b>Clinical Skills</b>	1 Methods of bile duct repair – primary repair over a T-tube; hepaticojejunostomy with Roux-en-Y reconstruction 4 History & examination 3 Investigation 4 Resuscitation 3 Management Options 2 Laparotomy for biliary peritonitis with placement of drains
<b>Technical Skills and Procedures</b>	1 Biliary-bile duct injury repair 1 Biliary-Hepaticojejunostomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Acute pancreatitis</b>
<b>Category</b>	Final Special Interest Hepatopancreatobiliary
<b>Sub-category:</b>	HPB-A
<b>Objective</b>	<i>Diagnosis and management of most patients with acute pancreatitis with cholecystectomy in some appropriate cases.</i>
	4 Abdominal anatomy
	4 Differential diagnosis
	4 Aetiology
	4 Clinical features
	4 Scoring system – recognition of severity
<b>Knowledge</b>	4 Pathophysiology
	4 Complications
	4 Investigations CRP, US,CT
	4 Treatment of options
	4 Role of systemic antibiotics
	4 Management of pancreatic necrosis
	2 ERCP, MRCP
	4 Resuscitation
<b>Clinical Skills</b>	2 Surgical approaches
	3 Insertion of nasojejunal tube
	3 Central venous line insertion #
	2 Laparotomy
	1 ERCP
<b>Technical Skills and Procedures</b>	3 Cholecystectomy-laparoscopic
	2 Cholecystectomy-open
	1 Biliary-CBD-exploration
	1 Pancreatectomy-distal
	1 Pancreatic debridement
	1 Pancreatic pseudocyst drainage
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>Elective Hepatobiliary and pancreatic disorders</b>
<b>Category</b>	Final Special Interest Hepatopancreatobiliary
<b>Sub-category:</b>	HPB-A
<b>Objective</b>	<i>To understand the symptoms, signs, investigations and principles of management of patients with hepatopancreatobiliary disorders eg gallstones and to begin to manage patients with straightforward hepatopancreaticobiliary disorders eg. gallstones</i>
	<i>Diagnosis: To understand the symptoms, signs and principles of investigation of HPB disorders.</i>
	<i>Management: To understand the principles of management of patients with hepatopancreatobiliary disorders eg gallstones, malignancy of the biliary tree, pancreas and liver and to perform laparoscopic cholecystectomy under supervision</i>
	<i>Post-operative care: Post-operative management of elective HPB disorders in straightforward cases.</i>

Diagnosis:

- 4 Applied anatomy and physiology of liver, biliary system, pancreas and duodenum
- 4 Symptoms and investigations for: Acute gallbladder and biliary disorders, Acute pancreatitis and its complications
- 4 Symptoms and investigations for benign and malignant conditions such as carcinoma of pancreas

**Knowledge**

Management:

- 4 Treatment options available

Post-operative care:

- 2 Complications
- 2 Investigations
- 2 Management options

Diagnosis:

- 4 History and examination
- 3 Organising investigations

Post-operative care:

**Clinical Skills**

- 2 Diagnosis
- 2 Organising investigations
- 2 Interpreting investigations
- 2 Management of leak
- 2 Need for re-operation
- 1 Re-exploration for complication
- 2 Nutrition

Management:

**Technical Skills and Procedures**

- 3 Cholecystectomy-laparoscopic
- 3 Cholecystectomy-open
- 2 Biliary-CBD-exploration
- 2 Splenectomy
- 1 Pancreatic pseudocyst drainage

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Acute gallstone disease</b>
<b>Category</b>	Final Special Interest Hepatopancreatobiliary
<b>Sub-category:</b>	HPB-A
	<i>Diagnose and management of acute gallstone disease, including operation in simple cases.</i>
<b>Objective</b>	<i>Acute gallstone disease including acute cholecystitis, empyema, acute biliary colic and cholangitis. Diagnose and management of acute gallstone disease, including operation in simple cases.</i>
<b>Knowledge</b>	4 Anatomy

	4 Pathophysiology
	4 Microbiology
	4 Complications
	4 Post-operative problems
	4 History & examination
	4 Investigation
	4 Resuscitation
<b>Clinical Skills</b>	3 Decision making re conservative v. surgical treatment and early v. delayed operation
	3 Non-operative treatment including ERCP, percutaneous cholecystostomy
	3 Operative options
	2 Cholecystostomy
	4 Post-operative management
<b>Technical Skills and Procedures</b>	3 Cholecystectomy-Laparoscopic
	2 Cholecystectomy-open
	2 Biliary-CBD-exploration
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>Acute gallstone disease</b>
<b>Category</b>	Final Special Interest Hepatopancreatobiliary
<b>Sub-category:</b>	HPB-B
<b>Objective</b>	<i>Diagnosis and management of acute gallstone disease, including operation. Acute gallstone disease including acute cholecystitis, empyema, acute biliary colic and cholangitis. Diagnosis and management of acute gallstone disease, including operation.</i>
<b>Knowledge</b>	4 Anatomy
	4 Pathophysiology
	4 Microbiology
	4 Complications
	4 Post-operative problems
	4 History & examination
	4 Investigation
	4 Resuscitation
<b>Clinical Skills</b>	4 Decision making re conservative v. surgical treatment and early v. delayed operation
	3 Non-operative treatment including ERCP, percutaneous cholecystostomy
	4 Operative options 4
	4 Cholecystostomy
	4 Post-operative management
<b>Technical Skills and Procedures</b>	4 Cholecystectomy-laparoscopic
	4 Cholecystectomy-open
	4 Biliary-CBD-exploration
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>Liver trauma</b>
<b>Category</b>	Final Special Interest Hepatopancreatobiliary
<b>Sub-category:</b>	HPB-B



<b>Objective</b>	<i>Diagnosis and early management of liver trauma, including laparotomy and packing.</i>
<b>Knowledge</b>	4 Anatomy 4 Pathophysiology 4 Complications
<b>Clinical Skills</b>	4 History & examination 3 Investigation 4 Resuscitation 3 Management options
<b>Technical Skills and Procedures</b>	4 Liver-trauma-debridement/packing
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>Injuries to the biliary tract</b>
<b>Category</b>	Final Special Interest Hepatopancreatobiliary
<b>Sub-category:</b>	HPB-B
<b>Objective</b>	<i>Recognition of biliary tract injury and appropriate management, including operative management for simple injuries recognised at operation. Injuries to biliary tree, including iatrogenic. Recognition of biliary tract injury and appropriate management, including operative management for simple injuries recognised at operation.</i>
<b>Knowledge</b>	4 Anatomy 4 Pathophysiology 4 Complications 4 Post-operative problems 2 Methods of bile duct repair – primary repair over a T-tube; hepaticojejunostomy with Roux-en-Y reconstruction
<b>Clinical Skills</b>	4 History & examination 3 Investigation 4 Resuscitation 3 Management Options 3 Laparotomy for biliary peritonitis with placement of drains
<b>Technical Skills and Procedures</b>	2 Biliary-bile duct injury repair 1 Biliary-Hepaticojejunostomy
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>Acute pancreatitis</b>
<b>Category</b>	Final Special Interest Hepatopancreatobiliary
<b>Sub-category:</b>	HPB-B
<b>Objective</b>	<i>Diagnosis and management of most patients with acute pancreatitis with cholecystectomy where appropriate.</i>
<b>Knowledge</b>	4 Abdominal anatomy 4 Differential diagnosis 4 Aetiology 4 Clinical features 4 Scoring system – recognition of severity 4 Pathophysiology

	4 Complications
	4 Investigations CRP, US,CT
	4 Treatment of options
	4 Role of systemic antibiotics
	4 Management of pancreatic necrosis
	4 ERCP, MRCP
	4 Resuscitation
<b>Clinical Skills</b>	3 Surgical approaches
	3 Insertion of nasojejunal tube
	3 Central venous line insertion
	3 Laparotomy
	1 ERCP
<b>Technical Skills and Procedures</b>	4 Cholecystectomy-laparoscopic
	3 Cholecystectomy-open
	1 Pancreatectomy-distal
	1 Pancreatic debridement
	2 Pancreatic pseudocyst drainage

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Elective Hepatobiliary and pancreatic disorders</b>
<b>Category</b>	Final Special Interest Hepatopancreatobiliary
<b>Sub-category:</b>	HPB-B
	<i>Management of patients with straightforward hepatopancreatobiliary disorders eg gallstones Diagnosis and investigation of malignancy of the biliary tract, pancreas and liver. FULL COMPETENCY IN ALL AREAS OF MANAGEMENT NOT EXPECTED BY CCT</i>
<b>Objective</b>	<i>Diagnosis: To understand the symptoms, signs and principles of investigation of HPB disorders.</i>
	<i>Management: Management of patients with straightforward hepatopancreatobiliary disorders eg gallstones.</i>
	<i>Post-operative care: Post-operative management of elective HPB disorders, including complications.</i>
	Diagnosis:
	4 Applied anatomy and physiology of liver, biliary system, pancreas and duodenum
	4 Symptoms and investigations for: Acute gallbladder and biliary disorders, Acute pancreatitis and its complications
	4 Symptoms and investigations for malignant conditions such as: carcinoma of the gall bladder and cholangiocarcinoma, carcinoma of pancreas
<b>Knowledge</b>	Management:
	4 Treatment options available
	Post-operative care:
	4 Complications
	4 Investigations
	4 Management options

Diagnosis:

- 4 History and examination
- 4 Organising investigations

Management:

- 4 Both open and laparoscopic cholecystectomy

**Clinical Skills**

Post-operative care:

- 4 Diagnosis
- 4 Organising investigations
- 4 Interpreting investigations
- 2 Management of leak
- 2 Need for re-operation
- 1 Re-exploration for complication
- 4 Nutrition

Management:

- 4 Cholecystectomy
- 2 Biliary-CBD-exploration
- 2 Biliary-hepaticojejunostomy
- 3 Splenectomy
- 2 Splenic repair
- 1 Liver-left hepatectomy
- 1 Liver-right hepatectomy
- 1 Pancreatico-duodenectomy
- 1 Pancreatectomy-distal
- 2 Pancreatic pseudocyst drainage

**Technical Skills and Procedures**

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Nutrition for GI surgeons

**Category** Final Special Interest Hepatopancreatobiliary

**Sub-category:** HPB-C+D

**Objective** *Recognise the need for artificial nutritional support, assess whether this is appropriate and manage straightforward treatment with enteral or parenteral nutrition.*

Malnutrition:

- 3 Effects of malnutrition, both excess and depletion
- 3 Methods of screening and assessment

**Knowledge**

Artificial Nutritional Support:

- 4 Indications for enteral and parenteral nutrition
- 4 Means of access for enteral and parenteral nutrition
- 4 Complications of enteral and parenteral nutrition

**Clinical Skills**

Malnutrition:

- 3 Arrange access to suitable artificial nutritional support, preferably via a nutrition team: Dietary supplements
- 3 Arrange access to suitable artificial nutritional support, preferably via a nutrition team: Enteral nutrition
- 2 Arrange access to suitable artificial nutritional support, preferably via a nutrition team: Parenteral nutrition

Artificial Nutritional Support:

- 2 Assessment of nutritional requirements with the aid of a dietician
- 2 Prescription of parenteral feed with the aid of a pharmacist

Artificial Nutritional Support:

**Technical Skills and Procedures**

- 2 Gastroscopy+PEG insertion
- 3 Central venous line insertion

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Liver trauma**

**Category** Final Special Interest Hepatopancreatobiliary

**Sub-category:** HPB-C+D

**Objective**

*Diagnosis and management of liver trauma, including resection in some cases.*  
*Diagnosis: Diagnosis and assessment of liver trauma.*  
*Management: Management of liver trauma, including resection in some cases.*  
 Diagnosis:

**Knowledge**

- 4 Applied anatomy and pathophysiology of liver trauma
  - 4 Complications of liver trauma
- Management:
- 4 Treatment options available
  - 4 Indications for packing, debridement, suture ligation and resection
- Diagnosis:

**Clinical Skills**

- 4 History & examination
- 3 Investigation
- 4 Resuscitation

Management:

**Technical Skills and Procedures**

- 4 Liver-trauma-debridement/packing
- 3 Liver-left hepatectomy
- 3 Liver-right hepatectomy
- 2 Liver-extended left hepatectomy
- 2 Liver-extended right hepatectomy
- 2 Liver-segmental and atypical liver resection

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Injuries to the biliary tract**

<b>Category</b>	Final Special Interest Hepatopancreatobiliary
<b>Sub-category:</b>	HPB-C+D
	<i>Recognition of biliary tract injury and management of some cases with assistance.</i>
<b>Objective</b>	<i>Diagnosis: Ability to diagnose and assess most biliary injuries.</i> <i>Management: Management of patients with biliary tract injury, including operation with assistance for some cases.</i>
	Diagnosis:
	4 Applied anatomy and pathophysiology of biliary tree and injuries to biliary tree
	4 Symptoms and investigations
	4 Complications of biliary injuries
<b>Knowledge</b>	4 Post-operative problems after repair
	Management:
	4 Treatment options available
	4 Methods of bile duct repair – primary repair over a T-tube; hepaticojejunostomy with Roux-en-Y reconstruction
	Diagnosis:
	4 History & examination
	3 Organising investigation
<b>Clinical Skills</b>	Management:
	4 Resuscitation
	4 Laparotomy for biliary peritonitis with placement of drains
	Management:
<b>Technical Skills and Procedures</b>	3 Biliary-bile duct injury repair
	3 Biliary-Hepaticojejunostomy
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>Elective Hepatobiliary and pancreatic disorders</b>
<b>Category</b>	Final Special Interest Hepatopancreatobiliary
<b>Sub-category:</b>	HPB-C+D
	<i>Management of patients with hepatopancreatobiliary disorders, with assistance for operative procedures.</i>
<b>Objective</b>	<i>Diagnosis: Diagnosis of elective hepatopancreatobiliary disorders.</i> <i>Management: Management of elective HPB disorders, including some major procedures with assistance.</i> <i>Post-operative care: Post-operative management of elective HPB disorders, including complications.</i>
	Diagnosis:
<b>Knowledge</b>	4 Applied anatomy and physiology of liver, biliary system, pancreas and duodenum
	4 Symptoms and investigations for: Acute gallbladder and biliary disorders,

Acute pancreatitis and its complications

4 Symptoms and investigations for benign and malignant conditions such as: biliary motility abnormalities, liver cysts (parasitic and other), choledochal cyst, carcinoma of the gall bladder and cholangiocarcinoma, chronic pancreatitis, carcinoma of pancreas, carcinoma of the ampulla of Vater, other pancreatic tumours.

Management:

4 Treatment options available

Post-operative care:

4 Complications

4 Investigations

4 Management options

Diagnosis:

4 History and examination

4 Organising investigations

Management:

4 both open and laparoscopic approaches to cholecystectomy

2 both open and laparoscopic approaches to splenectomy

Post-operative care:

4 Diagnosis

4 Organising investigations

4 Interpreting investigations

2 Management of leak

2 Need for re-operation

1 Re-exploration for complication

4 Nutrition

Diagnosis:

2 ERCP-diagnostic

Management:

2 ERCP-stent insertion

2 ERCP-stone removal

2 ERCP-other

1 Endoscopic ultrasound-radial HPB

1 Endoscopic ultrasound-linear-diagnostic-HPB

1 Endoscopic ultrasound-linear-therapeutic-HPB

4 Cholecystectomy

2 Biliary-CBD-exploration

3 Splenectomy

2 Splenic repair

2 Liver-ablation of tumour

1 Liver-left hepatectomy

1 Liver-right hepatectomy

## Clinical Skills

## Technical Skills and Procedures

- 1 Liver-segmental and atypical liver resection
- 1 Liver-extended left hepatectomy
- 1 Liver-extended right hepatectomy
- 1 Liver-deroofing of liver cyst
- 1 Pancreatico-duodenectomy
- 1 Pancreatectomy-total
- 3 Pancreatectomy-distal
- 2 Pancreatic pseudocyst drainage
- 2 Pancreatico-jejunostomy
- 2 Pancreatic debridement
- 1 Pancreas-thoracoscopic splachnicectomy
- 1 Transduodenal sphincteroplasty
- 1 Peritoneovenous shunt
- 1 Shunt for portal hypertension

- 2 Biliary-hepaticojejunostomy
- 2 Biliary-segment III biliary bypass

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Liver metastases</b>
<b>Category</b>	Final Special Interest Hepatopancreatobiliary
<b>Sub-category:</b>	HPB-E+F
<b>Objective</b>	<i>Assessment and management of liver metastases.</i>
<b>Knowledge</b>	<ul style="list-style-type: none"> <li>4 Anatomy of liver and segments</li> <li>4 Physiology of liver and liver function</li> <li>4 Understanding of metastatic process</li> <li>4 Pathology of primary colorectal cancer and liver metastases</li> <li>4 Prognostic factors</li> <li>4 Diagnostic techniques including modern imaging</li> <li>4 Role of tumour markers in early diagnosis</li> <li>4 Screening and surveillance following surgery for colorectal cancer</li> <li>4 Modern chemotherapy, both intrahepatic and systemic for liver metastases</li> <li>4 Different forms of in-situ ablative techniques, including radiofrequency ablation</li> <li>4 Full knowledge of factors influencing surgical outcome following resection</li> </ul>
<b>Clinical Skills</b>	<b>No content</b>
<b>Technical Skills and Procedures</b>	<ul style="list-style-type: none"> <li>3 ERCP-Diagnostic</li> <li>3 Liver-Segmental and atypical liver resection</li> <li>3 Liver-extended left hepatectomy</li> <li>3 Liver-extended right hepatectomy</li> <li>3 Liver-left hepatectomy</li> <li>3 Liver-right hepatectomy</li> <li>4 Biliary-Segment III biliary bypass</li> </ul>

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Liver trauma</b>
<b>Category</b>	Final Special Interest Hepatopancreatobiliary

<b>Sub-category:</b>	HPB-E+F
<b>Objective</b>	<i>Diagnosis and management of liver trauma, including resection.</i> <i>Diagnosis: Diagnosis and assessment of liver trauma.</i> <i>Management: Management of liver trauma, including resection.</i> Diagnosis:
<b>Knowledge</b>	4 Applied anatomy and pathophysiology of liver trauma 4 Complications of liver trauma Management: 4 Treatment options available 4 Indications for packing, debridement, suture ligation and resection Diagnosis:
<b>Clinical Skills</b>	4 History & examination 4 Investigation 4 Resuscitation Management:
<b>Technical Skills and Procedures</b>	4 Liver-trauma-debridement/packing 4 Liver-left hepatectomy 4 Liver-right hepatectomy 4 Liver-extended left hepatectomy 4 Liver-extended right hepatectomy 4 Liver-segmental and atypical liver resection
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>Injuries to the biliary tract</b>
<b>Category</b>	Final Special Interest Hepatopancreatobiliary
<b>Sub-category:</b>	HPB-E+F
<b>Objective</b>	<i>Recognition and management of biliary tract injury.</i> <i>Diagnosis: Ability to diagnose and assess injuries to the biliary tract.</i> <i>Management: Operation and other management for biliary injuries.</i> Diagnosis:
<b>Knowledge</b>	4 Applied anatomy and pathophysiology of biliary tree and injuries to biliary tree 4 Symptoms and investigations 4 Complications of biliary injuries 4 Post-operative problems after repair Management: 4 Treatment options available 4 Methods of bile duct repair – primary repair over a T-tube; hepaticojejunostomy with Roux-en-Y reconstruction Diagnosis:
<b>Clinical Skills</b>	



4 History & examination  
4 Organising investigation

Management:

4 Resuscitation  
4 Laparotomy for biliary peritonitis with placement of drains

**Technical Skills and Procedures** 4 Biliary-bile duct injury repair  
3 Biliary-hepaticojejunostomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Elective Hepatobiliary and pancreatic disorders</b>
<b>Category</b>	Final Special Interest Hepatopancreatobiliary
<b>Sub-category:</b>	HPB-E+F
<b>Objective</b>	<i>Management of patients with all hepatopancreatobiliary disorders.</i> <i>Diagnosis: Diagnosis of elective hepatopancreatobiliary disorders.</i> <i>Management: Management of elective HPB disorders, including operation, may need mentoring for major procedures.</i> <i>Post-operative care: Post-operative management of elective HPB disorders, including complications.</i>
<b>Knowledge</b>	Diagnosis:  4 Applied anatomy and physiology of liver, biliary system, pancreas and duodenum 4 Symptoms and investigations for Acute gallbladder and biliary disorders 4 Symptoms and investigations for Acute pancreatitis and its complications 4 Symptoms and investigations for benign and malignant conditions such as: biliary motility abnormalities, liver cysts (parasitic and other), choledochal cyst, carcinoma of the gall bladder and cholangiocarcinoma, chronic pancreatitis, carcinoma of pancreas, carcinoma of the ampulla of Vater, other pancreatic tumours.  Management:  4 Treatment options available  Post-operative care:  4 Complications 4 Investigations 4 Management options  Diagnosis:  4 History and examination 4 Organising investigations
<b>Clinical Skills</b>	Management:  4 Both open and laparoscopic exploration of CBD

3 Both open and laparoscopic approaches to splenectomy

Post-operative care:

- 4 Diagnosis
- 4 Organising investigations
- 4 Interpreting investigations
- 3 Management of leak
- 4 Need for re-operation
- 3 Re-exploration for complication
- 4 Nutrition

Diagnosis:

- 4 ERCP-diagnostic

Management:

- 4 ERCP-stent insertion
- 4 ERCP-stone removal
- 3 ERCP-other
- 2 Endoscopic ultrasound-radial HPB
- 2 Endoscopic ultrasound-linear-diagnostic-HPB
- 2 Endoscopic ultrasound-linear-therapeutic-HPB
- 4 Cholecystectomy
- 4 Biliary-CBD-exploration
- 4 Splenectomy
- 3 Splenic repair
- 3 Liver-ablation of tumour
- 3 Liver-left hepatectomy
- 3 Liver-right hepatectomy
- 3 Liver-segmental and atypical liver resection
- 3 Liver-extended left hepatectomy
- 3 Liver-extended right hepatectomy
- 4 Liver-deroofing of liver cyst
- 3 Pancreatico-duodenectomy
- 3 Pancreatectomy-total
- 4 Pancreatectomy-distal
- 4 Pancreatic pseudocyst drainage
- 3 Pancreatico-jejunostomy
- 3 Pancreatic debridement
- 2 Pancreas-thoracoscopic splachnicectomy
- 3 Transduodenal sphincteroplasty
- 3 Peritoneovenous shunt
- 3 Shunt for portal hypertension
- 4 Biliary-hepaticojejunostomy
- 3 Biliary-segment III biliary bypass

**Technical Skills  
and Procedures**

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Pancreatic endocrine  
**Category** Final Special Interest Hepatopancreatobiliary  
**Sub-category:** HPB-E+F

*Diagnosis, assessment and management of pancreatic endocrine tumours (level of involvement in diagnosis and operation may vary between HPB and endocrine units).*

**Objective**

*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.*

Diagnosis:

4 Symptoms and investigation of neuroendocrine tumours; insulinoma, gastrinoma, MEN 1, glucagonoma, PPoma and non-functioning neuroendocrine tumour

Management:

**Knowledge**

4 Treatment options available

Post-operative care:

4 Complications; bleeding, sepsis, fistulae, diabetes

4 Investigations

4 Management options

Diagnosis:

4 History and examination

4 Organising investigations- biochemical, radiological, pre-operative and intraop

Management:

4 Choice of appropriate treatment method

4 Pre-operative preparation

3 Laparoscopic or open surgical approach

**Clinical Skills**

3 Management of metastatic disease

Post-operative care:

4 Diagnosis

4 Organising investigations

4 Interpreting investigations

4 Management of leak

4 Need for re-operation

3 Re-operation for complication

4 Nutrition

4 Follow-up and long-term management of patient

Diagnosis:

**Technical Skills and Procedures**

2 ERCP-diagnostic

2 Endoscopic ultrasound-linear-diagnostic-HPB

2 Endoscopic ultrasound-radial-hepatobiliarypancreatic

Management:

- 3 Pancreatic endocrine tumour resection
- 3 Pancreatectomy-distal
- 3 Pancreatico-duodenectomy
- 4 Biliary bypass
- 3 Liver-left hepatectomy
- 3 Liver-right hepatectomy
- 3 Liver-ablation of tumour

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Acute Pancreatitis</b>
<b>Category</b>	Final Special Interest Hepatopancreatobiliary
<b>Sub-category:</b>	HPB-E+F
<b>Objective</b>	<i>The diagnosis and management of all patients with acute pancreatitis with operation where appropriate</i>
<b>Knowledge</b>	4 Abdominal anatomy 4 Differential diagnosis 4 Aetiology 4 Clinical features 4 Scoring system - recognition of severity 4 Pathophysiology 4 Complications 4 Investigations CRP, US, CT 4 Treatment of options 4 Role of systemic antibiotics 4 Management of pancreatic necrosis 4 ERCP, MRCP 4 Resuscitation 3 Timing and nature of intervention
<b>Clinical Skills</b>	4 Surgical approaches 4 Insertion of nasojejunal tube 3 Management of complications 3 Relaparotomy for complications 4 Central venous line insertion 1 ERCP 4 Laparotomy
<b>Technical Skills and Procedures</b>	4 Cholecystectomy-laparoscopic 4 Cholecystectomy-open 4 Pancreatectomy-distal 3 Pancreatic debridement 4 Pancreatic pseudocyst drainage

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Benign anorectal</b>
<b>Category</b>	Final Special Interest Colorectal
<b>Sub-category:</b>	CR-A+B
<b>Objective</b>	<i>Competence in the diagnosis and the majority of medical and surgical</i>

*treatments of common benign anorectal disease.*

*Haemorrhoids: Competence in the diagnosis and the common medical and surgical treatments for haemorrhoids.*

*Anal Fissure: Competence in the diagnosis and the medical and primary surgical treatment of anal fissure.*

*Abscess and fistula: Competence in the diagnosis and the medical and surgical treatment of abscess and simple fistula-in-ano.*

*Hidradenitis Suppurativa: Knowledge of the pathophysiology and clinical presentation of hidradenitis suppurativa.*

*Pilonidal Disease: Competence in the management of Pilonidal disease.*

*Anal Stenosis: Competence in the nonoperative treatment of anal stenosis.*

*Pruritus Ani: Competence in the management of pruritis ani.*

*Sexually Transmitted Diseases: Diagnosis and the medical and surgical treatment of condylomata acuminata.*

**Haemorrhoids:**

- 4 Aetiology of internal and external haemorrhoids
- 4 Anatomical distinctions between internal and external haemorrhoids
- 4 Classifications for internal haemorrhoids
- 4 Modifications of therapy with : Inflammatory bowel disease (IBD), Pregnancy, HIV, Coagulopathies, portal hypertension/rectal varices

**Anal Fissure:**

- 3 Aetiology of anal fissure
- 4 Anatomical location of a classic anal fissure

**Abscess and fistula:**

- Knowledge**
- 4 The origin of cryptoglandular abscess and fistula
  - 4 Classification of anorectal cryptoglandular abscess-based on anatomical spaces
  - 4 Parks classification of anal fistula
  - 4 The natural history of surgically treated anal abscess, including the risk of fistula formation
  - 4 Operative strategy for anal fistula based on sphincter involvement/location
  - 4 Complications resulting from abscess/fistula surgery: recurrence, incontinence

**Hidradenitis Suppurativa:**

- 4 Pathophysiology of hidradenitis suppurativa

**Pilonidal Disease:**

4 Pathophysiology of pilonidal disease

Anal Stenosis:

4 Aetiology

Pruritus Ani:

4 Aetiology and clinical presentation of pruritus ani

Sexually Transmitted Diseases:

4 Aetiology of condylomata acuminata

Haemorrhoids:

4 Assessment of the signs and symptoms of the following: thrombosed external haemorrhoids, internal haemorrhoids by stage, skin tags

3 Management of haemorrhoids including the indications and contraindications for: rubber-band ligation, injection sclerotherapy, infrared coagulation, laser, operative and stapled haemorrhoidectomy

4 Perform two of the OPD techniques and operative haemorrhoidectomy

3 Manage the complications resulting from OPD management: bleeding, pain, sepsis

3 Manage the complications resulting from haemorrhoidectomy: urinary retention, haemorrhage, faecal impaction, infection

Anal Fissure:

4 Assessment of the signs and symptoms of anal fissure

3 Arrange the nonoperative management of anal fissure, including stool modifications/softeners, topical anaesthetics, topical pharmacology

3 Indications, contraindications, and complications of the following: lateral internal sphincterotomy anal stretch, anal advancement flap

3 Pre and post-operative care of lateral sphincterotomy, anal advancement flap for fissure

**Clinical Skills**

Abscess and fistula:

4 Differentiate cryptoglandular abscess and fistula from other causes

3 Assessment of abscess/fistula by techniques designed to elucidate pathological anatomy: Goodsall's rule and digital examination, fistulogram, injections, MRI, endoanal ultrasound

4 Management of anorectal abscess including pre-operative and post-operative care and the appropriate procedure based on anatomical spaces

4 Modify therapy for: necrotising fasciitis, Fournier's gangrene, leukaemia, other immunocompromised patients, inflammatory bowel disease

3 Assess rectovaginal fistula in terms of aetiology and location

Hidradenitis Suppurativa:

4 Assess the symptoms and signs of hidradenitis suppurativa

Pilonidal Disease:

- 4 Assess the symptoms and signs of pilonidal disease: abscess, sinus
- 4 Perform surgical management of pilonidal disease

Anal Stenosis:

- 4 Arrange nonoperative management

Pruritus Ani:

- 4 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 pruritus ani

Sexually Transmitted Diseases:

- 4 Diagnosis of condylomata acuminata
- 4 Medical (topical chemicals) and surgical treatment options for condylomata acuminata

Haemorrhoids:

- 4 Haemorrhoids-OP treatment(injection, banding or infrared coagulation)
- 4 Haemorrhoidectomy-operative

Anal Fissure:

- 4 Lateral sphincterotomy

Abscess and fistula:

- 4 Abscess-drainage through perineal region
- 4 Fistula-in-ano-low-lay open
- 3 Fistula-in-ano-high-drainage seton

**Technical Skills and Procedures**

Pilonidal disease:

- 4 Pilonidal sinus-lay open
- 3 Pilonidal sinus-excision+suture

Sexually Transmitted Diseases:

- 4 Anal skin tags/warts-excision

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic**      **Benign colon**

<b>Category</b>	Final Special Interest Colorectal
<b>Sub-category:</b>	CR-A+B
	<i>Competence in the diagnosis and treatment of common benign colonic disease.</i>
	<i>Diverticular Disease- pathophysiology: Knowledge of aetiology and pathology of diverticular disease.</i>
	<i>Diverticular disease-clinical manifestations: Ability to assess diverticular disease.</i>
	<i>Diverticular disease-treatment: Emergency management of patients with diverticular disease.</i>
	<i>Volvulus: Competency in the diagnosis and treatment of colonic volvulus.</i>
	<i>Rectal bleeding: Ability to appropriately investigate rectal bleeding.</i>
<b>Objective</b>	<i>Massive lower GI bleeding: Management of massive lower GI tract bleeding.</i>
	<i>Vascular Malformations: Competency in the diagnosis and knowledge of the treatment of angiodysplasia.</i>
	<i>Endometriosis: Knowledge that endometriosis may affect the gastrointestinal tract.</i>
	<i>Colon Trauma: Competency in the appropriate diagnosis and treatment of colon trauma.</i>
	<i>Rectal Trauma: Competency in the diagnosis and initial treatment of rectal trauma.</i>
	<i>Anal Trauma: Competency in the diagnosis of anal trauma and its initial management by faecal diversion.</i>
	<i>Foreign Bodies: Manage patients with rectal foreign bodies.</i>
	Diverticular Disease- pathophysiology:
	4 Aetiology of colonic diverticular disease
	4 Incidence and epidemiology of colonic diverticular disease
	Diverticular disease-clinical manifestations:
<b>Knowledge</b>	4 Complications and classification of diverticular disease including: bleeding, perforation, abscess, fistula, stricture
	4 Hinchey classification of complicated diverticular disease
	Volvulus:
	4 Aetiology of volvulus of the colon
	4 Incidence and epidemiology of volvulus of the colon
	4 Complications of colonic volvulus including obstruction, ischaemia, perforation



Rectal bleeding:

4 Aetiology of lower GI bleeding

Massive lower GI bleeding:

4 Aetiology of massive lower GI bleeding

3 Utility, specificity and sensitivity of colonoscopy, angiography and radioisotope scintigraphy in evaluation of lower GI bleeding

2 Angiographic treatment of lower GI bleeding

Vascular Malformations:

4 Aetiology of angiodysplasia

Endometriosis:

3 Pathophysiology of endometriosis

Colon Trauma:

Uses and limitations of the following imaging and diagnostic tests in the evaluation of blunt abdominal trauma

4 Plain abdominal films

4 Computed tomography scan

4 Ultrasound

4 Peritoneal lavage

Rectal Trauma:

4 Identify clinical situations requiring evaluation for rectal trauma

Diverticular disease-clinical manifestations:

4 Recognise the clinical patterns (including right sided diverticular disease) presenting symptoms, physical findings and natural history of colonic diverticular disease

4 Arrange appropriate diagnostic studies in suitable sequence in the evaluation of both acute and chronic colonic diverticular disease

Diverticular disease-treatment:

**Clinical Skills**

4 Medical and dietary management of colonic diverticular disease

4 Medical management for acute diverticulitis

4 Pre-operative assessment including the indications for surgery, surgical procedures, and complications for acute diverticulitis

3 Choose appropriate surgical procedures including CT guided drainage for the management of acute diverticulitis

3 Perform appropriate resection for diverticular disease including consideration of the extent of resection, use of ureteral stents, and indications for diversion

3 Appropriate surgical procedures for dealing with complications (fistula, stricture, recurrent episodes) of acute diverticulitis

Volvulus:

- 4 Recognise the clinical patterns, presenting symptoms, physical findings, and natural history of colonic volvulus based upon its site
- 4 Arrange diagnostic studies in appropriate sequence
- 4 Appropriate operative procedures for volvulus depending on site

Rectal bleeding:

- 4 Arrange appropriate evaluation of the patient based on age and other medical conditions

Massive lower GI bleeding:

- 4 Assess haemodynamic stability and outline a resuscitation plan
- 3 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
- 2 Perform endoscopic treatment of lower GI bleeding including coagulation, injection therapy and laser ablation
- 3 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 Perform intraoperative evaluation and management of persistent massive lower GI bleeding without an identified site
- 4 Manage post-operative lower GI bleeding

Vascular Malformations:

- 4 Assess clinical presentation and endoscopic findings of angiodysplasia
- 3 Manage the patient with regard to indications for intervention and the operative and nonoperative management of angiodysplasia
- 3 Arrange nonoperative and operative management, based on location

Colon Trauma:

- 4 Manage the patient with penetrating abdominal trauma with understanding of the criteria for exploratory laparotomy, wound exploration, peritoneal lavage
- Perform appropriate surgical management of colon trauma in the context of the severity of associated injuries and stability of medical condition, including the following:
- 4 Manage a patient, either operatively or non-operatively with colonic trauma due to colonoscopic perforation or laparoscopic perforation

Rectal Trauma:

- 4 Diagnosis of rectal trauma and associated injuries
- 3 Perform surgical management of rectal trauma including drainage, faecal diversion, rectal washout, primary repair

Anal Trauma:

- 4 Manage traumatic anal injuries by faecal diversion, and/or repair

Foreign Bodies:

- 4 Evaluate patients with rectal foreign bodies
- 4 Perform various methods of extraction of foreign bodies and assess the indications for surgery
- 4 Manage postextraction evaluation with regard to indications for inpatient observation and indications for surgery

Diverticular disease-treatment:

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

Volvulus:

- 4 Sigmoidoscopy-rigid
- 4 Sigmoidoscopy-flexible
- 3 Colonoscopy-diagnostic
- 3 Colonoscopy-other

Massive lower GI bleeding:

- 3 Colonoscopy-diagnostic
- 3 Colectomy-right
- 3 Colectomy-left
- 3 Colectomy-sigmoid
- 4 Colostomy-construction
- 4 Hartmann's procedure
- 4 Ileostomy-construction

**Technical Skills  
and Procedures**

Colon Trauma:

- 3 Colon-primary repair
- 3 Colectomy-right
- 3 Colectomy-left
- 3 Colectomy-sigmoid
- 3 Colectomy-transverse
- 3 Colectomy-total+ileostomy
- 4 Hartmann's procedure
- 4 Colostomy-construction
- 4 Ileostomy-construction

Rectal Trauma:

- 4 Colostomy-construction
- 4 Hartmann's procedure
- 4 Ileostomy-construction
- 2 Rectum-operation for trauma

Anal Trauma

4 Colostomy- construction  
2 Anal sphincter repair including postanal repair, anterior sphincter repair +  
rectocele repair

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Colorectal neoplasia</b>
<b>Category</b>	Final Special Interest Colorectal
<b>Sub-category:</b>	CR-A+B
	<i>Competence in the diagnosis and the medical and surgical treatment of colonic neoplasia.</i>
	<i>Epidemiology of Colorectal Cancer and Polyps: Knowledge of the epidemiology of colorectal cancer and polyps.</i>
	<i>Aetiology: Knowledge of the aetiology of colorectal neoplasia.</i>
	<i>Colorectal Cancer Screening: Knowledge of the principles of colorectal cancer screening.</i>
	<i>Clinical Presentation: Recognise the symptoms and signs of colorectal cancer at different sites.</i>
<b>Objective</b>	<i>Staging and Prognostic Factors: Understanding of staging and prognostic factors for colorectal cancer.</i>
	<i>Management of Colon Cancer: Diagnosis and the medical and emergency surgical treatment of colon cancer.</i>
	<i>Management of Rectal Cancer: Diagnosis of rectal cancer and referral to specialist.</i>
	<i>The Detection and Treatment of Recurrent and Metachronous Colon: Ability to detect recurrent colon and rectal cancer.</i>
	<i>Miscellaneous Malignant Lesions of the Colon and rectum: Diagnosis and surgical treatment of the more common manifestations of carcinoid tumour.</i>
	<i>Anal Neoplasia - general considerations: Understanding of the high risk groups for anal neoplasia.</i>
	Epidemiology of Colorectal Cancer and Polyps:
	4 Epidemiology of colorectal cancer and polyps including incidence and prevalence, influence of socio-economic, racial and geographic factors
<b>Knowledge</b>	Aetiology:
	aetiological factors in colorectal neoplasia:
	4 Diet: fat, fibre, calcium, selenium, vitamins (antioxidants), dietary inhibitors,

alcohol and smoking, prostaglandin inhibitors  
4 Adenoma-carcinoma sequence: evidence, categorise adenomas into low risk, intermediate and high risk and discuss screening procedures, significance of metaplastic polyps  
4 Susceptibility to colorectal cancer (CRC): family history, Personal Past History (CRC, Polyps, Other Cancers), groups at risk  
3 Hereditary nonpolyposis colorectal cancer (HNPCC): clinical features,  
4 Familial adenomatous polyposis: clinical definition, extracolonic lesions, cancer risk

#### Colorectal Cancer Screening:

Current screening strategies for the following:

- 4 The general population
- 4 Persons at moderate risk
- 4 Persons at high risk

#### Clinical Presentation:

- 4 Distribution of CRC within the colon

#### Staging and Prognostic Factors:

- 4 Current staging systems (Dukes, TNM)
- 4 Clinical prognostic factors: age, mode of presentation, clinical stage, blood transfusion
- 4 Histologic/biochemical features: histological grade, mucin secretion, signet-cell histology, venous invasion
- 3 The significance of extent of disease including patterns of spread: direct continuity, intramural, transmural, distal margins, circumferential margins, transperitoneal, lymphatic, haematogenous, implantation

#### Management of Colon Cancer:

- 4 The rationale and indications for the use of adjuvant chemotherapy

#### Management of Rectal Cancer:

- 2 Sphincter-sparing resections
- 3 Rationale and indications for the use of adjuvant chemoradiotherapy

#### The Detection and Treatment of Recurrent and Metachronous Colon:

- 4 Patterns of recurrence
- 3 Detection of recurrence using CEA, colonoscopy and imaging
- 4 Natural history of recurrent colorectal cancer
- 4 Risks and detection of metachronous lesions

#### Miscellaneous Malignant Lesions of the Colon and rectum:

Anal Neoplasia- general considerations:

Anatomical, aetiology, and epidemiologic features:

- 4 The significance of the anatomical distinction between the anal margin and the anal canal tumours
- 4 The differential lymphatic drainage of the anal canal and margin
- 4 The histological transition of the anal canal
- 4 Association with sexual practices
- 4 High-risk groups
- 3 Staging classification of anal neoplasia

Clinical Presentation:

- 4 Recognise the clinical signs and symptoms of patients presenting with colorectal cancer (4)

Management of Colon Cancer:

- 3 Manage malignant change within an adenomatous polyp
- 3 Familiarity with the indications and contraindications to surgery, operative technique, pre- and post-operative care, outcomes and the complications of colon cancer
- 4 Special considerations in the operative management of Colon cancer: colonic stents, intraluminal cytotoxic irrigation, on-table lavage, perforation, synchronous lesions

**Clinical Skills**

Management of Rectal Cancer:

- 4 Diagnosis of rectal cancer

The Detection and Treatment of Recurrent and Metachronous Colon:

- 3 Treatment of recurrent colorectal cancer: natural history, chemotherapy, resection, local ablation
- 3 Manage Carcinomatosis: with bowel obstruction, with ureteral obstruction
- 4 Palliative care

Miscellaneous Malignant Lesions of the Colon and rectum:

- 3 Recognise the clinical presentation, assess prognostic factors, and manage carcinoid - Ileal, appendiceal, carcinoid syndrome

Management of Colon Cancer:

- 4 Hartmann's procedure
- 3 Colectomy-left
- 3 Colectomy-right
- 3 Colectomy-transverse
- 3 Colectomy-sigmoid
- 3 Colectomy-total+ileostomy
- 4 Colostomy-construction
- 4 Ileostomy-construction

**Technical Skills and Procedures**

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Inflammatory bowel disease  
**Category** Final Special Interest Colorectal

**Sub-category:** CR-A+B

*The competency in the diagnosis and the emergency surgical treatment of inflammatory bowel disease*

- *Knowledge of the aetiology of inflammatory bowel disease*
- *Knowledge of the epidemiology of inflammatory bowel disease*
- *The recognition of the clinical manifestations of inflammatory bowel disease*
- *Competency in the diagnosis of inflammatory bowel disease*
- *Basic medical management of ulcerative colitis in consultation with gastroenterology*
- *Emergency surgical treatment of ulcerative colitis*
- *Basic/urgent post-operative care of patients with ulcerative colitis, including ileoanal pouch and its complications*
- *Basic medical management of Crohn's disease in consultation with gastroenterology*
- *Understanding of the complications of Crohn's disease*
- *Emergency surgical management of Crohn's disease*
- *Emergency management of anorectal Crohn's Disease*
- *Competency in the management of ischaemic colitis*
- *awareness of radiation bowel disease*
- *The diagnosis and management of infectious colitis in consultation with infectious disease physicians*

**Objective**

Inflammatory Bowel Disease-Aetiology

4 the contribution of genetics and immune function to the development of inflammatory bowel disease (IBD)

4 the possible influence of infectious agents, psychological issues and environmental factors

Inflammatory Bowel Disease-Epidemiology

4 the epidemiologic features of Crohn's disease and ulcerative colitis

Inflammatory Bowel Disease-Differential diagnosis

4 the endoscopic, radiographic, and laboratory findings of ulcerative colitis and Crohn's disease

3 the distinguishing histologic characteristics of ulcerative colitis and disease

4 the differential diagnosis of Inflammatory Bowel Disease

**Knowledge**

Ulcerative colitis-Medical management

3 the mechanism of action, indication, appropriate dosage, side effects, and toxicity of the drugs used for the treatment of ulcerative colitis: aminosalicylates, corticosteroids, antibiotics

Ulcerative colitis- surgical management

4 Be able to identify the indications for surgery for ulcerative colitis including: severe acute colitis, toxic megacolon, haemorrhage

Crohn's disease-medical management

3 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

Crohn's disease -surgical management

4 Awareness of the indications for surgery for Crohn's disease including: intractability, intestinal obstruction, fistula/abscess, complications

Other inflammatory conditions: ischaemic colitis

4 vascular anatomy of the colon

4 the aetiology of acute colonic Ischaemic

Other inflammatory conditions: radiation bowel disease

4 vascular anatomy of the colon

Other inflammatory conditions: infectious colitis

4 epidemiology, aetiology, pathogenesis, laboratory and endoscopic evaluation, medical management and indications for surgery for clostridium difficile colitis

3 In suspected infectious colitis understand relevance of travel history, role of stool culture, testing for ova, cysts and parasites and hot stool sample for amoebiasis, role of lower GI endoscopy with biopsy for histological evaluation and culture, role of rectal and perineal swabs, role of serology in the detection of amoebiasis and strongyloidiasis, infectious colitis as a precipitating factor for inflammatory bowel disease

3 Management of diarrhoea in the immunocompromised patient including HIV

Inflammatory Bowel disease-Clinical manifestations

4 recognise and compare the clinical pattern, presenting symptoms, physical findings and natural history of ulcerative colitis and Crohn's disease

3 the extraintestinal manifestations of IBD

Inflammatory Bowel Disease-Differential diagnosis

4 diagnostic assessment for inflammatory bowel disease to exclude other colitides

Ulcerative colitis-Medical management

4 Recognise the presentation and manage proctitis, left-sided colitis, extensive colitis, severe acute colitis, toxic megacolon

4 joint management of a patient unresponsive to initial treatment

## **Clinical Skills**

Ulcerative colitis- surgical management

4 indications and contraindications, operative technique, post-operative care, functional results, and complications of the operations for ulcerative colitis

Ulcerative colitis-post-operative management

4 Trainees will be able to recognise and describe the management of the following conditions associated with the ileoanal pouch anal anastomosis: intestinal obstruction

Crohn's disease-medical management

4 initial treatment specific to the site of involvement in a patient with Crohn's disease

4 medical management of a patient unresponsive to initial treatment

Crohn's disease-complications

3 recognise and outline the management of the following complications of



Crohn's disease: obstruction/stenosis, fistula, abscess, perforation, haemorrhage, toxic megacolon, severe acute colitis

Crohn's disease -surgical management

4 indications and contraindications, operative technique, post-operative care, functional results, risk of recurrence, and complications of operations for Crohn's disease

Crohn's Disease-anorectal

4 recognise and manage the following manifestations of anorectal Crohn's disease: abscess, anal fistula, fissure

Other inflammatory conditions: ischaemic colitis

4 Recognise the clinical presentation of ischaemic colitis

4 Recognise the natural history, diagnosis, and be able to manage ischaemic colitis

4 Recognise and manage ischaemic colitis after abdominal aortic aneurysm repair

Ulcerative colitis- surgical management

4 Colectomy-total+ileostomy

Crohn's disease -surgical management

4 Colectomy-right

**Technical Skills and Procedures** 4 Colectomy-transverse

4 Colectomy-left

4 Colectomy-sigmoid

4 Colectomy-total+ileostomy

4 Ileocaecectomy for Crohn's

4 Fistula-in-ano-high-drainage seton

4 Fistula-in-ano-low-lay open

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Functional disorders**

**Category** Final Special Interest Colorectal

**Sub-category:** CR-A+B

*Competency in the diagnosis and the simple medical and surgical treatment of functional disorders of the bowel and pelvic floor.*

*Faecal Incontinence-Epidemiology: Understanding of the epidemiology of faecal incontinence.*

**Objective** *Faecal Incontinence-Evaluation: Understanding of the causes and clinical findings in faecal incontinence.*

*Faecal Incontinence-Non-operative Management: Simple conservative management of faecal incontinence.*

*Rectal Prolapse: Competency in the diagnosis and the emergency medical and surgical treatment of rectal prolapse.*

*Solitary Rectal Ulcer: Diagnose solitary ulcer syndrome.*

*Constipation-General Consideration: Simple investigation and treatment of constipation.*

*Constipation-specific conditions; outlet obstruction: Ability to diagnose rectocele.*

*Constipation-Specific Conditions; Motility Disorders: Management of colonic pseudo-obstruction.*

*Irritable Bowel Syndrome: Competency in the management of irritable bowel syndrome.*

Faecal Incontinence-Epidemiology:

4 Classification of the various types of incontinence, their incidence and their pathophysiology

Rectal Prolapse:

4 The incidence, pathophysiology and epidemiology of rectal prolapse

Constipation-General Consideration:

**Knowledge**

4 Normal colonic physiology (including gut hormones and peptides) and the process of defecation

4 Definition of constipation and its epidemiology

3 Classification of types and causes of constipation differential diagnosis in a patient with constipation

4 Different types of laxatives and describe the indications, contraindications, modes of action, and complications of each: stimulant, osmotic, bulk-forming, lubricant

Constipation-Specific Conditions; Motility Disorders:

4 Common causative factors for colonic pseudo-obstruction

Faecal Incontinence-Evaluation:

4 Take a directed history to differentiate types of incontinence

3 Perform a physical examination to differentiate types of incontinence

Faecal Incontinence-Non-operative Management:

**Clinical Skills**

3 Outline a non-operative bowel management plan incorporating : dietary measures

Rectal Prolapse:

3 Appropriate management of incarcerated and strangulated rectal prolapse

Solitary Rectal Ulcer:

3 Recognise the clinical presentation, endoscopic and histological findings in a patient with solitary rectal ulcer

Constipation-General Consideration:

4 Take a directed history for a patient with constipation and perform a directed physical examination

4 Identify melanosis coli on endoscopy and discuss its significance

3 Plan a treatment programme for a patient with constipation that may include the following: dietary measures, fibre, laxatives, prokinetic medications, enemas, suppositories, psychological support

Constipation-specific conditions; outlet obstruction:

3 Recognise the clinical presentation of symptomatic rectocele

Constipation-Specific Conditions; Motility Disorders:

4 Evaluate a patient with suspected colonic pseudo-obstruction

4 Manage a patient with colonic pseudo-obstruction by medical means

Irritable Bowel Syndrome:

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

**Technical Skills and Procedures**

No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Stomas

**Category** Final Special Interest Colorectal

**Sub-category:** CR-A+B

*Competency in the formation and simple management of stomas in consultation with stoma care nurses.*

*Indications for stomas: Understanding of the indications for stomas and different types of stoma.*

*Pre-operative Evaluation for stomas: Competency in the pre-operative care of a patient requiring a stoma.*

**Objective**

*Stoma creation and closure: Competency in the construction and closure of an ileostomy and a colostomy.*

*Post-operative Care: Competency in the post-operative care of patients after stoma formation.*

*Complications: Competency in the management of simple complications of stoma formation.*

*Stoma Management: Usual 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.*

Indications for stomas:

- 4 Indications for colostomy
- 4 Indications for ileostomy
- 4 Types of stomas (loop, end, end loop, double barrel) in relation to indications

Complications:

- 4 High-output ileostomy

Stoma Management:

**Knowledge** 3 Stoma appliances, and appropriate selection

Stoma Physiology:

- 4 The physiologic changes associated with ileostomy, colostomy, urostomy
- 4 Normal ileostomy function including anticipated daily outputs and changes that occur in output with post-operative adaptation
- 4 Causes of high output stomas
- 4 Differential diagnosis of high output

Patient Education and Counselling:

- 4 The possible effects that a stoma may have on medication dosage and absorption

Pre-operative Evaluation for stomas:

- 4 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 Demonstrate proper siting and marking techniques for all stoma placement, including such considerations as scars, the umbilicus, skin creases, belt and clothing and positioning (standing, sitting and supine positions)

**Clinical Skills** Stoma creation and closure:

- 4 Perform stoma construction and closure
- 4 Organise preparation for stoma closure in the case of temporary faecal diversion including: timing of closure, necessary pre-operative evaluation, care of the post-operative stoma site wound

Post-operative Care:

- 4 Appreciate the normal post-operative course for colostomy and ileostomy function

4 Recognise the signs, symptoms and management for the following complications that occur in the immediate post-operative period: ischaemia, mucocutaneous separation

Complications:

- 4 Recognise and manage high-output ileostomy
- 4 Recognise parastomal skin irritation of significance, list a differential diagnosis, and make recommendations for appropriate management
- 4 Manage ileostomy and colostomy prolapse
- 4 Recognise and manage ileostomy food obstruction

Stoma Management:

- 4 Early post-operative management of conventional stoma
- 3 Advise on various skin barriers and accessory products available for the management of stomas
- 3 Advise on dietary considerations for patients with an ileostomy or a colostomy, including impact of diet on stoma output, flatus, odour, bolus obstruction

Stoma Physiology:

- 4 Appropriately manage fluid and electrolyte abnormalities

Stoma creation and closure:

- 4 Ileostomy-construction
- 4 Colostomy-construction
- 4 Ileostomy-closure
- 4 Colostomy-closure
- 4 Hartmann's reversal

**Technical Skills and Procedures**

Complications:

- 4 Colostomy-revision
- 4 Ileostomy-revision

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Endoscopy for lower GI Surgeons (Flexible siggy + endoscopy for CR surgeons)</b>
<b>Category</b>	Final Special Interest Colorectal
<b>Sub-category:</b>	CR-A+B
<b>Objective</b>	<i>Competency in diagnostic and therapeutic proctoscopy, rigid sigmoidoscopy, flexible sigmoidoscopy. This section is based on guidelines from the Joint Advisory Group in Endoscopy.  Equipment: Knowledge of the principles of flexible endoscopy.</i>

*Sedation and monitoring: Ability to sedate a patient safely for endoscopy.*

*Proctoscopy: Ability to perform proctoscopy.*

*Rigid sigmoidoscopy: Ability to perform rigid sigmoidoscopy.*

*Flexible sigmoidoscopy: Ability to perform flexible sigmoidoscopy.*

Equipment:

3 Structure and function of an endoscope, processor and accessories, including diathermy

Sedation and monitoring:

4 Sedative and analgesic drugs and side-effects

4 Appropriate patient monitoring

4 Treatment of adverse effects

Proctoscopy:

**Knowledge**

4 Indications for proctoscopy

4 Complications of proctoscopy

Rigid sigmoidoscopy:

4 Indications for rigid sigmoidoscopy

4 Complications of rigid sigmoidoscopy

4 Patient preparation and documentation

Flexible sigmoidoscopy:

4 Indications for flexible sigmoidoscopy

4 Complications of flexible sigmoidoscopy

4 Patient preparation and documentation

4 Basic Skills in Endoscopy course

Equipment:

3 Clean and disinfect equipment in accordance with BSG guidelines

3 Use equipment in accordance with manufacturer's instructions

Sedation and monitoring:

**Clinical Skills**

4 Ability to safely and effectively sedate a patient for endoscopy

4 Monitor appropriately before, during and after procedure

Flexible sigmoidoscopy:

4 Deal appropriately with findings, including biopsy

4 At least 100 procedures performed within a year, 50 supervised and 50 with immediate advice available

**Technical Skills  
and Procedures**

Proctoscopy:

4 Proctoscopy

4 Haemorrhoids-OP treatment(injection, banding or infrared coagulation)

Rigid sigmoidoscopy:

4 Sigmoidoscopy-rigid

Flexible sigmoidoscopy:

4 Sigmoidoscopy-flexible

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Benign anorectal</b>
<b>Category</b>	Final Special Interest Colorectal
<b>Sub-category:</b>	CR-C+D
	<i>Competency in the diagnosis and the majority of medical and surgical treatments of common benign anorectal disease.</i>
	<i>Haemorrhoids: Competency in the diagnosis and most medical and surgical treatments for haemorrhoids.</i>
	<i>Anal Fissure: Competency in the diagnosis and the medical and surgical treatment of most anal fissures.</i>
	<i>Abscess and fistula: Competency in the diagnosis and the medical and straightforward surgical treatment of abscess and fistula-in-ano.</i>
<b>Objective</b>	<i>Hidradenitis Suppurativa: Competency in the diagnosis and management of most patients with hidradenitis suppurativa.</i>
	<i>Pilonidal Disease: Competency in the management of Pilonidal disease.</i>
	<i>Anal Stenosis: Simple management of anal stenosis.</i>
	<i>Pruritus Ani: Competency in the management of pruritis ani.</i>
	<i>Sexually Transmitted Diseases: Initial management of sexually transmitted disease in consultation with other specialists.</i>
	Haemorrhoids:
	4 Aetiology of internal and external haemorrhoids
	4 Anatomical distinctions between internal and external haemorrhoids
	4 Classifications for internal haemorrhoids
	4 Modifications of therapy with: Inflammatory bowel disease (IBD), Pregnancy, HIV, Coagulopathies, portal hypertension/rectal varices
<b>Knowledge</b>	Anal Fissure:
	3 Aetiology of anal fissure
	4 Anatomical location of a classic anal fissure
	Abscess and fistula:

- 4 The origin of cryptoglandular abscess and fistula
- 4 Classification of anorectal cryptoglandular abscess-based on anatomical spaces
- 4 Parks classification of anal fistula
- 4 The natural history of surgically-treated anal abscess, including the risk of fistula formation
- 4 Operative strategy for anal fistula based on sphincter involvement/location
- 4 Complications resulting from abscess/fistula surgery: recurrence, incontinence

Hidradenitis Suppurativa:

- 4 Pathophysiology of hidradenitis suppurativa

Pilonidal Disease:

- 4 Pathophysiology of pilonidal disease

Anal Stenosis:

- 4 Aetiology

Pruritus Ani:

- 4 Aetiology and clinical presentation of pruritus ani

Sexually Transmitted Diseases:

- 4 Aetiology of condylomata acuminata
- 2 Aetiology of HIV, syphilis, gonorrhoea, chlamydia, herpes
- 3 Influence of human papilloma virus serotypes on the subsequent development of cancer

Haemorrhoids:

- 4 Assessment of the signs and symptoms of the following: thrombosed external haemorrhoids, internal haemorrhoids by stage, skin tags
- 4 Management of haemorrhoids including the indications and contraindications for: rubber-band ligation, injection sclerotherapy, infrared coagulation, laser, operative and stapled haemorrhoidectomy
- 4 Perform two of the OPD techniques
- 4 Manage the complications resulting from OPD management: bleeding, pain, sepsis
- 3 Manage the complications resulting from haemorrhoidectomy: urinary retention, haemorrhage, faecal impaction, infection, stenosis, incontinence

**Clinical Skills**

Anal Fissure:

- 4 Assessment of the signs and symptoms of anal fissure
- 3 Arrange the nonoperative management of anal fissure, including indications, contraindications, and complications of stool modifications/softeners, topical anaesthetics, topical pharmacology, botulinum toxin
- 3 Indications, contraindications, and complications of the following: lateral



internal sphincterotomy anal stretch, anal advancement flap  
3 Pre and post-operative care of lateral sphincterotomy, anal advancement flap for fissure  
2 Treat complications resulting from operations; persistent fissure, incontinence, stenosis, 'key-hole' deformity

#### Abscess and fistula:

4 Differentiate cryptoglandular abscess and fistula from other causes  
3 Assessment of abscess/fistula by techniques designed to elucidate pathological anatomy: Goodsall's rule and digital examination, fistulogram, injections, MRI, endoanal ultrasound  
4 Management of anorectal abscess including pre-operative and post-operative care and the appropriate procedure based on anatomical spaces  
3 Treatment options for fistula-in-ano including fibrin glue  
4 Modify therapy for: necrotising fasciitis/Fournier's gangrene, leukaemia, other immunocompromised patients, inflammatory bowel disease  
3 Manage rectovaginal fistula with regard to classification, pre-operative evaluation, and treatment of rectovaginal fistula, based on location and aetiology  
2 Arrange pre and post-operative care for rectovaginal fistula due to obstetric injury  
2 Manage rectourethral fistula depending on location and aetiology

#### Hidradenitis Suppurativa:

4 Assess the symptoms and signs of hidradenitis suppurativa  
2 Manage hidradenitis suppurativa by both medical and surgical means

#### Pilonidal Disease:

4 Assess the symptoms and signs of pilonidal disease: abscess, sinus  
4 Perform surgical management of pilonidal disease

#### Anal Stenosis:

4 Arrange nonoperative management  
2 Operative management of anal stenosis including division of stricture and flap procedures

#### Pruritus Ani:

4 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 pruritus ani

#### Sexually Transmitted Diseases:

4 Diagnosis of condylomata acuminata  
2 Diagnosis and treatment of HIV, syphilis, gonorrhoea, chlamydia, herpes  
4 Medical (topical chemicals) and surgical treatment options for condylomata

acuminata

Haemorrhoids:

4 Haemorrhoids-OP treatment(injection, banding or infrared coagulation)

4 Haemorrhoidectomy-operative

2 Haemorrhoidectomy-stapled

Anal Fissure:

4 Lateral sphincterotomy

1 Anal advancement flap for fissure/stenosis

Abscess and fistula:

4 Fistula-in-ano-low-lay open

4 Fistula-in-ano-high-drainage Seton

3 Fistula-in-ano-high-cutting seton

2 Fistula-in-ano-high-advancement flap

2 Fistula-operation for rectovaginal fistula

**Technical Skills  
and Procedures**

Pilonidal Disease:

4 Pilonidal sinus-lay open

4 Pilonidal sinus-excision+suture

2 Pilonidal sinus-graft or flap

Anal Stenosis:

1 Anal advancement flap for fissure/stenosis

Sexually Transmitted Diseases:

4 Anal skin tags/warts-excision

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Benign colon</b>
<b>Category</b>	Final Special Interest Colorectal
<b>Sub-category:</b>	CR-C+D
	<i>Competency in the diagnosis and treatment of common benign colonic disease.</i>
	<i>Diverticular Disease- pathophysiology: Knowledge of aetiology and pathology of diverticular disease.</i>
<b>Objective</b>	<i>Diverticular disease-clinical manifestations: Ability to assess diverticular disease.</i>
	<i>Diverticular disease: treatment: Management of most patients with diverticular disease.</i>

*Volvulus: Competency in the diagnosis and treatment of colonic volvulus.*

*Rectal bleeding: Ability to appropriately investigate rectal bleeding.*

*Massive lower GI bleeding: Management of massive lower GI tract bleeding.*

*Vascular Malformations: Identification of patients with vascular malformations of the lower GI tract.*

*Endometriosis: Assessment of endometriosis affecting the GI tract with the gynaecologists.*

*Colon Trauma: Competency in the appropriate diagnosis and treatment of colon trauma.*

*Rectal Trauma: Competency in the diagnosis and treatment of rectal trauma.*

*Anal Trauma: Competency in the initial management of anal trauma.*

*Foreign Bodies: Manage patients with rectal foreign bodies.*

Diverticular Disease- pathophysiology:

- 4 Aetiology of colonic diverticular disease
- 4 Incidence and epidemiology of colonic diverticular disease

Diverticular disease-clinical manifestations:

- 4 Complications and classification of diverticular disease including : bleeding, perforation, abscess, fistula, stricture
- 4 Hinchey classification of complicated diverticular disease

Volvulus:

- 4 Aetiology of volvulus of the colon
- 4 Incidence and epidemiology of volvulus of the colon
- 4 Complications of colonic volvulus including obstruction, ischaemia, perforation

**Knowledge**

Rectal bleeding:

- 4 Aetiology of lower GI bleeding

Massive lower GI bleeding:

- 4 Aetiology of massive lower GI bleeding
- 4 Utility, specificity and sensitivity of colonoscopy, angiography and radioisotope scintigraphy in evaluation of lower GI bleeding
- 4 Angiographic treatment of lower GI bleeding
- 3 Evaluation of recurrent lower GI bleeding, including use of enteroscopy, exploratory laparotomy and intraoperative endoscopy

Vascular Malformations:

- 4 Aetiology of angiodysplasia
- 3 Classification of haemangiomas, their clinical presentations and predominant GI sites

Endometriosis:

- 3 Pathophysiology of endometriosis
- 3 Indications for intervention and the operative and non-operative management of endometriosis

Colon Trauma:

Uses and limitations of the following imaging and diagnostic tests in the evaluation of blunt abdominal trauma

- 4 Plain abdominal films
- 4 Computed tomography scan
- 4 Ultrasound
- 4 Peritoneal lavage

Rectal Trauma:

- 4 Identify clinical situations requiring evaluation for rectal trauma

Diverticular disease-clinical manifestations:

- 4 Recognise the clinical patterns (including right sided diverticular disease) presenting symptoms, physical findings and natural history of colonic diverticular disease
- 4 Arrange appropriate diagnostic studies in suitable sequence in the evaluation of both acute and chronic colonic diverticular disease

Diverticular disease-treatment:

- 4 Medical and dietary management of colonic diverticular disease
- 4 Medical management for acute diverticulitis
- 4 Pre-operative assessment including the indications for surgery, surgical procedures, and complications for acute diverticulitis
- 4 Choose appropriate surgical procedures including CT guided drainage for the management of acute diverticulitis
- 4 Perform appropriate resection for diverticular disease including consideration of the extent of resection, use of ureteral stents, and indications for diversion
- 3 Appropriate surgical procedures for dealing with complications (fistula, stricture, recurrent episodes) of acute diverticulitis
- 3 Patient selection and techniques for reversal of Hartmann's procedure including use of ureteral stents and indications for diversion

**Clinical Skills**

Volvulus:

- 4 Recognise the clinical patterns, presenting symptoms, physical findings, and natural history of colonic volvulus based upon its site
- 4 Arrange diagnostic studies in appropriate sequence
- 4 Appropriate operative procedures for volvulus depending on site

Rectal bleeding:

4 Arrange appropriate evaluation of the patient based on age and other medical conditions

Massive lower GI bleeding:

4 Assess haemodynamic stability and outline a resuscitation plan

3 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 Perform endoscopic treatment of lower GI bleeding including coagulation, injection therapy and laser ablation

3 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 Perform intraoperative evaluation and management of persistent massive lower GI bleeding without an identified site

4 Manage post-operative lower GI bleeding

Vascular Malformations:

4 Assess clinical presentation and endoscopic findings of angiodysplasia

3 Manage the patient with regard to indications for intervention and the operative and nonoperative management of angiodysplasia

3 Arrange radiologic and endoscopic evaluation of patients with haemangiomas

3 Arrange nonoperative and operative management, based on location

Endometriosis:

3 Recognition of the clinical presentation and the endoscopic and laparoscopic findings of endometriosis

Colon Trauma:

4 Manage the patient with penetrating abdominal trauma with understanding of the criteria for exploratory laparotomy, wound exploration, peritoneal lavage  
Perform appropriate surgical management of colon trauma in the context of the severity of associated injuries and stability of medical condition, including the following:

4 Manage a patient, either operatively or non-operatively with colonic trauma due to colonoscopic perforation or laparoscopic perforation

Rectal Trauma:

4 Diagnosis of rectal trauma and associated injuries

4 Perform surgical management of rectal trauma including drainage, faecal diversion, rectal washout, primary repair

Anal Trauma:

4 Manage traumatic anal injuries by faecal diversion, and/or repair

Foreign Bodies:

- 4 Evaluate patients with rectal foreign bodies
- 4 Perform various methods of extraction of foreign bodies and assess the indications for surgery
- 4 Manage postextraction evaluation with regard to indications for inpatient observation and indications for surgery

Diverticular disease-treatment:

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

Volvulus:

- 4 Sigmoidoscopy-rigid
- 4 Sigmoidoscopy-flexible
- 4 Colonoscopy-diagnostic
- 4 Colonoscopy-other

Massive lower GI bleeding:

- 4 Colonoscopy-diagnostic
- 4 Colonoscopy+polypectomy
- 4 Colonoscopy-other
- 4 Colectomy-total+ileostomy
- 4 Colectomy-right
- 4 Colectomy-left
- 4 Colectomy-sigmoid
- 4 Colostomy-construction
- 4 Hartmann's procedure
- 4 Ileostomy-construction

**Technical Skills  
and Procedures**

Vascular Malformations:

- 4 Colonoscopy-diagnostic
- 4 Colonoscopy+laser
- 3 Colonoscopy-other

Colon Trauma:

- 4 Colon-primary repair
- 4 Colectomy-right
- 4 Colectomy-left
- 4 Colectomy-sigmoid
- 4 Colectomy-transverse
- 4 Colectomy-total+ileostomy
- 4 Hartmann's procedure
- 4 Colostomy-construction
- 4 Ileostomy-construction

Rectal Trauma:

- 4 Colostomy-construction
- 4 Hartmann's procedure
- 4 Ileostomy-construction
- 3 Rectum-operation for trauma

Anal Trauma:

- 4 Colostomy-construction
- 2 Anal sphincter repair including postanal repair, anterior sphincter repair + rectocele repair

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Colorectal neoplasia</b>
<b>Category</b>	Final Special Interest Colorectal
<b>Sub-category:</b>	CR-C+D
	<i>Competency in the diagnosis and the medical and surgical treatment of colonic neoplasia and straightforward rectal neoplasia.</i>
	<i>Epidemiology of Colorectal Cancer and Polyps: Knowledge of the epidemiology of colorectal cancer and polyps.</i>
	<i>Aetiology: Detailed knowledge of the aetiology of colorectal neoplasia.</i>
	<i>Colorectal Cancer Screening: Knowledge of the principles of colorectal cancer screening.</i>
	<i>Clinical Presentation: Recognise the symptoms and signs of colorectal cancer at different sites.</i>
<b>Objective</b>	<i>Staging and Prognostic Factors: Detailed understanding of staging and prognostic factors for colorectal cancer.</i>
	<i>Management of Colon Cancer: Management of most patients with colon cancer.</i>
	<i>Management of Rectal Cancer: Management of some patients with rectal cancer.</i>
	<i>The Detection and Treatment of Recurrent and Metachronous Colon Cancer: Ability to detect recurrent colon and rectal cancer.</i>
	<i>Pain Management: Ability to manage severe pain.</i>
	<i>Miscellaneous Malignant Lesions of the Colon and rectum: Ability to identify</i>

*more unusual tumours of the colon and rectum.*

*Anal Neoplasia- general considerations: Understanding of the pathophysiology and the management of anal neoplasia.*

*Anal Neoplasia - anal canal neoplasia: Ability to diagnose anal canal neoplasia and refer appropriately.*

*Anal Neoplasia - anal margin neoplasia: Ability to diagnose anal margin neoplasia and refer appropriately.*

*Presacral lesions: Ability to identify presacral lesions.*

Epidemiology of Colorectal Cancer and Polyps:

4 Epidemiology of colorectal cancer and polyps including incidence and prevalence, influence of socio-economic, racial and geographic factors

Aetiology:

Aetiological factors in colorectal neoplasia:

4 Diet: fat, fibre, calcium, selenium, vitamins (antioxidants), dietary inhibitors, alcohol and smoking, prostaglandin inhibitors

4 Adenoma-carcinoma sequence: evidence, categorise adenomas into low risk, intermediate and high risk and discuss screening procedures, significance of metaplastic polyps

4 De novo carcinoma

4 Susceptibility to colorectal cancer (CRC): family history, Personal Past History (CRC, Polyps, Other Cancers), groups at risk, genetic pathways for colorectal carcinogenesis

3 Hereditary nonpolyposis colorectal cancer (HNPCC): clinical features, Amsterdam criteria and modifications, extracolonic cancer risk, genetic basis, genetic testing/counselling, surveillance options/limitations, surgical options/limitations

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

3 Hamartomas: definition, juvenile polyposis, Peutz-Jeghers syndrome

Colorectal Cancer Screening:

Current screening strategies for the following:

4 The general population

4 Persons at moderate risk

4 persons at high risk

Clinical Presentation:

4 Distribution of CRC within the colon

Staging and Prognostic Factors:

4 The evolution of staging systems

## Knowledge



- 4 Current staging systems (Dukes, TNM)
- 4 Clinical prognostic factors: age, mode of presentation, clinical stage, blood transfusion
- 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 The significance of extent of disease including patterns of spread: direct continuity, intramural, transmural, distal margins, circumferential margins, transperitoneal, lymphatic, haematogenous, implantation
- 4 The assessment of disease extent: detection and management of synchronous lesions, distant metastatic disease, pre-operative detection of local invasion, regional metastatic disease

#### Management of Colon Cancer:

- 4 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
- 4 The rationale and indications for the use of adjuvant chemotherapy

#### Management of Rectal Cancer:

- 3 Indications and contraindications, operative technique, pre and post-operative care, complications and outcomes for:
  - Local therapy: transanal, Kraske transsacral, York-Mason transsphincteric, transanal endoscopic microsurgery (TEM), fulguration, laser, endocavitary radiation
- 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 Rationale and indications for the use of adjuvant chemoradiotherapy
- 4 Current pre-operative staging techniques and role of pre-operative and post-operative radiotherapy

#### The Detection and Treatment of Recurrent and Metachronous Colon Cancer:

- 4 Patterns of recurrence
- 4 Detection of recurrence using CEA, colonoscopy and imaging

#### Pain Management:

- 3 Pain management programmes for intractable pain

#### Anal Neoplasia- general considerations:

- Anatomical, aetiology, and epidemiologic features:
  - 4 The significance of the anatomical distinction between the anal margin and the anal canal tumours
  - 4 The differential lymphatic drainage of the anal canal and margin
  - 4 The histological transition of the anal canal
  - 4 Demographics of anal neoplasia

- 4 Changing incidence of anal neoplasia
- 4 Association with sexual practices
- 4 High-risk groups
- 3 Staging classification of anal neoplasia

Anal Neoplasia - anal canal neoplasia:

- 3 Epidermoid carcinoma: histologic types, routes of metastasis/recurrence
- 3 Role of salvage therapies: abdominoperineal resection, chemotherapy, radiotherapy
- 2 Other anal canal malignancies: adenocarcinoma, small cell cancer, melanoma

Clinical Presentation:

- 4 Recognise the clinical signs and symptoms of patients presenting with colorectal cancer

Management of Colon Cancer:

- 4 Manage malignant change within an adenomatous polyp
- 4 Familiarity with the indications and contraindications to surgery, operative technique, pre- and post-operative care, outcomes and the complications of colon cancer
- 3 En-bloc resections of adjacent organs
- 3 Extended resections to include total abdominal colectomy

Management of Rectal Cancer:

The Detection and Treatment of Recurrent and Metachronous Colon Cancer:

- 3 Treatment of recurrent colorectal cancer: natural history, chemotherapy, resection, local ablation
- 3 Treatment of pelvic recurrence with radiation, chemotherapy, resection
- 3 Manage Carcinomatosis: with bowel obstruction, with ureteral obstruction
- 4 Palliative care

**Clinical Skills**

Miscellaneous Malignant Lesions of the Colon and rectum:

- 3 Recognise the clinical presentation, assess prognostic factors, and manage carcinoid - Ileal, appendiceal, colonic, rectal, carcinoid syndrome
- 3 Recognise the clinical presentation, assess prognostic factors, and manage lymphoma including its classification, treatment and risk factors
- 2 Recognise the clinical presentation, assess prognostic factors, and manage gastrointestinal stromal tumours
- 2 Recognise the clinical presentation, assess prognostic factors, and manage tumours metastasising to the colon - breast, melanoma, ovary

Anal Neoplasia- general considerations:

- 3 Diagnosis and management of lesions of the anal canal including HPV genotypes associated with cancer, HIV infection, anal intraepithelial neoplasia(AIN), immunosuppression

Anal Neoplasia - anal canal neoplasia:

2 Treatment of epidermoid carcinomas based on stage: local excision, chemoradiotherapy, abdominoperineal resection, inguinal node management

Anal Neoplasia - anal margin neoplasia:

3 Squamous cell carcinoma: clinical features, differential diagnosis, surgical management by local excision, chemoradiotherapy and abdominoperineal resection

3 Basal cell carcinoma: clinical features, differential diagnosis, management

3 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 Paget's disease: theories of histogenesis, clinical features, management

3 Buschke-Lowenstein tumour: clinical presentation and course, treatment options

Presacral lesions:

3 Clinical presentation, differential diagnosis, diagnostic evaluation and treatment of congenital lesions: epidermoid cysts, teratoma, anterior sacral meningocele, rectal duplication

3 Clinical presentation, differential diagnosis, diagnostic evaluation and treatment of neoplastic lesions: osseous (Ewing's sarcoma, giant-cell tumour), chordoma, neurogenic, miscellaneous

Management of Colon Cancer:

4 Hartmann's procedure

3 Colectomy-left

3 Colectomy-right

3 Colectomy-transverse

3 Colectomy-sigmoid

3 Colectomy-total+ileostomy

4 Colostomy-construction

4 Ileostomy-construction

Management of Rectal Cancer:

**Technical Skills  
and Procedures**

2 Transanal microsurgery

3 Peranal excision of rectal lesion

2 Rectum-posterior approach

3 Rectum-anterior resection

3 Rectum-anterior resection+coloanal anastomosis

3 Rectum-AP excision

3 Posterior pelvic clearance

2 Pelvic exenteration

2 Reoperation-pelvic malignancy

The Detection and Treatment of Recurrent and Metachronous Colon Cancer:

2 Pelvic malignancy - reoperation

Anal Neoplasia - anal canal neoplasia:

3 Anal tumour-excision  
3 Rectum-AP excision

Anal Neoplasia - anal margin neoplasia:

3 Anal tumour-excision  
3 Rectum-AP excision

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Inflammatory bowel disease</b>
<b>Category</b>	Final Special Interest Colorectal
<b>Sub-category:</b>	CR-C+D
	<i>Competency in the diagnosis, medical management with gastroenterology and primary surgical treatment of inflammatory bowel disease (does not include reoperation for IBD or ileoanal pouch surgery).</i>
	<i>History: Knowledge of the history of IBD.</i>
	<i>Aetiology: Knowledge of the aetiology of inflammatory bowel disease.</i>
	<i>Epidemiology: Knowledge of the epidemiology of inflammatory bowel disease.</i>
	<i>Clinical manifestations: Recognition of the clinical manifestations of inflammatory bowel disease and its severity.</i>
	<i>Differential diagnosis: Diagnosis of inflammatory bowel disease including indeterminate colitis.</i>
<b>Objective</b>	<i>Reproduction and inflammatory bowel disease: Manage IBD during pregnancy.</i>
	<i>Medical management of ulcerative colitis: Medical management of ulcerative colitis in consultation with gastroenterology.</i>
	<i>Cancer in ulcerative colitis: Understanding of the risk of cancer in ulcerative colitis and its management.</i>
	<i>Surgical management of ulcerative colitis: Surgical treatment of ulcerative colitis, not including full competency in ileoanal pouch surgery.</i>
	<i>Post-operative management of ulcerative colitis: Understanding of the post-operative care of patients with ulcerative colitis.</i>
	<i>Medical management of Crohn's disease: Medical management of Crohn's disease in consultation with gastroenterology.</i>

*Cancer in Crohn's disease: Understanding of the risk of cancer in Crohn's disease and its management.*

*Complications of Crohn's disease: Recognition and appropriate referral of the complications of Crohn's disease.*

*Surgical management of Crohn's disease: Primary surgical management of straightforward Crohn's disease.*

*Anorectal Crohn's Disease: Management of patients with simple anorectal Crohn's disease.*

*Other inflammatory conditions- ischaemic colitis: Competency in the management of ischaemic colitis*

*Other inflammatory conditions- radiation bowel disease: Understanding of the principles of management of radiation bowel disease.*

*Other inflammatory conditions- miscellaneous colitides: Understanding of the principles of management of the less common colitides.*

*Other inflammatory conditions- infectious colitis: Diagnosis and management of infectious colitis in consultation with infectious disease physicians.*

History:

3 The initial description of Crohn's disease and its distinction from ulcerative colitis

Aetiology:

4 The contribution of genetics and immune function to the development of inflammatory bowel disease (IBD)

4 The possible influence of infectious agents, psychological issues and environmental factors

Epidemiology:

**Knowledge** 4 The epidemiologic features of Crohn's disease and ulcerative colitis

Clinical manifestations:

3 The criteria for severity of disease as defined by Crohn's disease activity index and Truelove classification

Differential diagnosis:

4 The endoscopic, radiographic, and laboratory findings of ulcerative colitis and Crohn's disease

3 The distinguishing histologic characteristics of ulcerative colitis and disease

4 The differential diagnosis of Inflammatory Bowel Disease

3 Indeterminate colitis

Reproduction and inflammatory bowel disease:

- 3 The interaction of IBD and pregnancy
- 3 The impact of IBD on fertility
- 3 Drug therapy, investigations and surgery during pregnancy

Medical management of ulcerative colitis:

- 3 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
- 4 Understand the role of nutritional support in the management of ulcerative colitis

Cancer in ulcerative colitis:

- 4 The risk of cancer, with the factors increasing risk

Surgical management of ulcerative colitis:

- 3 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 Understand the operative management of indeterminate colitis

Medical management of Crohn's disease:

- 3 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
- 4 Understand the role of nutritional support in Crohn's disease

Cancer in Crohn's disease:

- 4 Risk of large and small bowel carcinoma and risk factors

Surgical management of Crohn's disease:

- 4 Awareness of the indications for surgery for Crohn's disease including: intractability, intestinal obstruction, fistula/abscess, complications

Other inflammatory conditions- ischaemic colitis:

- 4 Vascular anatomy of the colon
- 4 The aetiology of acute colonic ischemia

Other inflammatory conditions- radiation bowel disease:

- 3 Risk factors for and susceptibility to injury from radiotherapy
- 3 Mechanisms of acute and chronic radiation injury

- 3 Microscopic findings of radiation injury
- 3 Understand surgical options for radiotherapy injuries

Other inflammatory conditions- infectious colitis:

- 4 Epidemiology, aetiology, pathogenesis, laboratory and endoscopic evaluation, medical management and indications for surgery for clostridium difficile colitis
- 3 In suspected infectious colitis understand relevance of travel history, role of stool culture, testing for ova, cysts and parasites and hot stool sample for amoebiasis, role of lower GI endoscopy with biopsy for histological evaluation and culture, role of rectal and perineal swabs, role of serology in the detection of amoebiasis and strongyloidiasis, infectious colitis as a precipitating factor for inflammatory bowel disease
- 3 Management of diarrhoea in the immunocompromised patient including HIV

Clinical manifestations:

- 4 Recognise and compare the clinical pattern, presenting symptoms, physical findings and natural history of ulcerative colitis and Crohn's disease
- 3 The extraintestinal manifestations of IBD

Differential diagnosis:

- 4 Diagnostic assessment for inflammatory bowel disease to exclude other colitides

Medical management of ulcerative colitis:

- 4 Recognise the presentation and manage proctitis, left-sided colitis, extensive colitis, severe acute colitis, toxic megacolon
- 4 Joint management of a patient unresponsive to initial treatment

Cancer in ulcerative colitis:

- 3 Organise surveillance and interpret biopsy results of dysplasia

Surgical management of ulcerative colitis:

- 3 Indications and contraindications, operative technique, post-operative care, functional results, and complications of the operations for ulcerative colitis

Post-operative management of ulcerative colitis:

- 4 Trainees will be able to recognise and describe the management of 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
- 4 Follow-up for retained rectum after colectomy

Medical management of Crohn's disease:

- 4 Treatment specific to the site of involvement in a patient with Crohn's disease

## **Clinical Skills**

3 Medical management of a patient unresponsive to initial treatment

Cancer in Crohn's disease:

4 Organise surveillance and interpret biopsy results of dysplasia

Complications of Crohn's disease:

2 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

Surgical management of Crohn's disease:

3 Indications and contraindications, operative technique, post-operative care, functional results, risk of recurrence, and complications of operations for Crohn's disease

Anorectal Crohn's Disease:

3 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

Other inflammatory conditions- ischaemic colitis:

4 Recognise the clinical presentation of ischaemic colitis

4 Recognise the natural history, diagnosis, and be able to manage ischaemic colitis

4 Recognise and manage ischaemic colitis after abdominal aortic aneurysm repair

Other inflammatory conditions- radiation bowel disease:

3 manage the complications of radiotherapy: fistula, obstruction, malabsorption, necrosis, haemorrhage

4 arrange local therapy for radiation proctitis

Other inflammatory conditions- miscellaneous colitides:

2 Manage the following: diversion colitis, neutropenic enterocolitis, collagen-vascular colitis, microscopic colitis

Surgical management of ulcerative colitis:

4 Colectomy-total+ileostomy

4 Colectomy-total+ileorectal anastomosis

**Technical Skills** 3 Rectum-panproctocolectomy+ileostomy

**and Procedures** 3 Ileoanal anastomosis+creation of pouch

Surgical management of Crohn's disease:

3 Rectum-panproctocolectomy+ileostomy



4 Colectomy-right  
 4 Colectomy-transverse  
 4 Colectomy-left  
 4 Colectomy-sigmoid  
 4 Colectomy-total+ileostomy  
 4 Colectomy-total+ileorectal anastomosis  
 4 Crohn's-ileocaecectomy  
 3 Strictureplasty-Crohn's  
 4 Gastroenterostomy  
 2 Reoperation-inflammatory bowel disease  
 2 Intestinal fistula operation  
 2 Fistula-in-ano-high-advancement flap  
 2 Fistula-in-ano-high-cutting seton  
 3 Fistula in ano-high-drainage seton  
 2 Fistula-in-ano-high-other  
 3 Fistula-in-ano-low-lay open  
 2 Fistula-operation for rectovaginal fistula

Anorectal Crohn's Disease:

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Functional disorders</b>
<b>Category</b>	Final Special Interest Colorectal
<b>Sub-category:</b>	CR-C+D
	<i>Basic skills in the management of faecal incontinence, chronic constipation, rectal prolapse, and other functional disorders of the pelvic floor.</i>
	<i>Faecal Incontinence-Epidemiology: Understanding of the epidemiology of faecal incontinence.</i>
	<i>Faecal Incontinence-Evaluation: Basic understanding of the causes, clinical findings and physiological findings in faecal incontinence.</i>
	<i>Faecal Incontinence-Non-operative Management: Ability to manage most faecal incontinence by non-operative means.</i>
<b>Objective</b>	<i>Faecal Incontinence-Operative management: Knowledge of the alternatives for operative treatment of faecal incontinence.</i>
	<i>Rectal Prolapse: Management of most patients with rectal prolapse.</i>
	<i>Solitary Rectal Ulcer: Diagnose solitary ulcer syndrome.</i>
	<i>Constipation-General Consideration: Basic investigation of patients with constipation and treatment of patients with non-specific constipation.</i>
	<i>Constipation-Outlet obstruction: Understanding of the principles of management of outlet obstruction constipation.</i>

*Constipation-Specific Conditions: Motility Disorders: Management of colonic inertia and colonic pseudo-obstruction.*

*Irritable Bowel Syndrome: Competency in the management of irritable bowel syndrome.*

*Chronic rectal pain syndrome: Understanding of the principles of management of chronic rectal pain syndromes.*

Faecal Incontinence-Epidemiology:

4 Classification of the various types of incontinence, their incidence and their pathophysiology

Faecal Incontinence-Evaluation:

3 Anatomical, neurological, dermatological, and endoscopic findings that differentiate various types of incontinence

3 Normal and abnormal findings in imaging studies used in incontinence including MRI

3 Knowledge of a scoring system for faecal incontinence

Faecal Incontinence-Non-operative Management:

4 Indications, uses and results of biofeedback in incontinence

Faecal Incontinence-Operative management:

3 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 Understand the concept of antegrade continent enema conduits

**Knowledge**

Rectal Prolapse:

4 The incidence, pathophysiology and epidemiology of rectal prolapse

4 Appropriate management of incarcerated and strangulated rectal prolapse

3 Understanding of internal intussusception, with its radiological findings and treatment options

3 Understand the perineal and abdominal surgical options for prolapse with the indications for each approach, complications, recurrence rate and functional results

Solitary Rectal Ulcer:

3 Understand the associated pelvic floor disorder

Constipation-General Consideration:

4 Physiology (including gut hormones and peptides) and the process of defecation

4 Definition of constipation and its epidemiology

3 Classification of types and causes of constipation differential diagnosis in a patient with constipation

4 Different types of laxatives and describe the indications, contraindications, modes of action, and complications of each: stimulant, osmotic, bulk-forming, lubricant

Constipation-specific conditions; outlet obstruction:

3 Diagnostic criteria for anismus

3 Indications, techniques, complications and results of rectocele repair

Constipation-Specific Conditions; Motility Disorders:

4 Role of colectomy in colonic inertia including indications, complications and expected results

4 Common causative factors for colonic pseudo-obstruction

Chronic rectal pain syndrome:

3 Differential diagnosis for rectal pain including levator ani syndrome, proctalgia fugax, chronic idiopathic pelvic pain, coccygodynia

Faecal Incontinence-Evaluation:

4 Take a directed history to differentiate types of incontinence

4 Perform a physical examination to differentiate types of incontinence

2 Identify and interpret anorectal physiology tests

Faecal Incontinence-Non-operative Management:

3 Outline a non-operative bowel management plan incorporating : dietary measures, medications, enemas, perineal skin care, anal plug

3 Make a treatment plan for a patient with incontinence, including knowledge of side-effects

Faecal Incontinence-Operative management:

2 Select patients for operation according to the physical and laboratory findings

2 Select type of operative repair

3 Select patients for temporary and permanent faecal diversion

## Clinical Skills

Rectal Prolapse:

4 Identify the associated anatomical findings of rectal prolapse and its clinical presentation including functional disturbances and physical findings

4 Differentiate between mucosal prolapse, prolapsing internal haemorrhoids and rectal prolapse

3 Manage constipation and incontinence in the context of rectal prolapse

3 Perform operation for rectal prolapse - perineal or abdominal; open or laparoscopic

2 Manage a patient with recurrent rectal prolapse

Solitary Rectal Ulcer:

3 Recognise the clinical presentation, endoscopic and histological findings in a patient with solitary rectal ulcer

2 Utilise appropriate medical/surgical treatment options

Constipation-General Consideration:

4 Take a directed history for a patient with constipation and perform a directed physical examination

2 Arrange a treatment plan based on endoscopic, radiological and physiology tests: defaecating proctogram, transit studies, anorectal manometry, EMG, balloon expulsion, contrast enema, endoscopy

4 Identify melanosis coli on endoscopy and discuss its significance

3 Plan a treatment programme for a patient with constipation that may include the following: dietary measures, fibre, laxatives, prokinetic medications, enemas, suppositories, psychological support

Constipation-specific conditions; outlet obstruction:

2 Management of anismus: medical management, biofeedback, botulinum toxin, surgery

2 Manage short segment/adult Hirschsprung's disease

3 Recognise the clinical presentation of symptomatic rectocele

2 Diagnosis and both non-operative and operative management of enterocele and sigmoidocele

Constipation-Specific Conditions; Motility Disorders:

3 Evaluation and management of recurrent constipation after colectomy

4 Evaluate a patient with suspected colonic pseudo-obstruction

4 Manage a patient with colonic pseudo-obstruction by medical or surgical means

Irritable Bowel Syndrome:

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

Chronic rectal pain syndrome:

2 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

Faecal Incontinence-Operative management:

2 Anal sphincter repair including postanal repair, anterior sphincter repair

1 Anal sphincter-artificial sphincter/sacral nerve stimulation

**Technical Skills  
and Procedures**

Rectal Prolapse:

3 Prolapse-abdominal rectopexy

3 Prolapse-rectopexy+sigmoid resection

2 Prolapse-perineal repair

Constipation-specific conditions; outlet obstruction:

3 Rectocele repair

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Stomas</b>
<b>Category</b>	Final Special Interest Colorectal
<b>Sub-category:</b>	CR-C+D
	<i>Competency in the formation and management of most stomas in consultation with stoma care nurses.</i>
	<i>Indications for stomas: Understanding of the indications for stomas and different types of stoma.</i>
	<i>Pre-operative Evaluation for stomas: Competency in the pre-operative care of a patient requiring a stoma.</i>
	<i>Stoma creation and closure: Competency in the construction and closure of an ileostomy and a colostomy.</i>
<b>Objective</b>	<i>Post-operative Care: Competency in the post-operative care of patients after stoma formation.</i>
	<i>Complications: Competency in the management of early and most of the late complications of stoma formation.</i>
	<i>Stoma Management: Competency in the management of stomas in consultation with stoma care nurses.</i>
	<i>Stoma Physiology: Knowledge of the physiology of different stomas.</i>
	<i>Patient Education and Counselling: Knowledge of the information needed by a patient with a stoma.</i>
	Indications for stomas:
	4 Indications for colostomy
	4 Indications for ileostomy
	4 Types of stomas (loop, end, end loop, double barrel) in relation to indications
	Complications:
<b>Knowledge</b>	4 high-output ileostomy
	Stoma Management:
	3 stoma appliances, and appropriate selection
	3 indications, contraindications and complications for stoma irrigation
	Stoma Physiology:
	4 The physiologic changes associated with ileostomy, colostomy, urostomy

- 4 Normal ileostomy function including anticipated daily outputs and changes that occur in output with post-operative adaptation
- 4 Causes of high output stomas
- 4 Differential diagnosis of high output

Patient Education and Counselling:

- 4 The possible effects that a stoma may have on medication dosage and absorption

Pre-operative Evaluation for stomas:

- 4 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 Demonstrate proper siting and marking techniques for all stoma placement, including such considerations as scars, the umbilicus, skin creases, belt and clothing and positioning (standing, sitting and supine positions)

Stoma creation and closure:

- 4 Perform stoma construction and closure
- 4 Organise preparation for stoma closure in the case of temporary faecal diversion including: timing of closure, necessary pre-operative evaluation, care of the post-operative stoma site wound

Post-operative Care:

- 4 Appreciate the normal post-operative course for colostomy and ileostomy function
- 4 Recognise the signs, symptoms and management for the following complications that occur in the immediate post-operative period: ischaemia, mucocutaneous separation

**Clinical Skills**

Complications:

- 4 Recognise and manage high-output ileostomy
- 4 Recognise parastomal skin irritation of significance, list a differential diagnosis, and make recommendations for appropriate management
- 4 Manage ileostomy and colostomy prolapse
- 3 Management of parastomal hernia
- 4 Recognise and manage skin conditions associated with stomas
- 4 Recognise and manage ileostomy food obstruction

Stoma Management:

- 4 Early post-operative management of conventional stoma
- 3 Advise on various skin barriers and accessory products available for the management of stomas
- 3 Management of a retracted stoma
- 3 Advise on dietary considerations for patients with an ileostomy or a colostomy, including impact of diet on stoma output, flatus, odour, bolus obstruction

Stoma Physiology:

4 Appropriately manage fluid and electrolyte abnormalities

Patient Education and Counselling:

3 Demonstrate stoma bag emptying, stoma bag changing, management of leakage

Stoma creation and closure:

4 Ileostomy-construction

4 Colostomy-construction

4 Ileostomy-closure

4 Colostomy-closure

4 Hartmann's reversal

**Technical Skills and Procedures**

Complications:

4 Colostomy-revision

4 Ileostomy-revision

3 Hernia repair-parastomal

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic**

**Endoscopy for lower GI Surgeons (Flexible siggy + endoscopy for CR surgeons)**

**Category**

Final Special Interest Colorectal

**Sub-category:**

CR-C+D

*Competency in diagnostic and therapeutic proctoscopy, rigid sigmoidoscopy, flexible sigmoidoscopy and colonoscopy.*

*This section is based on guidelines from the Joint Advisory Group in Endoscopy.*

*Equipment: Knowledge of the principles of flexible endoscopy.*

**Objective**

*Sedation and monitoring: Ability to sedate a patient safely for endoscopy.*

*Proctoscopy: Ability to perform proctoscopy.*

*Rigid sigmoidoscopy: Ability to perform rigid sigmoidoscopy.*

*Flexible sigmoidoscopy: Ability to perform flexible sigmoidoscopy.*

*Colonoscopy: Ability to perform diagnostic and therapeutic colonoscopy.*

Equipment:

**Knowledge**

3 Structure and function of an endoscope, processor and accessories, including diathermy

Sedation and monitoring:

4 Sedative and analgesic drugs and side-effects

- 4 Appropriate patient monitoring
- 4 Treatment of adverse effects

Proctoscopy:

- 4 Indications for proctoscopy
- 4 Complications of proctoscopy

Rigid sigmoidoscopy:

- 4 Indications for rigid sigmoidoscopy
- 4 Complications of rigid sigmoidoscopy
- 4 Patient preparation and documentation

Flexible sigmoidoscopy:

- 4 Indications for flexible sigmoidoscopy
- 4 Complications of flexible sigmoidoscopy
- 4 Patient preparation and documentation
- 4 Basic Skills in Endoscopy course

Colonoscopy:

- 4 Indications for colonoscopy
- 4 Complications of colonoscopy
- 4 Patient preparation and documentation
- 4 Colonoscopy course

Equipment:

- 3 Clean and disinfect equipment in accordance with BSG guidelines
- 3 Use equipment in accordance with manufacturer's instructions

Sedation and monitoring:

- 4 Ability to safely and effectively sedate a patient for endoscopy
- 4 Monitor appropriately before, during and after procedure

**Clinical Skills** Flexible sigmoidoscopy:

- 4 Deal appropriately with findings, including biopsy
- 4 At least 100 procedures performed within a year, 50 supervised and 50 with immediate advice available

Colonoscopy:

- 4 Deal appropriately with findings, including biopsy
- 4 At least 100 procedures performed within a year. Caecal intubation rates of >90% if no stricture or marked faecal contamination

Proctoscopy:

**Technical Skills  
and Procedures**

- 4 Proctoscopy
- 4 Haemorrhoids-OP treatment(injection, banding or infrared coagulation)



Rigid sigmoidoscopy:

4 Sigmoidoscopy-rigid

Flexible sigmoidoscopy:

4 Sigmoidoscopy-flexible

Colonoscopy:

4 Colonoscopy-diagnostic

4 Colonoscopy+polypectomy

4 Colonoscopy+EMR

4 Colonoscopy+laser

4 Colonoscopy-stent insertion

4 Colonoscopy-stricture dilatation

4 Colonoscopy-therapeutic(other)

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Nutrition for GI surgeons</b>
<b>Category</b>	Final Special Interest Colorectal
<b>Sub-category:</b>	CR-C+D
<b>Objective</b>	<i>Recognise the need for artificial nutritional support, assess whether this is appropriate and manage straightforward treatment with enteral or parenteral nutrition.</i> Malnutrition:  3 Effects of malnutrition, both excess and depletion 3 Methods of screening and assessment
<b>Knowledge</b>	Artificial Nutritional Support:  4 Indications for enteral and parenteral nutrition 4 Means of access for enteral and parenteral nutrition 4 Complications of enteral and parenteral nutrition Malnutrition:  3 Arrange access to suitable artificial nutritional support, preferably via a nutrition team: Dietary supplements 3 Arrange access to suitable artificial nutritional support, preferably via a nutrition team: Enteral nutrition
<b>Clinical Skills</b>	2 Arrange access to suitable artificial nutritional support, preferably via a nutrition team: Parenteral nutrition  Artificial Nutritional Support:  2 Assessment of nutritional requirements with the aid of a dietician 2 Prescription of parenteral feed with the aid of a pharmacist
<b>Technical Skills and Procedures</b>	Artificial Nutritional Support:

- 2 Gastroscopy+PEG insertion
- 3 Central venous line insertion

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Benign anorectal</b>
<b>Category</b>	Final Special Interest Colorectal
<b>Sub-category:</b>	CR-E+F
<b>Objective</b>	<p><i>Competency in the diagnosis and all medical and surgical treatments of common benign anorectal disease.</i></p> <p><i>Haemorrhoids: Competency in the diagnosis and all medical and surgical treatments for haemorrhoids.</i></p> <p><i>Anal Fissure: Competency in the diagnosis and the medical and surgical treatment of anal fissure.</i></p> <p><i>Abscess and fistula: Competency in the diagnosis and the medical and surgical treatment of abscess and fistula-in-ano.</i></p> <p><i>Hidradenitis Suppurativa: Competency in the diagnosis and management of hidradenitis suppurativa.</i></p> <p><i>Pilonidal Disease: Competency in the management of pilonidal disease.</i></p> <p><i>Anal Stenosis: Competency in the management of anal stenosis.</i></p> <p><i>Pruritus Ani: Competency in the management of pruritis ani.</i></p> <p><i>Sexually Transmitted Diseases: Appropriate management of sexually transmitted disease in consultation with other specialists.</i></p>
<b>Knowledge</b>	<p>Haemorrhoids:</p> <ul style="list-style-type: none"> <li>4 Aetiology of internal and external haemorrhoids</li> <li>4 Anatomical distinctions between internal and external haemorrhoids</li> <li>4 Classifications for internal haemorrhoids</li> <li>4 Modifications of therapy with : Inflammatory bowel disease (IBD), Pregnancy, HIV, Coagulopathies, portal hypertension/rectal varices</li> </ul> <p>Anal Fissure:</p> <ul style="list-style-type: none"> <li>4 Aetiology of anal fissure</li> <li>4 Anatomical location of a classic anal fissure</li> </ul> <p>Abscess and fistula:</p> <ul style="list-style-type: none"> <li>4 The origin of cryptoglandular abscess and fistula</li> <li>4 Classification of anorectal cryptoglandular abscess-based on anatomical</li> </ul>

spaces

4 Parks classification of anal fistula

4 The natural history of surgically-treated anal abscess, including the risk of fistula formation

4 Operative strategy for anal fistula based on sphincter involvement/location

4 Complications resulting from abscess/fistula surgery: recurrence, incontinence

Hidradenitis Suppurativa:

4 Pathophysiology of hidradenitis suppurativa

Pilonidal Disease:

4 Pathophysiology of pilonidal disease

Anal Stenosis:

4 Aetiology

Pruritus Ani:

4 Aetiology and clinical presentation of pruritus ani

Sexually Transmitted Diseases:

4 Aetiology of condylomata acuminata

4 Aetiology of HIV, syphilis, gonorrhoea, chlamydia, herpes

4 Influence of human papilloma virus serotypes on the subsequent development of cancer

Haemorrhoids:

4 Assessment of the signs and symptoms of the following: thrombosed external haemorrhoids, internal haemorrhoids by stage, skin tags

4 Management of haemorrhoids including the indications and contraindications for: rubber-band ligation, injection sclerotherapy, infrared coagulation, laser, operative and stapled haemorrhoidectomy

4 Perform two of the OPD techniques

4 Manage the complications resulting from OPD management: bleeding, pain, sepsis

**Clinical Skills**

4 Manage the complications resulting from haemorrhoidectomy: urinary retention, haemorrhage, faecal impaction, infection

Anal Fissure:

4 Assessment of the signs and symptoms of anal fissure

4 Arrange the nonoperative management of anal fissure, including indications, contraindications, and complications of stool modifications/softeners, topical anaesthetics, topical pharmacology, botulinum toxin

4 Indications, contraindications, and complications of the following: lateral internal sphincterotomy anal stretch, anal advancement flap

4 Pre and post-operative care of lateral sphincterotomy, anal advancement flap

for fissure

4 Treat complications resulting from operations; persistent fissure, incontinence, stenosis, 'key-hole' deformity

Abscess and fistula:

4 Differentiate cryptoglandular abscess and fistula from other causes

4 Assessment of abscess/fistula by techniques designed to elucidate pathological anatomy: Goodsall's rule and digital examination, fistulogram, injections, MRI, endoanal ultrasound

4 Management of anorectal abscess including pre-operative and post-operative care and the appropriate procedure based on anatomical spaces

4 Treatment options for fistula-in-ano including fibrin glue

4 Modify therapy for: necrotising fasciitis/Fournier's gangrene, Leukaemia, other immunocompromised patients, inflammatory bowel disease

4 Manage rectovaginal fistula with regard to classification, pre-operative evaluation, and treatment of rectovaginal fistula, based on location and aetiology

4 Arrange pre and post-operative care for rectovaginal fistula due to obstetric injury

4 Manage rectourethral fistula depending on location and aetiology

Hidradenitis Suppurativa:

4 Assess the symptoms and signs of hidradenitis suppurativa

3 Manage hidradenitis suppurativa by both medical and surgical means

Pilonidal Disease:

4 Assess the symptoms and signs of pilonidal disease: abscess, sinus

4 Perform surgical management of pilonidal disease

Anal Stenosis:

4 Arrange nonoperative management

3 Operative management of anal stenosis including division of stricture and flap procedures

Pruritus Ani:

4 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 pruritus ani

Sexually Transmitted Diseases:

4 Diagnosis of condylomata acuminata

3 Diagnosis and treatment of HIV, syphilis, gonorrhoea, chlamydia, herpes

4 Medical (topical chemicals) and surgical treatment options for condylomata acuminata

Haemorrhoids:

- 4 Haemorrhoids-OP treatment(injection, banding or infrared coagulation)
- 4 Haemorrhoidectomy-operative
- 4 Haemorrhoidectomy-stapled

Anal Fissure:

- 4 Lateral sphincterotomy
- 3 Anal advancement flap for fissure/stenosis

Abscess and fistula:

- 4 Fistula-in-ano-low-lay open
- 4 Fistula-in-ano-high-drainage Seton
- 4 Fistula-in-ano-high-cutting seton
- 4 Fistula-in-ano-high-advancement flap
- 4 Fistula-operation for rectovaginal fistula

**Technical Skills  
and Procedures**

Pilonidal Disease:

- 4 Pilonidal sinus-lay open
- 4 Pilonidal sinus-excision+suture
- 3 Pilonidal sinus-graft or flap

Anal Stenosis:

- 3 Anal advancement flap for fissure/stenosis

Sexually Transmitted Diseases:

- 4 Anal skin tags/warts-excision

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Benign colon</b>
<b>Category</b>	Final Special Interest Colorectal
<b>Sub-category:</b>	CR-E+F
<b>Objective</b>	<i>Competency in the diagnosis and treatment of benign colonic disease.</i>
	<i>Diverticular Disease: Ability to assess and manage diverticular disease.</i>
	<i>Volvulus: Competency in the diagnosis and treatment of colonic volvulus.</i>
	<i>Rectal bleeding: Ability to appropriately investigate rectal bleeding.</i>

*Massive lower GI bleeding: Management of massive lower GI tract bleeding.*

*Vascular Malformations: Management of patients with vascular malformations of the lower GI tract.*

*Endometriosis: Management of endometriosis affecting the GI tract with the gynaecologists.*

*Colon Trauma: Competency in the appropriate diagnosis and treatment of colon trauma.*

*Rectal Trauma: Competency in the diagnosis and treatment of rectal trauma.*

*Anal Trauma: Competency in the management of anal trauma.*

*Foreign Bodies: Manage patients with rectal foreign bodies.*

Diverticular Disease:

- 4 Aetiology of colonic diverticular disease
- 4 Incidence and epidemiology of colonic diverticular disease
- 4 Complications and classification of diverticular disease including : bleeding, perforation, abscess, fistula, stricture
- 4 Hinchey classification of complicated diverticular disease

Volvulus:

- 4 Aetiology of volvulus of the colon
- 4 Incidence and epidemiology of volvulus of the colon
- 4 Complications of colonic volvulus including obstruction, ischaemia, perforation

Rectal bleeding:

- 4 Aetiology of lower GI bleeding

Massive lower GI bleeding:

- 4 Aetiology of massive lower GI bleeding
- 4 Utility, specificity and sensitivity of colonoscopy, angiography and radioisotope scintigraphy in evaluation of lower GI bleeding
- 4 Angiographic treatment of lower GI bleeding
- 4 Evaluation of recurrent lower GI bleeding, including use of enteroscopy, exploratory laparotomy and intraoperative endoscopy

Vascular Malformations:

- 4 Aetiology of angiodysplasia
- 4 Classification of haemangiomas, their clinical presentations and predominant GI sites

## **Knowledge**

Endometriosis:

- 3 Pathophysiology of endometriosis
- 4 Indications for intervention and the operative and non-operative management of endometriosis

Colon Trauma:

- Uses and limitations of the following imaging and diagnostic tests in the evaluation of blunt abdominal trauma
- 4 Plain abdominal films
- 4 Computed tomography scan
- 4 Ultrasound
- 4 Peritoneal lavage

Rectal Trauma:

- 4 Identify clinical situations requiring evaluation for rectal trauma

Anal Trauma:

Foreign Bodies:

Diverticular Disease:

- 4 Recognise the clinical patterns (including right sided diverticular disease) presenting symptoms, physical findings and natural history of colonic diverticular disease
- 4 Arrange appropriate diagnostic studies in suitable sequence in the evaluation of both acute and chronic colonic diverticular disease
- 4 Medical and dietary management of colonic diverticular disease
- 4 Medical management for acute diverticulitis
- 4 Pre-operative assessment including the indications for surgery, surgical procedures, and complications for acute diverticulitis
- 4 Choose appropriate surgical procedures including CT guided drainage for the management of acute diverticulitis
- 4 Perform appropriate resection for diverticular disease including consideration of the extent of resection, use of ureteral stents, and indications for diversion
- 4 Appropriate surgical procedures for dealing with complications (fistula, stricture, recurrent episodes) of acute diverticulitis
- 4 Patient selection and techniques for reversal of Hartmann's procedure including use of ureteral stents and indications for diversion

**Clinical Skills**

Volvulus:

- 4 Recognise the clinical patterns, presenting symptoms, physical findings, and natural history of colonic volvulus based upon its site
- 4 Arrange diagnostic studies in appropriate sequence
- 4 Appropriate operative procedures for volvulus depending on site

Rectal bleeding:

- 4 Arrange appropriate evaluation of the patient based on age and other medical

conditions

Massive lower GI bleeding:

- 4 Assess haemodynamic stability and outline a resuscitation plan
- 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
- 4 Perform endoscopic treatment of lower GI bleeding including coagulation, injection therapy and laser ablation
- 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
- 4 Perform intraoperative evaluation and management of persistent massive lower GI bleeding without an identified site
- 4 Manage post-operative lower GI bleeding

Vascular Malformations:

- 4 Assess clinical presentation and endoscopic findings of angiodysplasia
- 4 Manage the patient with regard to indications for intervention and the operative and nonoperative management of angiodysplasia
- 4 Arrange radiologic and endoscopic evaluation of patients with haemangiomas
- 4 Arrange nonoperative and operative management, based on location

Endometriosis:

- 4 Recognition of the clinical presentation and the endoscopic and laparoscopic findings of endometriosis

Colon Trauma:

- 4 Manage the patient with penetrating abdominal trauma with understanding of the criteria for exploratory laparotomy, wound exploration, peritoneal lavage
- Perform appropriate surgical management of colon trauma in the context of the severity of associated injuries and stability of medical condition, including the following:
- 4 Manage a patient, either operatively or non-operatively with colonic trauma due to colonoscopic perforation or laparoscopic perforation

Rectal Trauma:

- 4 Diagnosis of rectal trauma and associated injuries
- 4 Perform surgical management of rectal trauma including drainage, faecal diversion, rectal washout, primary repair

Anal Trauma:

- 4 Manage traumatic anal injuries by faecal diversion, and/or repair

Foreign Bodies:



- 4 Evaluate patients with rectal foreign bodies
- 4 Perform various methods of extraction of foreign bodies and assess the indications for surgery
- 4 Manage postextraction evaluation with regard to indications for inpatient observation and indications for surgery

Diverticular Disease:

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

Volvulus:

- 4 Sigmoidoscopy-rigid
- 4 Sigmoidoscopy-flexible
- 4 Colonoscopy-diagnostic
- 4 Colonoscopy-therapeutic

Massive lower GI bleeding:

- 4 Colonoscopy-diagnostic
- 4 Colonoscopy-therapeutic
- 4 Colectomy-total+ileostomy
- 4 Colectomy-right
- 4 Colectomy-left
- 4 Colectomy-sigmoid
- 4 Colostomy-construction
- 4 Hartmann's procedure
- 4 Ileostomy-construction

**Technical Skills  
and Procedures**

Vascular Malformations:

- 4 Colonoscopy-diagnostic
- 4 Colonoscopy-therapeutic

Colon Trauma:

- 4 Colon-primary repair
- 4 Colectomy-right
- 4 Colectomy-left
- 4 Colectomy-sigmoid
- 4 Colectomy-transverse
- 4 Colectomy-total+ileostomy
- 4 Hartmann's procedure
- 4 Colostomy-construction
- 4 Ileostomy-construction

Rectal Trauma:

- 4 Colostomy-construction
- 4 Hartmann's procedure

4 Ileostomy construction  
3 rectum-operation for trauma

Anal Trauma:

4 Colostomy construction  
3 Anal sphincter repair including postanal repair, anterior sphincter repair +  
rectocele repair

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Colorectal neoplasia</b>
<b>Category</b>	Final Special Interest Colorectal
<b>Sub-category:</b>	CR-E+F
	<i>Competency in the diagnosis and the medical and surgical treatment of colorectal neoplasia.</i>
	<i>Epidemiology of Colorectal Cancer and Polyps: Knowledge of the epidemiology of colorectal cancer and polyps.</i>
	<i>Aetiology: Detailed knowledge of the aetiology of colorectal neoplasia.</i>
	<i>Colorectal Cancer Screening: Knowledge of the principles of colorectal cancer screening.</i>
	<i>Clinical Presentation: Recognise the symptoms and signs of colorectal cancer at different sites.</i>
<b>Objective</b>	<i>Staging and Prognostic Factors: Detailed understanding of staging and prognostic factors for colorectal cancer.</i>
	<i>Management of Colon Cancer: Management of all patients with colon cancer.</i>
	<i>Management of Rectal Cancer: Management of patients with rectal cancer.</i>
	<i>The Detection and Treatment of Recurrent and Metachronous Colon Cancer: Ability to detect and manage recurrent colon and rectal cancer.</i>
	<i>Pain Management: Ability to manage severe pain.</i>
	<i>Miscellaneous Malignant Lesions of the Colon and rectum: Ability to manage more unusual tumours of the colon and rectum.</i>
	<i>Anal Neoplasia- general considerations: Understanding of the pathophysiology and the management of anal neoplasia.</i>

*Anal Neoplasia - anal canal neoplasia: Ability to diagnose and manage anal canal neoplasia.*

*Anal Neoplasia - anal margin neoplasia: Ability to diagnose and manage anal margin neoplasia.*

*Presacral lesions: Ability to manage presacral lesions.*

Epidemiology of Colorectal Cancer and Polyps:

4 Epidemiology of colorectal cancer and polyps including incidence and prevalence, influence of socio-economic, racial and geographic factors

Aetiology:

3 Aetiological factors in colorectal neoplasia:

4 Diet: fat, fibre, calcium, selenium, vitamins (antioxidants), dietary inhibitors, alcohol and smoking, prostaglandin inhibitors

4 Adenoma-carcinoma sequence: evidence, categorise adenomas into low risk, intermediate and high risk and discuss screening procedures, significance of metaplastic polyps

4 De novo carcinoma

4 Susceptibility to colorectal cancer (CRC): family history, Personal Past History (CRC, Polyps, Other Cancers), groups at risk, genetic pathways for colorectal carcinogenesis

4 Hereditary nonpolyposis colorectal cancer (HNPCC): clinical features, Amsterdam criteria and modifications, extracolonic cancer risk, genetic basis, genetic testing/counselling, surveillance options/limitations, surgical options/limitations

**Knowledge**

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 Hamartomas: definition, juvenile polyposis, Peutz-Jeghers syndrome

Colorectal Cancer Screening:

Current screening strategies for the following:

4 The general population

4 Persons at moderate risk

4 Persons at high risk

Clinical Presentation:

4 Distribution of CRC within the colon

Staging and Prognostic Factors:

4 The evolution of staging systems

4 Current staging systems (Dukes, TNM)

4 Clinical prognostic factors: age, mode of presentation, clinical stage, blood transfusion

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 The significance of extent of disease including patterns of spread: direct continuity, intramural, transmural, distal margins, circumferential margins, transperitoneal, lymphatic, haematogenous, implantation

4 The assessment of disease extent: detection and management of synchronous lesions, distant metastatic disease, pre-operative detection of local invasion, regional metastatic disease

Management of Colon Cancer:

4 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

4 The rationale and indications for the use of adjuvant chemotherapy

Management of Rectal Cancer:

4 Indications and contraindications, operative technique, pre and post-operative care, complications and outcomes for:

Local therapy: transanal, Kraske transsacral, York-Mason transsphincteric, transanal endoscopic microsurgery(TEM), fulguration, laser, endocavitary radiation

4 Sphincter-sparing resections: high and low anterior resection, tumour specific mesorectal excision, total mesorectal excision, coloanal anastomosis with or without colonic J pouch

4 Rationale and indications for the use of adjuvant chemoradiotherapy

4 Current pre-operative staging techniques and role of pre and post-operative radiotherapy

The Detection and Treatment of Recurrent and Metachronous Colon Cancer:

4 Patterns of recurrence

4 Detection of recurrence using CEA, colonoscopy and imaging

Pain Management:

3 Pain management programmes for intractable pain

Anal Neoplasia- general considerations:

Anatomical, aetiology, and epidemiologic features:

4 The significance of the anatomical distinction between the anal margin and the anal canal tumours

4 The differential lymphatic drainage of the anal canal and margin

4 The histological transition of the anal canal

4 Demographics of anal neoplasia

4 Changing incidence of anal neoplasia

4 Association with sexual practices

4 High-risk groups

4 Staging classification of anal neoplasia

Anal Neoplasia - anal canal neoplasia:

- 4 Epidermoid carcinoma: histologic types, routes of metastasis/recurrence
- 4 Role of salvage therapies: abdominoperineal resection, chemotherapy, radiotherapy
- 3 Other anal canal malignancies: adenocarcinoma, small cell cancer, melanoma

Anal Neoplasia - anal margin neoplasia:

Presacral lesions:

Clinical Presentation:

- 4 Recognise the clinical signs and symptoms of patients presenting with colorectal cancer

Management of Colon Cancer:

- 4 Manage malignant change within an adenomatous polyp
- 4 Familiarity with the indications and contraindications to surgery, operative technique, pre- and post-operative care, outcomes and the complications of colon cancer
- 4 En-bloc resections of adjacent organs
- 4 Extended resections to include total abdominal colectomy

Management of Rectal Cancer:

The Detection and Treatment of Recurrent and Metachronous Colon Cancer:

- 4 Treatment of recurrent colorectal cancer: natural history, chemotherapy, resection, local ablation
- 4 Treatment of pelvic recurrence with radiation, chemotherapy, resection
- 4 Manage Carcinomatosis: with bowel obstruction, with ureteral obstruction
- 4 Palliative care

**Clinical Skills**

Miscellaneous Malignant Lesions of the Colon and rectum:

- 4 Recognise the clinical presentation, assess prognostic factors, and manage carcinoid - Ileal, appendiceal, colonic, rectal, carcinoid syndrome
- 3 Recognise the clinical presentation, assess prognostic factors, and manage lymphoma including its classification, treatment and risk factors
- 4 Recognise the clinical presentation, assess prognostic factors, and manage gastrointestinal stromal tumours
- 3 Recognise the clinical presentation, assess prognostic factors, and manage tumours metastasising to the colon - breast, melanoma, ovary

Anal Neoplasia- general considerations:

- 4 Diagnosis and management of lesions of the anal canal including HPV genotypes associated with cancer, HIV infection, anal intraepithelial neoplasia(AIN), immunosuppression

Anal Neoplasia - anal canal neoplasia:

4 Treatment of epidermoid carcinomas based on stage: local excision, chemoradiotherapy, abdominoperineal resection, inguinal node management

Anal Neoplasia - anal margin neoplasia:

4 Squamous cell carcinoma: clinical features, differential diagnosis, surgical management by local excision, chemoradiotherapy and abdominoperineal resection

4 Basal cell carcinoma: clinical features, differential diagnosis, management

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

4 Paget's disease: theories of histogenesis, clinical features, management

4 Buschke-Lowenstein tumour: clinical presentation and course, treatment options

Presacral lesions:

4 clinical presentation, differential diagnosis, diagnostic evaluation and treatment of congenital lesions: epidermoid cysts, teratoma, anterior sacral meningocele, rectal duplication

4 clinical presentation, differential diagnosis, diagnostic evaluation and treatment of neoplastic lesions: osseous (Ewing's sarcoma, giant-cell tumour), chordoma, neurogenic, miscellaneous

Management of Colon Cancer:

4 Hartmann's procedure

4 Colectomy-left

4 Colectomy-right

4 Colectomy-transverse

4 Colectomy-sigmoid

4 Colectomy-total+ileostomy

4 Colostomy-construction

4 Ileostomy-construction

Management of Rectal Cancer:

**Technical Skills  
and Procedures**

3 Transanal microsurgery

4 Peranal excision of rectal lesion

4 Rectum-posterior approach

4 Rectum-anterior resection

4 Rectum-anterior resection + coloanal anastomosis

4 Rectum-AP excision

4 Posterior pelvic clearance

3 Pelvic exenteration

3 Reoperation-pelvic malignancy

The Detection and Treatment of Recurrent and Metachronous Colon Cancer:

4 Pelvic malignancy - reoperation

Anal Neoplasia - anal canal neoplasia:

4 Anal tumour-excision  
4 Rectum-AP excision

Anal Neoplasia - anal margin neoplasia:

4 Anal tumour-excision  
4 Rectum-AP excision

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Inflammatory bowel disease</b>
<b>Category</b>	Final Special Interest Colorectal
<b>Sub-category:</b>	CR-E+F
	<i>Competency in the diagnosis and the medical and surgical treatment of inflammatory bowel disease.</i>
	<i>History: Knowledge of the history of IBD</i>
	<i>Aetiology: Knowledge of the aetiology of inflammatory bowel disease</i>
	<i>Epidemiology: Knowledge of the epidemiology of inflammatory bowel disease</i>
	<i>Clinical manifestations: Recognition of the clinical manifestations of inflammatory bowel disease and its severity.</i>
	<i>Differential diagnosis: Competency in the diagnosis of inflammatory bowel disease including indeterminate colitis.</i>
<b>Objective</b>	<i>Reproduction and inflammatory bowel disease: Ability to advise on reproduction and IBD and to manage IBD during pregnancy.</i>
	<i>Medical management of ulcerative colitis: Competency in the medical management of ulcerative colitis in consultation with gastroenterology.</i>
	<i>Cancer in ulcerative colitis: Understanding of the risk of cancer in ulcerative colitis and its management.</i>
	<i>Surgical management of ulcerative colitis: Competency in the surgical treatment of ulcerative colitis.</i>
	<i>Post-operative management of ulcerative colitis: Competency in the post-operative care of patients with ulcerative colitis, including ileoanal pouch and</i>

*its complications.*

*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.*

*Other inflammatory conditions- ischaemic colitis: Competency in the management of ischaemic colitis.*

*Other inflammatory conditions- radiation bowel disease: Competency in the management of radiation bowel disease.*

*Other inflammatory conditions- miscellaneous colitides: Competency in the management of the less common colitides.*

*Other inflammatory conditions- infectious colitis: Diagnosis and management of infectious colitis in consultation with infectious disease physicians.*

History:

4 The initial description of Crohn's disease and its distinction from ulcerative colitis

Aetiology:

4 The contribution of genetics and immune function to the development of inflammatory bowel disease (IBD)

4 The possible influence of infectious agents, psychological issues and environmental factors

**Knowledge**

Epidemiology:

4 The epidemiologic features of Crohn's disease and ulcerative colitis

Clinical manifestations:

4 The criteria for severity of disease as defined by Crohn's disease activity index and Truelove classification

Differential diagnosis:

4 The endoscopic, radiographic, and laboratory findings of ulcerative colitis and Crohn's disease



- 3 The distinguishing histologic characteristics of ulcerative colitis and disease
- 4 The differential diagnosis of Inflammatory Bowel Disease
- 4 Indeterminate colitis

Reproduction and inflammatory bowel disease:

- 4 The interaction of IBD and pregnancy
- 4 The impact of IBD on fertility
- 4 Drug therapy, investigations and surgery during pregnancy

Medical management of ulcerative colitis:

- 3 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
- 4 Understand the role of nutritional support in the management of ulcerative colitis

Cancer in ulcerative colitis:

- 4 The risk of cancer, with the factors increasing risk

Surgical management of ulcerative colitis:

- 4 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
- 4 Understand the operative management of indeterminate colitis

Medical management of Crohn's disease:

- 3 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
- 4 Understand the role of nutritional support in Crohn's disease

Cancer in Crohn's disease:

- 4 Risk of large and small bowel carcinoma and risk factors

Surgical management of Crohn's disease:

- 4 Awareness of the indications for surgery for Crohn's disease including: intractability, intestinal obstruction, fistula/abscess, complications

Other inflammatory conditions- ischaemic colitis:

- 4 Vascular anatomy of the colon
- 4 The aetiology of acute colonic ischemia

Other inflammatory conditions- radiation bowel disease:

- 3 Risk factors for and susceptibility to injury from radiotherapy
- 3 Mechanisms of acute and chronic radiation injury
- 3 Microscopic findings of radiation injury
- 4 Understand surgical options for radiotherapy injuries

Other inflammatory conditions- infectious colitis:

- 4 Epidemiology, aetiology, pathogenesis, laboratory and endoscopic evaluation, medical management and indications for surgery for clostridium difficile colitis
- 3 In suspected infectious colitis understand relevance of travel history, role of stool culture, testing for ova, cysts and parasites and hot stool sample for amoebiasis, role of lower GI endoscopy with biopsy for histological evaluation and culture, role of rectal and perineal swabs, role of serology in the detection of amoebiasis and strongyloidiasis, infectious colitis as a precipitating factor for inflammatory bowel disease
- 3 Management of diarrhoea in the immunocompromised patient including HIV

Clinical manifestations:

- 4 Recognise and compare the clinical pattern, presenting symptoms, physical findings and natural history of ulcerative colitis and Crohn's disease
- 3 The extraintestinal manifestations of IBD

Differential diagnosis:

- 4 Diagnostic assessment for inflammatory bowel disease to exclude other colitides

Medical management of ulcerative colitis:

- 4 Recognise the presentation and manage proctitis, left-sided colitis, extensive colitis, severe acute colitis, toxic megacolon
- 4 Joint management of a patient unresponsive to initial treatment

## **Clinical Skills**

Cancer in ulcerative colitis:

- 4 Organise surveillance and interpret biopsy results of dysplasia

Surgical management of ulcerative colitis:

- 4 Indications and contraindications, operative technique, post-operative care, functional results, and complications of the operations for ulcerative colitis

Post-operative management of ulcerative colitis:

- 4 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
- 4 Follow-up for retained rectum after colectomy

Medical management of Crohn's disease:

- 4 Treatment specific to the site of involvement in a patient with Crohn's disease
- 4 Medical management of a patient unresponsive to initial treatment

Cancer in Crohn's disease:

- 4 Organise surveillance and interpret biopsy results of dysplasia

Complications of Crohn's disease:

- 3 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

Surgical management of Crohn's disease:

- 4 Indications and contraindications, operative technique, post-operative care, functional results, risk of recurrence, and complications of operations for Crohn's disease

Anorectal Crohn's Disease:

- 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

Other inflammatory conditions- ischaemic colitis:

- 4 Recognise the clinical presentation of ischaemic colitis
- 4 Recognise the natural history, diagnosis, and be able to manage ischaemic colitis
- 4 Recognise and manage ischaemic colitis after abdominal aortic aneurysm repair

Other inflammatory conditions- radiation bowel disease:

- 4 Manage the complications of radiotherapy: fistula, obstruction, malabsorption, necrosis, haemorrhage
- 4 Arrange local therapy for radiation proctitis

Other inflammatory conditions- miscellaneous colitides:

- 3 Manage the following: diversion colitis, neutropenic enterocolitis, collagen-vascular colitis, microscopic colitis

Surgical management of ulcerative colitis:

- Technical Skills and Procedures**
- 4 Colectomy-total+ileostomy
- 4 Colectomy-total+ileorectal anastomosis
- 4 Rectum-panproctocolectomy+ileostomy
- 4 Ileoanal anastomosis+creation of pouch

Surgical management of Crohn's disease:

- 4 Rectum-panproctocolectomy+ileostomy
- 4 Colectomy-right
- 4 Colectomy-transverse
- 4 Colectomy-left
- 4 Colectomy-sigmoid
- 4 Colectomy-total+ileostomy
- 4 Colectomy-total+ileoanal anastomosis
- 4 Crohn's-ileocaecectomy
- 4 Strictureplasty-Crohn's
- 4 Gastroenterostomy
- 4 Intestinal fistula operation
- 4 Fistula-in-ano-high-advancement flap
- 4 Fistula-in-ano-high-cutting seton
- 4 Fistula in ano-high-drainage seton
- 4 Fistula-in-ano-high-other
- 4 Fistula-in-ano-low-lay open
- 4 Fistula-operation for rectovaginal fistula

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Functional disorders</b>
<b>Category</b>	Final Special Interest Colorectal
<b>Sub-category:</b>	CR-E+F
	<i>Competency in the management of faecal incontinence, chronic constipation, rectal prolapse, and other functional disorders of the pelvic floor.</i>
	<i>Faecal Incontinence-Epidemiology: Understanding of the epidemiology of faecal incontinence</i>
	<i>Faecal Incontinence-Evaluation: Understanding of the causes, clinical findings and physiological findings in faecal incontinence.</i>
	<i>Faecal Incontinence-Non-operative Management: Ability to manage faecal incontinence by non-operative means</i>
<b>Objective</b>	<i>Faecal Incontinence-Operative management: Competency in the operative treatment of faecal incontinence.</i>
	<i>Rectal Prolapse: Competency in the management of all patients with rectal prolapse</i>
	<i>Solitary Rectal Ulcer: Ability to diagnose and manage solitary ulcer syndrome.</i>
	<i>Constipation-General Consideration: Investigation of patients with constipation and treatment of patients with non-specific constipation.</i>
	<i>Constipation-outlet obstruction: Competency in the management of outlet obstruction constipation</i>

*Constipation-Specific Conditions; Motility Disorders: Competency in the management of colonic inertia and colonic pseudo-obstruction.*

*Irritable Bowel Syndrome: Competency in the management of irritable bowel syndrome*

*Chronic rectal pain syndrome: Competency in the management of chronic rectal pain syndromes.*

Faecal Incontinence-Epidemiology:

4 Classification of the various types of incontinence, their incidence and their pathophysiology

Faecal Incontinence-Evaluation:

4 Anatomical, neurological, dermatological, and endoscopic findings that differentiate various types of incontinence

4 Normal and abnormal findings in imaging studies used in incontinence including MRI

4 Knowledge of a scoring system for faecal incontinence

Faecal Incontinence-non-operative Management:

4 Indications, uses and results of biofeedback in incontinence

Faecal Incontinence-Operative management:

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 (4)

4 Understand the concept of antegrade continent enema conduits

**Knowledge**

Rectal Prolapse:

4 The incidence, pathophysiology and epidemiology of rectal prolapse

4 Appropriate management of incarcerated and strangulated rectal prolapse

4 Understanding of internal intussusception, with its radiological findings and treatment options

4 Understand the perineal and abdominal surgical options for prolapse with the indications for each approach, complications, recurrence rate and functional results

Solitary Rectal Ulcer:

4 Understand the associated pelvic floor disorder

Constipation-General Consideration:

4 Normal colonic physiology (including gut hormones and peptides) and the process of defecation

4 Definition of constipation and its epidemiology

4 Classification of types and causes of constipation differential diagnosis in a

patient with constipation

4 Different types of laxatives and describe the indications, contraindications, modes of action, and complications of each: stimulant, osmotic, bulk-forming, lubricant

Constipation-specific conditions; outlet obstruction:

4 Diagnostic criteria for anismus

4 Indications, techniques, complications and results of rectocele repair

Constipation-Specific Conditions; Motility Disorders:

4 Role of colectomy in colonic inertia including indications, complications and expected results

4 Common causative factors for colonic pseudo-obstruction

Chronic rectal pain syndrome:

4 Differential diagnosis for rectal pain including levator ani syndrome, proctalgia fugax, chronic idiopathic pelvic pain, coccygodynia

Faecal Incontinence-Evaluation:

4 Take a directed history to differentiate types of incontinence

4 Perform a physical examination to differentiate types of incontinence

4 Identify and interpret anorectal physiology tests

Faecal Incontinence-Non-operative Management:

4 Outline a non-operative bowel management plan incorporating : dietary measures, medications, enemas, perineal skin care, anal plug

4 Make a treatment plan for a patient with incontinence, including knowledge of side-effects

Faecal Incontinence-Operative management:

4 Select patients for operation according to the physical and laboratory findings

4 Select type of operative repair

4 Select patients for temporary and permanent faecal diversion

## **Clinical Skills**

Rectal Prolapse:

4 Identify the associated anatomical findings of rectal prolapse and its clinical presentation including functional disturbances and physical findings

4 Differentiate between mucosal prolapse, prolapsing internal haemorrhoids and rectal prolapse

4 Manage constipation and incontinence in the context of rectal prolapse

4 Perform operation for rectal prolapse - perineal or abdominal; open or laparoscopic

4 Manage a patient with recurrent rectal prolapse

Solitary Rectal Ulcer:

4 Recognise the clinical presentation, endoscopic and histological findings in a

patient with solitary rectal ulcer

4 Utilise appropriate medical/surgical treatment options

Constipation-General Consideration:

4 Take a directed history for a patient with constipation and perform a directed physical examination

4 Arrange a treatment plan based on endoscopic, radiological and physiology tests: defaecating proctogram, transit studies, anorectal manometry, EMG, balloon expulsion, contrast enema, endoscopy

4 Identify melanosis coli on endoscopy and discuss its significance

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

Constipation-specific conditions; outlet obstruction:

4 management of anismus: medical management, biofeedback, botulinum toxin, surgery

4 manage short segment/adult Hirschsprung's disease

4 Recognise the clinical presentation of symptomatic rectocele

4 Diagnosis and both non-operative and operative management of enterocele and sigmoidocele

Constipation-Specific Conditions; Motility Disorders:

4 Evaluation and management of recurrent constipation after colectomy

4 Evaluate a patient with suspected colonic pseudo-obstruction

4 Manage a patient with colonic pseudo-obstruction by medical or surgical means

Irritable Bowel Syndrome:

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

Chronic rectal pain syndrome:

4 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

Faecal Incontinence-Operative management:

3 Anal sphincter repair including postanal repair, anterior sphincter repair

2 Anal sphincter - artificial sphincter/sacral nerve stimulation

**Technical Skills  
and Procedures**

Rectal Prolapse:

4 Prolapse-abdominal rectopexy

4 Prolapse-rectopexy + sigmoid resection

4 Prolapse-perineal repair

Constipation-specific conditions; outlet obstruction:

4 Rectocele repair

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Stomas</b>
<b>Category</b>	Final Special Interest Colorectal
<b>Sub-category:</b>	CR-E+F
	<i>Competency in the formation and management of stomas in consultation with stoma care nurses.</i>
	<i>Indications for stomas: Understanding of the indications for stomas and different types of stoma.</i>
	<i>Pre-operative Evaluation for stomas: Competency in the pre-operative care of a patient requiring a stoma.</i>
	<i>Stoma creation and closure: Competency in the construction and closure of an ileostomy and a colostomy.</i>
<b>Objective</b>	<i>Post-operative Care: Competency in the post-operative care of patients after stoma formation.</i>
	<i>Complications: Competency in the management of early and late complications of stoma formation.</i>
	<i>Stoma Management: Competency in the management of stomas in consultation with stoma care nurses.</i>
	<i>Stoma Physiology: Knowledge of the physiology of different stomas.</i>
	<i>Patient Education and Counselling: Knowledge of the information needed by a patient with a stoma.</i>
	Indications for stomas:
	4 Indications for colostomy
	4 Indications for ileostomy
	4 Types of stomas (loop, end, end loop, double barrel) in relation to indications
	Complications:
<b>Knowledge</b>	4 High-output ileostomy
	Stoma Management:
	3 Stoma appliances, and appropriate selection
	4 Indications, contraindications and complications for stoma irrigation
	Stoma Physiology:



- 4 The physiologic changes associated with ileostomy, colostomy, urostomy
- 4 Normal ileostomy function including anticipated daily outputs and changes that occur in output with post-operative adaptation
- 4 Causes of high output stomas
- 4 Differential diagnosis of high output

Patient Education and Counselling:

- 4 The possible effects that a stoma may have on medication dosage and absorption

Pre-operative Evaluation for stomas:

- 4 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 Demonstrate proper siting and marking techniques for all stoma placement, including such considerations as scars, the umbilicus, skin creases, belt and clothing and positioning (standing, sitting and supine positions)

Stoma creation and closure:

- 4 Perform stoma construction and closure
- 4 Organise preparation for stoma closure in the case of temporary faecal diversion including: timing of closure, necessary pre-operative evaluation, care of the post-operative stoma site wound

Post-operative Care:

- 4 Appreciate the normal post-operative course for colostomy and ileostomy function
- 4 Recognise the signs, symptoms and management for the following complications that occur in the immediate post-operative period: ischaemia, mucocutaneous separation

**Clinical Skills**

Complications:

- 4 Recognise and manage high-output ileostomy
- 4 Recognise parastomal skin irritation of significance, list a differential diagnosis, and make recommendations for appropriate management
- 4 Manage ileostomy and colostomy prolapse
- 4 Management of parastomal hernia
- 4 Recognise and manage skin conditions associated with stomas
- 4 Recognise and manage ileostomy food obstruction

Stoma Management:

- 4 Early post-operative management of conventional stoma
- 3 Advise on various skin barriers and accessory products available for the management of stomas
- 3 Management of a retracted stoma
- 3 Advise on dietary considerations for patients with an ileostomy or a colostomy, including impact of diet on stoma output, flatus, odour, bolus

obstruction

Stoma Physiology:

4 Appropriately manage fluid and electrolyte abnormalities

Patient Education and Counselling:

3 Demonstrate stoma bag emptying, stoma bag changing, management of leakage

Stoma creation and closure:

4 Ileostomy-construction

4 Colostomy-construction

4 Ileostomy-closure

4 Colostomy-closure

4 Hartmann's reversal

**Technical Skills and Procedures**

Complication:

4 Colostomy-revision

4 Ileostomy-revision

4 Hernia repair-parastomal

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Diabetic foot**

**Category** Final Special Interest Vascular

**Sub-category:** Vasc A

*Identify the diabetic foot, initiate treatment and refer or treat appropriately.*

*Pathology of the diabetic foot: basic understanding of the pathophysiology of the diabetic foot*

**Objective** *Management of diabetes in the acutely ill patient: ability to manage diabetes in the acutely ill patient*

*Diagnosis and assessment: ability to diagnose diabetic foot*

*Treatment: understanding of the principles of treatment of diabetic foot*

Pathology of the diabetic foot

3 Ischaemia

3 Macroscopic and microscopic neuropathy

3 sensory, motor and autonomic infection

3 Impaired wound healing

**Knowledge**

Diagnosis and assessment

3 Clinical manifestations of diabetic foot disease

Treatment

- 3 Anatomy of the foot and web spaces
- 2 Surgical approaches to the foot
- 3 Use of antibiotics

Management of diabetes in the acutely ill patient

- 3 Potential complications
- 3 Principles of medical management

Pathology of the diabetic foot

- 4 Examination of the limb and recognition of the abnormality
- 4 Recognition of how to identify ischaemia and neuropathy

Diagnosis and assessment

- 4 History and examination
- 4 Recognition of ischaemia and neuropathy
- 3 Doppler ankle brachial pressures and toe pressures
- 2 Interpretation of clinical laboratory results, pathology results, vascular lab data and angiograms
- 1 Selection for surgery

**Clinical Skills**

Treatment

- 2 Ability to debride and drain sepsis
- 3 Minor amputations in the diabetic foot

Management of diabetes in the acutely ill patient

- 3 Peri-operative management and ability to involve other professionals
- Diabetic foot - diagnosis and assessment:

- 1 Percutaneous angiography

Treatment

- 1 Occlusive-Aorto-femoral by-pass
- 2 Occlusive-Axillo-femoral by-pass
- 2 Peroperative angiography
- 1 Peroperative angioplasty
- 1 Lower limb-femoral endarterectomy/patch
- 2 Lower limb-femoro-femoral cross-over graft
- 1 Lower limb-ileofemoral bypass
- 1 Lower limb-fem-popliteal bypass-AK
- 3 Lower limb-fem-popliteal bypass-AK-part-harvest vein
- 3 Lower limb-fem-popliteal bypass-AK-part-femoral dissection
- 3 Lower limb-fem-popliteal bypass-AK-part-femoral anastomosis
- 1 Lower limb-fem-popliteal bypass-BK
- 3 Lower limb-fem-popliteal bypass-BK-part-harvest vein
- 3 Lower limb-fem-popliteal bypass-BK-part-femoral dissection
- 3 Lower limb-fem-popliteal bypass-BK-part-femoral anastomosis

**Technical Skills and Procedures**

## Amputation

- 1 Amputation-digit(s)
- 4 Amputation-transmetatarsal
- 2 Amputation-BK
- 3 Amputation-AK
- 2 Amputation-revision

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Acute limb ischaemia</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc A
	<i>Ability to recognise acute limb ischaemia and institute urgent management.</i>
	<i>Acute limb ischaemia: To recognise and institute emergency treatment for acute limb ischaemia.</i>
<b>Objective</b>	<i>Complications of acute limb ischaemia: Recognise complications of treatment of acute limb ischaemia.</i>
	<i>Thrombolysis: Understanding of the management of thrombolysis.</i>
	Acute limb ischaemia:
	3 Pathophysiology of acute limb ischaemia
	4 Anatomy of the arterial system
	2 Risk factors for acute limb ischaemia
	4 Causes of acute limb ischaemia
	3 Indications for emergency intervention
	3 Indications for embolectomy, thrombolysis, primary amputation
	2 Subsequent management and investigation of patient with acute limb ischaemia
<b>Knowledge</b>	Complications of acute limb ischaemia:
	3 Ischaemia reperfusion injury and systemic effects
	2 Ways of attenuating effects of reperfusion
	Thrombolysis:
	3 Methods and agents used for Thrombolysis
	3 Indications for Thrombolysis
	3 Complications of Thrombolysis
	Acute limb ischaemia:
	4 History and examination to detect acute limb ischaemia
<b>Clinical Skills</b>	2 Arrange appropriate urgent investigations: duplex, angiogram
	3 Can recognise when intervention is not appropriate
	Complications of acute limb ischaemia:

- 2 Manage patient when embolectomy fails
- 2 Manage patient with rhabdomyolosis
- 1 Emergency bypass

Thrombolysis:

- 3 Manage patient undergoing Thrombolysis
- 2 Management of complications of Thrombolysis

Acute limb ischaemia:

- 3 Percutaneous angiogram
- 3 Peroperative angiogram
- 3 Thrombo-embolectomy-arterial-femoral
- 2 Thrombo-embolectomy-arterial-brachial
- 2 Thrombo-embolectomy-arterial-popliteal
- 3 Peroperative thrombolysis

**Technical Skills and Procedures**

Complications of acute limb ischaemia:

- 3 Fasciotomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Cardiology**

**Category** Final Special Interest Vascular

**Sub-category:** Vasc A

*Assessment and management of patients with heart disease in consultation with specialist physicians in complex cases.*

*Acute and Chronic Heart Failure: Ability to assess and manage Heart Failure*

*Hypertension: To be able to assess and treat patients with hypertension*

*Lipid Disorders: To be able to assess and initiate treatment of patients with lipid abnormalities*

**Objective**

*Diseases of the Aorta: To be able to assess and treat patients with diseases of the aorta*

*Assessment of patients with cardiovascular disease prior to vascular surgery: To be able to carry out assessment of patient with cardiovascular disease prior to vascular/endovascular intervention.*

*Management of critically ill patients: To be able to carry out and supervise resuscitation of patients and carry out specialist assessment and treatment of patients who are critically ill with haemodynamic disturbances.*

Acute and Chronic Heart Failure:

**Knowledge**

- 3 Aetiology
- 4 Anatomy of the Heart

- 4 Cardiac Physiology
- 4 Indications for Treatment
- 3 Therapeutic options including drug interactions
- 3 Complications of Treatment
- 3 Prognosis and impact upon patients undergoing major vascular surgery

Hypertension:

- 3 Causes of hypertension
- 4 Anatomy of the arterial circulation including the heart
- 4 Cardiac physiology; including the regulation of vasomotor tone
- 4 Assessment of patients with hypertension for end organ damage
- 4 Investigation of secondary hypertension
- 4 Indications for Treatment
- 3 Pharmacology of drugs currently used in the treatment of hypertension
- 3 Complications of Treatment
- 3 Prognosis and Impact upon patients undergoing major vascular surgery

Lipid Disorders:

- 3 Investigation and management of lipid disorders
- 3 Pharmacology of drugs currently used in the treatment of lipid disorders
- 3 Current evidence for pharmacological intervention in both primary and secondary prevention

Diseases of the Aorta:

- 4 Pathogenesis, presentation and natural history of aortic dissection and aortic aneurysm
- 4 Indications, limitations and benefits of non-invasive investigations used in the assessment of aortic diseases
- 4 Medical therapy of diseases of the aorta
- 4 Indications for radiological and surgical intervention

Assessment of patients with cardiovascular disease prior to vascular surgery:

- 3 Assessment of risk prior to vascular surgery for patients with cardiac disease and give advice and management plans accordingly
- 3 Methods of optimising a patient's condition in order to minimize the risk of vascular surgery

Management of critically ill patients:

- 4 Current guidelines on resuscitation
- 4 Principles of cardiopulmonary resuscitation
- 4 Cardiac and non-cardiac causes of cardiac arrest
- 3 Pathogenesis, presentation and natural history of critical illness
- 3 Indications for and haemodynamic consequences of positive pressure ventilation

Acute and Chronic Heart Failure:

**Clinical Skills**

- 4 Examination of the Cardio-Respiratory System
- 4 Select patients who require pre-operative investigations such as ECG and

## ECHO

- 3 Echocardiography including transoesophageal echo
- 3 Identify patients not suitable for vascular surgery intervention

## Hypertension:

- 4 Examination of the Cardiorespiratory system
- 4 Select patients who require further investigation such as ECG, ECHO, 24 hr ambulatory BP measurement, Renal Duplex, Renal MRA
- 3 Interpretation of appropriate biochemical investigations and imaging modalities in the diagnosis and assessment of hypertension
- 3 Be familiar with protocols and management plans for hypertension
- 3 Identify patients not suitable for vascular surgery intervention

## Lipid Disorders:

- 3 To be able to interpret lipid results

## Diseases of the Aorta:

- 4 Relevant history and examination
- 4 To be able to select appropriately non-invasive imaging
- 4 To be able to assess, manage and give advice on patients with acute aortic dissection
- 3 To interpret non-invasive imaging and plan appropriate radiological / surgical intervention for thoracic aneurysms

## Assessment of patients with cardiovascular disease prior to vascular surgery:

- 3 Assess the risk of anaesthesia and surgery for individual patients
- 3 To select and use investigations appropriately
- 3 To give valid and useful advice to patients and anaesthetists

## Management of critically ill patients:

- 4 Be proficient in Basic Life support
- 4 Be proficient in Advanced Life support
- 4 Be able to effectively perform and supervise resuscitation of patients suffering from cardiac arrests and the critically ill
- 3 Be able to assess manage and give advice on the critically ill patient
- 3 Specifically be able to recognise and manage acute conditions including Pulmonary embolism; Cardiogenic shock; Septic Shock; Respiratory Failure; Acute renal failure; Abdominal Compartment Syndrome
- 3 Be able to select and use investigations appropriately to assess haemodynamics
- 3 Echocardiography
- 3 Pulmonary artery catheterisation and wedge pressure
- 3 Define the indications and limitations of inotropic drugs

## Technical Skills and Procedures **No content**

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Haematology</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc A
	<i>Assessment of the need for and management of anticoagulant therapy in vascular patients.</i>
	<i>Heparin: Ability to use heparin safely in vascular patients.</i>
	<i>Low Molecular Weight Heparin (LMWH): Ability to use low molecular weight heparin safely in vascular patients.</i>
<b>Objective</b>	<i>Heparin-induced Thrombocytopenia (HIT): Management of the patients with HITS.</i>
	<i>Warfarin: Safe use of warfarin in the vascular patient.</i>
	<i>Antiplatelet therapy: Safe antiplatelet therapy in vascular patients.</i>
	Heparin:
	3 Role of antithrombin III and the dual action of heparin on thrombin (factor II) and factor Xa (IX a and XI a also)
	4 Half-life, routes of administration and uses of heparin.
	4 Complications of heparin therapy
	4 Intraoperative use of heparin including monitoring techniques (TEG) and reversal
	3 Mechanism of action and complications of protamine sulfate
	Low Molecular Weight Heparin (LMWH):
	3 Rationale for the development of LMWH and its advantages over unfractionated heparin
	4 Mechanism of action
	3 Understanding of why it can be used without monitoring and why it is less haemorrhagic than unfractionated heparin
<b>Knowledge</b>	3 Clinical applications in HITS and prophylaxis
	4 Cost benefits of out patient treatment of venous thrombosis
	Heparin-induced Thrombocytopenia (HIT):
	4 Understanding of the incidence of Heparin-induced Thrombocytopenia (HIT), of thrombotic complications and the mortality rate
	4 Risk factors
	3 Differences between Type I and Type II HIT
	4 Diagnostic criteria
	3 Pathophysiology of antibody formation
	3 Limitations of the various diagnostic tests
	3 Indications for further anticoagulation and agents available
	Warfarin:
	3 Mechanism of action including the roles of proteins C and S
	3 Understanding of why heparin should be given for the first 3-4 days of



warfarin treatment  
4 Medical conditions, foods and common drugs that affect warfarin's anticoagulant activity  
4 Complications of warfarin therapy and how to reduce them  
4 Recommended INR levels  
3 Indications, methods and complications of reversing warfarin

Antiplatelet therapy:

3 Structure and function of the platelet  
3 Role of platelets in primary and secondary haemostasis and in pathologic thrombosis  
3 Sequence of platelet activation  
4 Platelet agonists and antagonists  
3 Antiplatelet agents currently available and their mechanisms of action

Heparin:

4 Recognition of patients who require heparin and their subsequent management

Low Molecular Weight Heparin (LMWH):

4 recognition of patients who require low molecular weight heparin and their subsequent management

**Clinical Skills** Heparin-induced Thrombocytopenia (HIT):

3 Management of a patient with HIT

Warfarin:

4 Management of a vascular patient on warfarin  
3 Management of over anticoagulation

Antiplatelet therapy:

4 Appropriate prescribing of antiplatelet drugs in the vascular patient

**Technical Skills and Procedures** No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Stroke medicine</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc A
	<i>Ability to assess and manage patients with cerebrovascular disease in whom surgery may be indicated.</i>
<b>Objective</b>	<i>Stroke prevention: To be able to undertake an assessment of a patient with suspected TIA. To be able to offer</i>
	<i>Stroke preventive strategies to individuals according to prognosis and need.</i>

*Anticoagulation: To safely manage patients requiring anticoagulation.*

*Acquired Bleeding disorders: To be competent to manage patients with acquired bleeding disorders.*

*Platelet Disorders: To be competent to manage acquired platelet disorders*

Stroke prevention:

- 4 Anatomy and pathophysiology of various types of stroke
- 4 Classification schemes for acute stroke
- 4 Scales for describing the severity of acute stroke
- 4 Definition of a transient ischaemic attack (TIA) and provide a differential diagnosis for a suspected TIA
- 4 The relationship between thrombophilia/coagulopathies and TIAS
- 4 Genetic causes of stroke
- 4 Epidemiology of risk factors for cerebral infarction
- 3 BHS, NICE, RCP and SIGN guidelines for the treatment of hypertension and hyperlipidaemia
- 4 The use of CT, MRI/A, Carotid Duplex, Transcranial Doppler, IA DSA and Echocardiography
- 4 The place of acute intervention including thrombolysis and neurosurgery
- 3 Complications of acute stroke and their multidisciplinary management
- 3 Cost effectiveness of stroke prevention measures
- 3 Principles of management of atrial fibrillation
- 3 Principles of use of antiplatelet agents
- 3 Principles of selection for carotid endarterectomy and stenting

**Knowledge**

Anticoagulation:

- 3 Mechanism of action and indication for the use of heparin and oral anticoagulation
- 3 Side effects of anticoagulation and therapeutic methods of correction

Acquired Bleeding disorders:

- 3 Mechanism of bleeding disorders ? disseminated intravascular coagulation; massive blood transfusion
- 3 The use of available coagulation factors and their side effects

Platelet Disorders:

- 3 Platelet structure and function
- 3 Platelet and vessel wall interactions
- 3 Platelet function tests and their limitations
- 3 Mechanism of action of antiplatelet agents

Stroke prevention:

- 4 Assess stroke risk in primary and secondary prevention setting
- 4 Appropriate clinical assessment including investigation and management plan
- 4 Provision of intensive monitoring to acute patients
- 3 Interpretation of CT and MRI/A Brain Scans
- 3 Interpretation of Carotid duplex and Carotid Angiography

**Clinical Skills**

3 Treat and lower blood pressure and lipids after stroke

Anticoagulation:

4 To be able to initiate and control heparin and oral anticoagulants

3 To offer advice on the management of over anticoagulation

3 To recognise and advise on heparin induced thrombocytopenia

Acquired Bleeding disorders:

3 To interpret laboratory results

3 To formulate an appropriate plan for the management of these disorders

3 To advise upon the use of blood products including coagulation factors

Platelet Disorders:

3 To diagnose and manage acquired platelet disorders seen in vascular patients

3 To provide appropriate clinical advice on the use of antiplatelet agents

**Technical Skills and Procedures** No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** InterventRad1

**Category** Final Special Interest Vascular

**Sub-category:** Vasc A

**Objective** *To be able to use radiation equipment appropriately and safely for the diagnosis, assessment and treatment of patients with vascular disease according to the regulations IRR 99 and IRMER 2000 or their successors.*

4 Physics and hazards of ionising radiation to patients and staff

4 The sensitivity of different organs to ionizing radiation and the maximum yearly whole body dose

4 Current statutory requirements concerning the medical use of ionising radiation

**Knowledge** 4 Patients at high risk for blood borne pathogens

4 Procedures at high risk for radiation skin injuries and how to avoid such injuries

4 Incidence of hepatitis C in the IR patient population

4 Factors that affect radiation exposure to both patients and staff

3 Maintenance schedules for radiation protection devices

4 Be able to operate radiation equipment safely and effectively

4 Appropriate use of lead protective clothing, lead glasses, shields and gloves

4 Uses methods of reducing the radiation dose to the patient and operator during IR procedures

**Clinical Skills** 4 Aware of how to limit / reduce work related musculoskeletal injuries in the IR environment

4 Able to reduce accidental exposure to blood and body fluids in the IR suite

**Technical Skills and Procedures** No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>InterventCVAccess</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc A <i>Assessment and management of patients requiring central venous access.</i>
<b>Objective</b>	<i>To be able to evaluate and provide central venous access to a wide range of patients.</i>
<b>Knowledge</b>	4 Indications for central venous access and the types of devices available 4 Complications of central venous access devices, including air embolism and device fracture 3 Alternative venous access techniques (i.e translumbar, transhepatic etc) 4 History and examination in patients requiring central venous access 3 Competence in preprocedural ultrasound scanning
<b>Clinical Skills</b>	2 Competence in adjunctive interventional techniques ( balloon angioplasty, stent placement and or thrombolysis) 4 Evaluate and manage patients with suspected catheter infection
<b>Technical Skills and Procedures</b>	4 Central venous line insertion
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>Venous disease</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc A <i>Assessment and management of varicose veins.</i>
<b>Objective</b>	<i>Varicose veins - primary varicose veins: Ability to assess and manage primary varicose veins.</i>  <i>Recurrent varicose veins: Investigate and treat recurrent varicose veins</i> Varicose veins - primary varicose veins:
<b>Knowledge</b>	4 Aetiology 4 Anatomy of the venous system 4 Indications for surgery for varicose veins 4 Complications of varicose veins 4 Knows complications of varicose vein surgery  Recurrent varicose veins:  4 Indications for investigation and treatment Varicose veins - primary varicose veins:
<b>Clinical Skills</b>	4 Examination of the venous system of the lower limbs 3 Select patients who require pre-operative investigations such as Duplex scanning 4 Select patients who require surgery 4 Non-operative management

Varicose veins - primary varicose veins

4 Vvs-long saphenous-SFJ ligm+/-strip+/-avulsions

4 Vvs-SPJ ligation+/-strip+/-avulsions

4 Vvs-multiple stab avulsions

**Technical Skills  
and Procedures**

Varicose veins - recurrent varicose veins

4 Vvs-recurrent-re-do SFJ ligm+/-avulsions

4 Vvs-recurrent-multiple stab avulsions

4 Vvs-recurrent-re-do SPJ ligm+/-avulsions

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic**

**Carotid atherosclerosis**

**Category**

Final Special Interest Vascular

**Sub-category:**

Vasc B

*Ability to investigate cerebrovascular disease.*

*Diagnosis and assessment of cerebro-vascular disease: Ability to diagnose cerebro-vascular disease and assess the cause and severity.*

*Treatment of cerebro-vascular disease: Understanding of the indications for medical and surgical intervention in cerebro-vascular disease, operation with assistance in straightforward cases.*

**Objective**

*Peri-operative cerebrovascular blood flow assessment: Knowledge of assessment of cerebrovascular blood flow during the peri-operative period.*

*Acute stroke: Knowledge that there is a place for surgery in acute stroke.*

*Cardiac assessment: Basic understanding of the management of patients with both carotid and vascular disease.*

*Ongoing care for cerebro-vascular disease: Knowledge of ongoing care for cerebrovascular disease.*

*Endovascular treatment: Basic understanding of endovascular management of carotid disease.*

Diagnosis and assessment of cerebro-vascular disease:

3 Anatomy of vessels of the head and neck

3 Physiology of cerebral circulation

4 Knowledge of aetiology and epidemiology of stroke

3 Pathophysiology of cerebro-vascular disease

**Knowledge**

Treatment of cerebro-vascular disease:

3 Indications for conservative management and for surgery

4 Medical treatment

3 Evidence from the stroke studies (NASCET, ECST, ACST)

Peri-operative cerebrovascular blood flow assessment:

3 Methods of peri-operative assessment of cerebral blood flow:Transcranial Doppler,Stump pressure,EEG

Acute stroke:

1 Indications for intervention in acute/evolving stroke

Cardiac assessment:

2 Methods of assessment of cardiac status

Ongoing care for cerebro-vascular disease:

4 Conservative treatment for cerebrovascular disease

4 Complications of medical and surgical treatment

Endovascular treatment:

1 Indications for carotid stenting

Diagnosis and assessment of cerebro-vascular disease:

4 History and examination pertaining to cerebro-vascular disease

2 Appropriate investigations: Carotid Duplex, MR angiogram, CT scan and CT angiogram, Carotid arteriography

Treatment of cerebro-vascular disease:

3 Selection of patients for surgery or interventional radiology

Peri-operative cerebrovascular blood flow assessment:

2 Use of shunt

Acute stroke:

1 Carotid surgery in acute stroke

Cardiac assessment:

1 Synchronous carotid and cardiac surgery

Ongoing care for cerebro-vascular disease:

2 Manage complications of medical and surgical treatment including stroke, bleeding, airway obstruction, acute occlusion, cranial nerve injury

2 Follow-up of patients following carotid surgery

Treatment of cerebro-vascular disease

2 Carotid endarterectomy-complete operation GA

## Clinical Skills

## Technical Skills and Procedures

- 1 Carotid endarterectomy-complete operation LA
- 3 Carotid endarterectomy-part-dissection
- 2 Carotid endarterectomy-part-endarterectomy
- 2 Carotid endarterectomy-part-patchclosure

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Carotid body tumors + aneurysms</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc B
	<i>Basic knowledge of carotid body tumours and carotid aneurysms.</i>
	<i>Diagnosis and assessment of carotid body tumour: Ability to consider the diagnosis of carotid body tumour.</i>
<b>Objective</b>	<i>Treatment of carotid body tumours: Basic knowledge of operation for carotid body tumours.</i>
	<i>Management of complications of treatment for carotid body tumours: Basic knowledge of complications of surgery for carotid body tumours.</i>
	<i>Carotid aneurysms: Ability to consider carotid aneurysm as a diagnosis.</i>
	Diagnosis and assessment of carotid body tumour:
	3 Epidemiology and pathology
	3 Associated medical conditions
	1 Investigation:Angiogram, CT scan, MR angiogram, CT angiogram, MIBI Scan
	Treatment of carotid body tumours:
<b>Knowledge</b>	2 Indications for treatment
	Management of complications of treatment for carotid body tumours:
	1 Understanding of possible complications: Bleeding, cranial nerve injury, airway obstruction, malignancy
	Carotid aneurysms:
	3 Aetiology, pathology and natural history
	2 Diagnosis
	2 Investigation: Duplex, CT scan, MR angiogram
	2 indications for surgery
	Diagnosis and assessment of carotid body tumour:
	3 Clinical examination and recognise clinical features
<b>Clinical Skills</b>	Management of complications of treatment for carotid body tumours:
	1 Identify and manage complications
	Carotid aneurysms:

3 Clinical examination  
2 Methods of reconstruction including: Direct repair, Vein jump graft  
Treatment of carotid body tumours:

**Technical Skills  
and Procedures**

1 Carotid body tumour excision  
Carotid aneurysms:

1 Carotid aneurysm excision

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Aortic aneurysm**

**Category** Final Special Interest Vascular

**Sub-category:** Vasc B

*Ability to assess aortic aneurysms and manage some cases with assistance.*

*Aortic aneurysm - diagnosis and assessment: Ability to diagnose and investigate patients with aortic aneurysm.*

*Aortic aneurysm - treatment: Ability to manage straightforward aortic aneurysms electively with assistance.*

**Objective**

*Aortic aneurysm - ongoing care: Basic post-operative care of aortic aneurysm and refer complications appropriately.*

*Aortic Aneurysm - Management of complex aneurysms: Understand which aneurysms may present complex problems.*

*Endovascular AAA repair: Be aware of the possibility of endovascular aortic aneurysm repair.*

*Endovascular AAA repair - ongoing management: Basic knowledge of the complications of endovascular management of aortic aneurysms.*

**Aortic aneurysm - diagnosis and assessment:**

4 Anatomy of the aorta and main branches

4 Aetiology

4 Indications for intervention

4 Natural history

3 Investigation

3 Ultrasound/CT scan/MR scan

**Knowledge** 3 Screening programmes

**Aortic aneurysm - treatment:**

3 Knowledge of open repair

3 indications for open versus endovascular repair

**Aortic aneurysm - ongoing care:**



- 2 Complications of open aortic surgery
- 4 Means of secondary prevention of vascular disease
- 4 indications for renal support

Aortic Aneurysm - Management of complex aneurysms:

2 strategy to deal with : horseshoe kidney, inflammatory, mycotic aneurysm, aorto-caval fistula, co-existent renal transplant

Endovascular AAA repair:

- 2 Limitations of technique
- 2 Investigations
- 2 Method of assessment for endovascular suitability

Endovascular AAA repair - ongoing management:

- 1 Types of endoleak
- 1 Follow-up regimen and management of complications
- 1 Indications for supra-renal fixation

Aortic aneurysm - diagnosis and assessment:

- 4 History and examination
- 3 Assessment of co-morbidity
- 3 Able to objectively assess cardiac, respiratory and renal system

Aortic aneurysm - treatment:

3 Selection of patients for conservative management, open operation or endovascular stent graft

Aortic aneurysm - ongoing care:

2 Ability to recognise and manage complications: bleeding (including DIC), thrombosis, embolism, gut ischaemia, organ failure and leg ischaemia

**Clinical Skills** Aortic Aneurysm - Management of complex aneurysms:

- 1 Able to repair AAA in conjunction with aorto-caval fistula, when inflammatory aneurysm, transplanted and horseshoe kidney
- 1 Able to deal with mycotic AAA

Endovascular AAA repair:

- 2 No op name on list (only complete op) Endovascular repair part operation- can place guidewire in aorta and deploy proximal end of graft
- 2 No op name on list Endovascular repair part operation- can deploy distal ends of graft in iliac arteries

Endovascular AAA repair - ongoing management:

- 1 Recognise endoleak on angiogram and treat it endovascularly

- 0 No op name on list other than -Aneurysm-Aortic endoleak
- 1 No op name on list Place graft cuff proximal and distally
- 1 No op name on list Remove graft that has migrated and replace with open graft
- 2 No op name on list Deal with occluded limb
- 1 No op name on list Supra-renal fixation of graft

Aortic aneurysm - treatment:

- 2 AAA-tube graft-part-control/dissection
- 3 AAA-tube graft-proximal anastomosis
- Technical Skills and Procedures** 4 AAA-tube graft-part -distal aortic anastomosis
- 2 AAA-tube graft
- 3 AAA-bifurcated graft-part-control/dissection
- 3 AAA-bifurcated graft-part-proximal anastomosis
- 4 AAA-bifurcated graft-part-femoral anastomosis
- 2 AAA-bifurcated graft-complete operation

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Femoral aneurysm  
**Category** Final Special Interest Vascular  
**Sub-category:** Vasc B

*Assessment and management of some femoral artery aneurysms with assistance.*

**Objective** *Femoral artery aneurysm - diagnosis and assessment: Ability to diagnose and investigate patients with femoral artery aneurysms.*

*Femoral Artery Aneurysm - treatment: Ability to manage straightforward femoral artery aneurysms electively with assistance.*

*Ruptured Femoral Artery Aneurysm - treatment: Knowledge of the principles of emergency surgery for ruptured femoral artery aneurysm.*

Femoral artery aneurysm - diagnosis and assessment:

- 4 Anatomy of the femoral artery and branches
- 4 Aetiology
- 4 Indications for intervention
- 4 Natural history of femoral artery aneurysms
- 4 Investigation: ultrasound, CT scan, role of angiography

**Knowledge** Femoral Artery Aneurysm - treatment:

- 3 Indications for interventional treatment
- 4 Knowledge of surgical approaches

Ruptured Femoral Artery Aneurysm - treatment

- 4 Recognise and investigate

Femoral artery aneurysm - diagnosis and assessment:

- Clinical Skills**
- 4 History and examination
  - 4 Assessment of co-morbidity
  - 3 Perform ultrasound examination of femoral artery

Femoral Artery Aneurysm - treatment:

- Technical Skills and Procedures**
- 3 Selection of patients for conservative management
  - 3 Methods of repair of femoral artery aneurysm
  - Ruptured Femoral Artery Aneurysm
  - 2 Extra-peritoneal control of iliac vessels

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Popliteal aneurysm**

**Category** Final Special Interest Vascular

**Sub-category:** Vasc B

*Assessment and management of popliteal aneurysms, operation with assistance*

*Popliteal artery aneurysm - diagnosis and assessment: Ability to diagnose and investigate patients with popliteal artery aneurysms.*

**Objective**

*Popliteal Artery Aneurysm - treatment: Ability to manage straightforward popliteal artery aneurysms electively*

*Thrombosed popliteal artery aneurysm: Ability to recognise thrombosed popliteal artery aneurysms presenting acutely.*

Popliteal artery aneurysm - diagnosis and assessment:

- 4 Anatomy of the popliteal artery and branches
- 4 Aetiology
- 4 Indications for intervention
- 4 Natural history, risk of limb loss
- 3 Investigation: Ultrasound, CT scan, MR scan, role of angiography

Popliteal Artery Aneurysm - treatment

- Knowledge**
- 3 Indications for interventional treatment
  - 3 Knowledge of surgical approaches
  - 2 Indications for open versus endovascular repair

Thrombosed popliteal artery aneurysm:

- 4 Recognise and describe clinical symptoms and signs
- 2 Investigation: Duplex, angiography
- 3 Treatment options; thrombolysis, surgery, conservative
- 3 Complications of thrombolysis, bleeding, distal embolisation
- 4 Indications for fasciotomy

Popliteal artery aneurysm - diagnosis and assessment:

- 4 History and examination
- 4 Assessment of co-morbidity
- 2 Perform ultrasound examination of popliteal artery

Popliteal Artery Aneurysm - treatment:

**Clinical Skills**

- 3 Selection of patients for conservative management, open operation or endovascular stent graft

Thrombosed popliteal artery aneurysm:

- 4 Initiate thrombolysis
- 4 Manage patient undergoing thrombolysis

Popliteal Artery Aneurysm - treatment:

- 2 Aneurysm-popliteal-repair-exclusion bypass of popliteal artery aneurysm
- 2 Aneurysm-Popliteal-repair-direct inlay graft repair
- 3 Fasciotomy

**Technical Skills and Procedures**

Thrombosed popliteal artery aneurysm:

- 3 Percutaneous angiography
- 3 Peroperative angiography
- 3 Peroperative thrombolysis
- 3 Fasciotomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>False aneurysm</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc B <i>Assessment and management of false aneurysms, operation with assistance.</i>
<b>Objective</b>	<i>False aneurysms of peripheral arteries - diagnosis and assessment: Ability to diagnose and investigate patients with false aneurysms of peripheral arteries.</i>  <i>Treatment of false aneurysm: Ability to treat straightforward false aneurysms.</i> False aneurysms of peripheral arteries - diagnosis and assessment:  4 Pathology of false aneurysms 4 Aetiology: Trauma, post surgical, infective, connective tissue disorders 3 Complications of false aneurysms
<b>Knowledge</b>	Treatment of false aneurysm:  4 Recognise sites of common occurring false aneurysms: Femoral, brachial, radial aortic, anastomotic 3 Indications for direct repair, ligation or endovascular repair 2 Indications for use of thrombin

False aneurysms of peripheral arteries - diagnosis and assessment:

- 4 History and examination
- 4 Assessment of co-morbidity
- 2 Perform ultrasound examination of femoral artery

**Clinical Skills**

Treatment of false aneurysm:

- 3 Selection of appropriate treatment
- 2 Ultrasound thrombin injection of false aneurysm

Treatment of false aneurysm:

**Technical Skills and Procedures**

- 2 False aneurysm repair-iv drug abuser
- 2 False aneurysm repair-post anastomosis
- 2 False aneurysm repair-post catheterisation
- 3 False aneurysm-ligation
- 2 Extra peritoneal control of iliac vessels

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Mesenteric ischaemia

**Category** Final Special Interest Vascular

**Sub-category:** Vasc B

*Diagnosis of mesenteric ischaemia and understanding of management together with specialist vascular surgeon.*

*Mesenteric ischaemia - diagnosis and assessment: Recognition of the possibility of mesenteric ischaemia and basic knowledge of investigation.*

**Objective**

*Mesenteric ischaemia- treatment: Knowledge of the means of treatment of mesenteric ischaemia*

*Mesenteric ischaemia - ongoing care: Understanding of the ongoing management of mesenteric ischaemia in consultation with other specialities.*

Mesenteric ischaemia - diagnosis and assessment:

- 3 Anatomy of aorta and mesenteric vessels
- 3 Pathology of mesenteric ischaemia

Mesenteric ischaemia- treatment:

**Knowledge**

- 2 Means of treatment of chronic mesenteric ischaemia both via operation and interventional radiology
- 3 secondary prevention of vascular disease
- 3 treatment of comorbidity
- 2 Means of treatment of acute mesenteric ischaemia

Mesenteric ischaemia - ongoing care:

- 2 Complications of treatment

Mesenteric ischaemia - diagnosis and assessment:

- 4 History and examination
- 3 Arrange appropriate investigation to exclude other pathology
- 2 Arrange appropriate investigation to identify mesenteric ischaemia
- 1 Interpretation of the clinical picture with the radiological abnormalities

Mesenteric ischaemia- treatment:

- Clinical Skills**
- 1 Selection of patients for appropriate intervention whether emergency or elective
  - 1 Interventional radiology

Mesenteric ischaemia - ongoing care:

- 3 Detection of complications
- 2 Management of organ failure
- 3 Management of comorbidity
- 2 Nutritional support

Mesenteric ischaemia- treatment:

- Technical Skills and Procedures**
- 1 Reconstruction-arterial-mesenteric
  - 3 Small bowel resection
  - 3 Hartmann's procedure

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Upper limb ischaemia/TOS**

**Category** Final Special Interest Vascular

**Sub-category:** Vasc B

*Understanding of the management of upper limb ischaemia.*

*Chronic Upper limb ischaemia - diagnosis and assessment: Ability to diagnose and assess upper limb ischaemia.*

**Objective**

*Chronic Upper Limb ischaemia - treatment: Understanding of the indications for intervention in upper limb ischaemia.*

*Chronic Upper limb ischaemia - ongoing care: Ability to arrange ongoing care of the patient with upper limb ischaemia.*

Chronic Upper limb ischaemia - diagnosis and assessment:

**Knowledge**

- 4 Anatomy of the vessels of the upper limb and thorax
- 4 Pathophysiology of ischaemia of the upper limb; atheroma, external pressure, radiation, inflammation, radiation, embolism
- 3 Pathophysiology of subclavian steal
- 4 Thoracic outlet syndrome, knowledge of anatomy, presentation, differential diagnosis, pathology and investigation

Chronic Upper Limb ischaemia - treatment:

- 3 Indications for conservative management , radiological intervention and

surgery  
3 Indications for treatment of subclavian steal  
3 Wires, sheaths and stents for upper limb use  
3 Techniques and conduits for upper limb bypass  
3 Drug treatment eg prostacyclin

Chronic Upper limb ischaemia - ongoing care:

4 Means of secondary prevention of upper limb ischaemia  
3 Complications of surgery for upper limb ischaemia  
2 Causes of pain in the upper limb following intervention including complex regional pain syndrome  
2 Therapeutic options for management of CRPS including dorsal sympathectomy

Chronic Upper limb ischaemia - diagnosis and assessment:

4 History and examination of the vascular system of the upper limb  
4 History and examination of the upper limb to diagnose thoracic outlet syndrome  
3 Appropriate investigation; Duplex ultrasound, MR angiography, angiography CTA, IADSA

**Clinical Skills** Chronic Upper Limb ischaemia - treatment:

3 Selection of patients for different forms of intervention

Chronic Upper limb ischaemia - ongoing care

3 Manage complications of surgery or interventional radiology including surveillance  
2 Thoracoscopic cervical sympathectomy

Chronic Upper Limb ischaemia - treatment:

3 Amputation-digit(s)  
3 Amputation-upper limb  
1 Excision of cervical rib-supraclavicular  
1 Excision of cervical rib-transaxillary (with 1st rib)  
1 Thoracic outlet syndrome-1st rib resection-supraclavicular  
1 Thoracic outlet syndrome-1st rib resection-transaxillary  
1 Carotid-subclavian bypass

**Technical Skills and Procedures**

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Sympathectomy</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc B <i>Assessment and management of patients requiring a lumbar sympathectomy.</i>
<b>Objective</b>	<i>Sympathetic Nervous System: Knowledge of the anatomy and physiology of the sympathetic nervous system</i>  <i>Indications for and management of lumbar sympathectomy: Identification and</i>

*management of some patients who might benefit from lumbar sympathectomy.*

Sympathetic Nervous System:

- 4 Anatomy of the autonomic nervous system and the relationship with surrounding structures
- 4 Functions of the sympathetic nervous system and the pathologic conditions resulting from abnormal sympathetic activity
- 3 Potential beneficial effects of sympathetic ablation and possible adverse side effects
- 2 Techniques of sympathetic activity assessment

**Knowledge**

Indications for and management of lumbar sympathectomy:

- 4 Indications sympathectomy for arterial occlusive disease
- 3 Probable outcome when sympathectomy is used for ischaemic ulcers, gangrene, rest pain, and the differences in clinical response for diabetes and non-diabetes
- 3 Role of sympathectomy for Buerger's disease, embolic disease, Raynaud's phenomenon, causalgia and post traumatic rest pain

Indications for and management of lumbar sympathectomy:

**Clinical Skills**

- 4 History and examine a patient with sympathetic dysfunction
- 2 Detection and management of the complications of lumbar sympathectomy

Indications for and management of lumbar sympathectomy:

**Technical Skills and Procedures**

- 2 Sympathectomy-lumbar-chemical
- 2 Sympathectomy-lumbar-surgical

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Access for dialysis</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc B
<b>Objective</b>	<i>Provide access for renal dialysis for most patients with renal failure.</i>
<b>Knowledge</b>	<ul style="list-style-type: none"><li>4 Renal failure: classification, causes, pathophysiology, treatment options</li><li>3 Renal Dialysis: indications, types of dialysis, access sites, complications, timing of access</li><li>4 Vascular anatomy of the upper and lower limbs</li><li>4 Principles of pre-operative preparation and post-operative management including assessment of cardiac function and venous conduits</li><li>4 Assess patients referred for vascular access: prepare patients for theatre, arrange appropriate investigations</li><li>4 Identify appropriate access site</li><li>3 Construct A-V fistula: Radio-cephalic, Brachio-cephalic, Brachio-basilic</li><li>4 Needling techniques: buttonhole, rope-ladder</li></ul>
<b>Clinical Skills</b>	<ul style="list-style-type: none"><li>3 Use of PTFE grafts</li><li>4 Insertion and removal of central venous dialysis catheter including tunnelled catheters</li><li>4 Insert and remove peritoneal dialysis catheter</li></ul> <ul style="list-style-type: none"><li>3 Manage post-op care: investigations, fluid management, drug therapy,</li></ul>



vascular complications - steal, venous hypertension, cardiac failure and aneurysm

3 Manage complications: thrombosis, haemorrhage, infection, CAPD peritonitis including sclerosing peritonitis

4 Peritoneal dialysis catheter-insert

4 Peritoneal dialysis catheter-removal

**Technical Skills and Procedures**

4 Peritoneal dialysis catheter change

4 Central venous line insertion

4 Access-arterio-venous fistula

4 Access-arterio-venous fistula-ligation

3 Access-secondary vascular

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Chronic lower limb ischaemia**

**Category** Final Special Interest Vascular

**Sub-category:** Vasc B

*Ability to identify the chronically ischaemic limb and perform femoral exploration and anastomosis.*

*Atherosclerosis - Knowledge of the pathophysiology of chronic lower limb ischaemia.*

*Chronic Lower Limb Ischaemia - Assessment: Diagnosis and investigation of chronic lower limb ischaemia.*

**Objective**

*Chronic lower limb ischaemia - Surgery: perform femoral exploration and anastomosis*

*Chronic lower limb ischaemia - Conservative Management: Ability to arrange suitable conservative management of chronic lower limb ischaemia.*

*Amputation - Recognise indications for amputation and perform common amputations with assistance for less common procedures.*

*Endovascular Treatment - Understand indications for endovascular treatment.*

Atherosclerosis:

3 Pathology of atherosclerosis (atherothrombosis) and complications.

3 Recognise risk factors for arterial disease

3 Natural history of lower limb arterial disease

4 Critical limb ischaemia

**Knowledge** Chronic Lower Limb Ischaemia - Assessment:

4 Anatomy of arteries supplying the lower limb.

3 Role of ultrasound and angiography and other imaging (e.g. MRA)

2 Role of angioplasty

2 Transluminal and sub-intimal angioplasty

Chronic lower limb ischaemia - Surgery:

- 3 Indications for intervention
- 3 Surgical approaches to infra-inguinal vessels
- 3 Types of anaesthesia
- 3 Potential complications of vascular surgery
- 2 Technical components of vascular anastomosis and commonly occurring problems

Chronic lower limb ischaemia - Conservative Management:

- 2 Basic principles of management of hypertension and hyperlipidaemia and diabetes
- 4 Epidemiology of tobacco smoking
- 3 Role of antiplatelet drugs

Amputation:

- 3 Types of amputation and advantages of each
- 3 Potential complications of amputation

Endovascular Treatment:

- 2 Approaches and techniques of angioplasty (transluminal and sub-intimal)
- 2 Indications for stenting

Chronic Lower Limb Ischaemia - Assessment:

- 4 Ability to take a relevant history and examine vascular system.
- 4 Use of ankle pressure measurements
- 3 Duplex ultrasound
- 2 Interpretation of angiograms
- 3 Selection for surgery and angioplasty

Chronic lower limb ischaemia - Surgery:

- 4 Expose femoral vessels.
- 4 Vascular anastomosis
- 3 Angioplasty/patch
- 4 Vein cuff/patch

**Clinical Skills**

Chronic lower limb ischaemia - Conservative Management:

- 2 Management of graft surveillance programme/clinic
- 2 Ability to run risk factor clinic

Endovascular Treatment:

- 1 Manage complications of angioplasty- bleeding, acute ischaemia, embolisation

Chronic lower limb ischaemia - Surgery

**Technical Skills and Procedures**

- 1 Occlusive-Aorto-femoral bypass
- 2 Occlusive-Aorto-iliac/iliac endarterectomy
- 2 Occlusive-Axillo-femoral bypass

2 Occlusive-Profundaplasty  
 3 Peroperative angiography  
 2 Peroperative angioplasty  
 4 Lower limb-femoral endarterectomy/patch  
 4 Lower limb-femoro-femoral cross-over graft  
 3 Lower limb-ileofemoral bypass  
 3 Lower limb-fem-popliteal bypass-AK  
 4 Lower limb-fem-popliteal bypass-AK-part-harvest vein  
 4 Lower limb-fem-popliteal bypass-AK-part-femoral dissection  
 4 Lower limb-fem-popliteal bypass-AK-part-femoral anastomosis  
 3 Lower limb-fem-popliteal bypass-AK-part-AK popliteal dissection  
 2 Lower limb-fem-popliteal bypass-AK-part-AK popliteal anastomosis  
 2 Lower limb-fem-popliteal bypass-BK  
 4 Lower limb-fem-popliteal bypass-BK popliteal-part-harvest vein  
 4 Lower limb-fem-popliteal bypass-BK-part-femoral dissection  
 4 Lower limb-fem-popliteal bypass-BK-part-femoral anastomosis  
 2 Lower limb-fem-popliteal bypass-BK-part-BK popliteal dissection  
 1 Lower limb-fem-popliteal bypass-BK-part-BK popliteal anastomosis  
 2 Reoperation-occlusion-aorta  
 2 Reoperation-occlusion-femorodistal graft

Amputation:

4 Amputation-digit(s)  
 4 Amputation-trans-metatarsal  
 2 Amputation-through knee  
 3 Amputation-BK  
 4 Amputation-AK  
 2 Amputation-revision

Endovascular Treatment:

1 Transluminal angioplasty of iliac stenosis  
 1 Transluminal angioplasty of iliac occlusion  
 1 Transluminal angioplasty of SFA stenosis  
 1 Transluminal angioplasty of SFA occlusion  
 1 Subintimal angioplasty of infra-inguinal vessels

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Venous disease</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc C <i>Assessment and management of varicose veins, including recurrent veins and complications.</i>
<b>Objective</b>	<i>Varicose veins - primary varicose veins: Ability to assess and manage primary varicose veins.</i>  <i>Varicose veins - recurrent varicose veins: Ability to assess and manage recurrent varicose veins.</i>

*Varicose veins - complications: Ability to assess and manage the complications of varicose veins.*

*Deep vein thrombosis - surgical management: Ability to recognise limb threatening deep venous thrombosis and refer appropriately.*

Varicose veins - primary varicose veins:

- 4 Aetiology
- 4 Anatomy of the venous system
- 4 Indications for surgery for varicose veins
- 4 Complications of varicose veins
- 4 Complications of operation

Varicose veins - recurrent varicose veins:

- 4 Aetiology of recurrent varicose veins

## **Knowledge**

Varicose veins - complications:

- 4 Aetiology of the complications of varicose veins: varicose eczema, ulceration, malignancy

Deep vein thrombosis - surgical management:

- 3 Indications for surgical management of deep venous thrombosis
- 3 Medical management of DVT and PE
- 4 Indications for surgical management of deep venous thrombosis
- 4 Indications for IVC filters
- 4 Recognise long term complications of DVT (post phlebotic leg)

Varicose veins - primary varicose veins:

- 4 Examination of the venous system of the lower limbs
- 4 Select patients who require pre-operative investigations such as Duplex scanning
- 4 Select patients who require surgery
- 4 Non-operative management

Varicose veins - recurrent varicose veins:

- 4 Assessment by examination and appropriate investigations (Duplex, venography, plethysmography)
- 4 Selection of patients for surgery

## **Clinical Skills**

Varicose veins - complications:

- 4 Assessment by examination and appropriate investigations
- 4 Investigation by Duplex ultrasound
- 4 Non-operative management methods: support hosiery, 4 layer bandaging, skin grafting
- 4 Operative treatment

Deep vein thrombosis - surgical management:

4 Ability to recognise when deep venous thrombosis constitutes a limb threat  
3 Investigations  
2 Operation  
3 Post-operative care  
3 Detection of complications  
Varicose veins - primary varicose veins

4 Vvs-long saphenous-SFJ ligm+/-strip+/-avulsions  
4 Vvs-SPJ ligation+/-strip+/-avulsions  
4 Vvs-multiple stab avulsions

Varicose veins - recurrent varicose veins

**Technical Skills and Procedures** 4 Vvs-recurrent-re-do SFJ ligm+/-avulsions  
4 Vvs-recurrent-multiple stab avulsions  
4 Vvs-recurrent-re-do SPJ ligm+/-avulsions

Other operative procedures

3 Vvs-subfascial ligation open  
3 Vvs-subfascial SEPS  
3 Vvs-LSV endotherapy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Carotid atherosclerosis</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc C
	<i>Ability to investigate cerebrovascular disease, perform straightforward carotid endarterectomy.</i>
	<i>Diagnosis and assessment of cerebro-vascular disease: Ability to diagnose cerebro-vascular disease and assess the cause and severity.</i>
	<i>Treatment of cerebro-vascular disease: Understanding of the indications for medical and surgical intervention in cerebro-vascular disease, operation in straightforward cases.</i>
<b>Objective</b>	<i>Peri-operative cerebrovascular blood flow assessment: Ability to assess cerebrovascular blood flow during the peri-operative period.</i>
	<i>Acute stroke: Understanding of the place of surgery in acute stroke.</i>
	<i>Cardiac assessment: Understanding of the management of patients with both carotid and vascular disease.</i>
	<i>Ongoing care for cerebro-vascular disease: Ability to supervise ongoing care for cerebrovascular disease.</i>
	<i>Endovascular treatment: Understanding of endovascular management of</i>

*carotid disease.*

Diagnosis and assessment of cerebro-vascular disease:

- 4 Anatomy of vessels of the head and neck
- 4 Physiology of cerebral circulation
- 4 Knowledge of aetiology and epidemiology of stroke
- 4 Pathophysiology of cerebro-vascular disease

Treatment of cerebro-vascular disease:

- 4 Indications for conservative management and for surgery
- 4 Medical treatment
- 4 Evidence from the stroke studies (NASCET, ECST, ACST)

Peri-operative cerebrovascular blood flow assessment:

- 4 Methods of peri-operative assessment of cerebral blood flow: Transcranial Doppler, stump pressure, EEG

**Knowledge**

Acute stroke:

- 2 Indications for intervention in acute/evolving stroke

Cardiac assessment:

- 2 Methods of assessment of cardiac status

Ongoing care for cerebro-vascular disease:

- 4 Conservative treatment for cerebrovascular disease
- 4 complications of medical and surgical treatment

Endovascular treatment:

- 2 Indications for carotid stenting

Diagnosis and assessment of cerebro-vascular disease:

- 4 History and examination pertaining to cerebro-vascular disease
- 4 Appropriate investigations: Carotid Duplex, MR angiogram, CT scan and CT angiogram, Carotid arteriography

Treatment of cerebro-vascular disease:

- 4 Selection of patients for surgery or interventional radiology

**Clinical Skills**

Peri-operative cerebrovascular blood flow assessment:

- 3 Use of shunt

Acute stroke:

- 1 Carotid surgery in acute stroke

Cardiac assessment:

2 Synchronous carotid and cardiac surgery

Ongoing care for cerebro-vascular disease:

4 manage complications of medical and surgical treatment including stroke, bleeding, airway obstruction, acute occlusion, cranial nerve injury

4 Follow-up of patients following carotid surgery.

Treatment of cerebro-vascular disease

4 Carotid endarterectomy-complete operation GA

3 Carotid endarterectomy-complete operation LA

4 Carotid endarterectomy-part-dissection

4 Carotid endarterectomy-part-endarterectomy

4 Carotid endarterectomy-part-patchclosure

2 Carotid-subclavian-bypass

2 Re-do carotid surgery

**Technical Skills  
and Procedures**

Endovascular surgery

1 Carotid stent graft

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Carotid body tumours + aneurysms

**Category** Final Special Interest Vascular

**Sub-category:** Vasc C

*Diagnosis and assessment of carotid body tumours and carotid aneurysms.*

*Diagnosis and assessment of carotid body tumour: Ability to diagnose and investigate carotid body tumours.*

**Objective**

*Treatment of carotid body tumours: Knowledge of operation for carotid body tumours.*

*Management of complications of treatment for carotid body tumours:  
Knowledge of complications of surgery for carotid body tumours.*

*Carotid aneurysms: Ability to diagnose carotid aneurysms.*

Diagnosis and assessment of carotid body tumour:

4 Epidemiology and pathology

4 Associated medical conditions

3 Investigation: Angiogram, CT scan, MR angiogram, CT angiogram, MIBI Scan

**Knowledge**

Treatment of carotid body tumours:

3 Indications for treatment

Management of complications of treatment for carotid body tumours:

2 Understanding of possible complications: Bleeding, cranial nerve injury, airway obstruction, malignancy

Carotid aneurysms:

4 Aetiology, pathology and natural history

3 Diagnosis

3 Investigation: Duplex, CT scan, MR angiogram

3 Indications for surgery

Diagnosis and assessment of carotid body tumour:

4 Clinical examination and recognise clinical features

Management of complications of treatment for carotid body tumours:

**Clinical Skills** 2 Identify and manage complications

Carotid aneurysms:

4 Clinical examination

2 Methods of reconstruction including: Direct repair, Vein jump graft

Treatment of carotid body tumours:

**Technical Skills and Procedures** 2 Carotid body tumour excision

Carotid aneurysms:

2 Carotid aneurysm excision

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Carotid trauma  
**Category** Final Special Interest Vascular  
**Sub-category:** Vasc C

*Diagnosis of carotid trauma and control of bleeding.*

**Objective** *Diagnosis and management of carotid artery trauma: Ability to diagnose and control bleeding in carotid artery trauma.*

*Airway management: Understanding of the indications for tracheostomy in carotid artery trauma.*

Diagnosis and management of carotid artery trauma:

**Knowledge** 4 Mechanisms of sharp and blunt carotid artery injury  
4 Aetiology of carotid artery dissection  
4 Investigation: angiography, Duplex, MR angiography, CT Scan  
4 Medical management of carotid dissection

Airway management:



4 Indications for tracheostomy  
Diagnosis and management of carotid artery trauma:

**Clinical Skills** 4 Perform Duplex Scan  
4 Control of bleeding in injured artery  
3 Arterial trauma management  
2 Repair including: intimal flap, direct repair, vein jump graft, use of shunt

**Technical Skills and Procedures** No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Aortic aneurysm  
**Category** Final Special Interest Vascular  
**Sub-category:** Vasc C  
*Assessment and management of most abdominal aortic aneurysms, not including full competency in endovascular management or complex aneurysms.*

*Aortic aneurysm - diagnosis and assessment: Ability to diagnose and investigate patients with aortic aneurysm.*

*Aortic aneurysm - treatment: Ability to manage straightforward aortic aneurysms electively.*

**Objective** *Aortic aneurysm - ongoing care: Ability to manage ongoing care of aortic aneurysm and refer complications appropriately.*

*Aortic Aneurysm - Management of complex aneurysms: Understanding of the principles of the management of complex aortic aneurysms.*

*Endovascular AAA repair: Knowledge of the principles of endovascular aortic aneurysm repair.*

*Endovascular AAA repair - ongoing management: Knowledge of the complications of endovascular management of aortic aneurysms.*

**Knowledge** Aortic aneurysm - diagnosis and assessment:

4 Anatomy of the aorta and main branches  
4 Aetiology  
4 Indications for intervention  
4 Natural history  
4 Investigation: Ultrasound, CT scan, MR scan  
4 Screening programmes

Aortic aneurysm - treatment:

4 Knowledge of open repair  
3 Indication for open versus endovascular repair

Aortic aneurysm - ongoing care:

- 4 Complications of open aortic surgery
- 4 Means of secondary prevention of vascular disease
- 4 indications for renal support

Aortic Aneurysm - Management of complex aneurysms:

- 3 Strategy to deal with : horseshoe kidney, inflammatory, mycotic aneurysm, aorto-caval fistula, co-existent renal transplant

Endovascular AAA repair:

- 4 Limitations of technique
- 4 Investigations
- 4 Methods of assessment for endovascular suitability

Endovascular AAA repair - ongoing management:

- 3 Types of endoleak
- 3 Follow-up regimen and management of complications
- 3 Indications for supra-renal fixation

Aortic aneurysm - diagnosis and assessment:

- 4 History and examination
- 4 Assessment of co-morbidity
- 4 Able to objectively assess cardiac, respiratory and renal system

Aortic aneurysm - treatment:

- 4 Selection of patients for conservative management, open operation or endovascular stent graft

Aortic aneurysm - ongoing care:

- 4 Ability to recognise and manage complications: bleeding (including DIC), thrombosis, embolism, gut ischaemia, organ failure and leg ischaemia
- 3 Re-operation - infected graft - aorta

## Clinical Skills

Aortic Aneurysm - Management of complex aneurysms:

- 2 Able to repair AAA in conjunction with aorto-caval fistula, when inflammatory aneurysm, transplanted and horseshoe kidney
- 2 Able to deal with mycotic AAA

Endovascular AAA repair:

- 4 No op name on list (only complete op) Endovascular repair part operation- can place guidewire in aorta and deploy proximal end of graft
- 4 No op name on list Endovascular repair part operation- can deploy distal ends of graft in iliac arteries (4)
- 4 Aneurysm-Endovascular stent graft

Endovascular AAA repair - ongoing management:

3 Recognise endoleak on angiogram and treat it endovascularly  
 0 No op name on list other than Aneurysm-Aortic endoleak  
 3 No op name on list Place graft cuff proximal and distally  
 2 No op name on list Remove graft that has migrated and replace with open graft  
 3 No op name on list Deal with occluded limb  
 2 No op name on list Supra-renal fixation of graft  
 Aortic aneurysm-treatment

4 AAA-tube graft-part-control/dissection  
 4 AAA-tube graft-part-proximal anastomosis  
 4 AAA-tube graft-part-distal aortic anastomosis  
 3 AAA-tube graft-complete operation  
 4 AAA-bifurcated graft-part-control/dissection  
 4 AAA-bifurcated graft-part-proximal anastomosis  
 4 AAA-bifurcated graft-part-femoral anastomosis  
 3 AAA-bifurcated graft-complete operation  
 1 AAA-suprarenal aneurysm repair  
 1 AAA-aortocaval fistula repair  
 1 AAA-aortointestinal fistula repair  
 1 Reoperation-infected graft-aorta

**Technical Skills and Procedures**

Endovascular AAA repair:

1 AAA-endovascular stent graft-complete operation  
 4 AAA-endovascular stent graft-femoral artery dissection+closure  
 3 AAA-endovascular stent graft-place guidewire+deploy proximal end  
 3 AAA-endovascular stent graft-cannulation+deploy contralateral limb

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Femoral aneurysm  
**Category** Final Special Interest Vascular  
**Sub-category:** Vasc C

*Assessment and management of femoral artery aneurysms.*

*Femoral artery aneurysm - diagnosis and assessment: Ability to diagnose and investigate patients with femoral artery aneurysms.*

**Objective** *Femoral Artery Aneurysm - treatment: Ability to manage straightforward femoral artery aneurysms electively.*

*Ruptured Femoral Artery Aneurysm - treatment: Emergency surgery for ruptured femoral artery aneurysm.*

Femoral artery aneurysm - diagnosis and assessment:

**Knowledge** 4 Anatomy of the femoral artery and branches  
 4 Aetiology  
 4 Indications for intervention  
 4 Natural history of femoral artery aneurysms  
 4 Investigation: ultrasound, CT scan, role of angiography

Femoral Artery Aneurysm - treatment:

- 4 Indications for interventional treatment
- 4 Knowledge of surgical approaches

Ruptured Femoral Artery Aneurysm - treatment:

- 4 Recognise and investigate

Femoral artery aneurysm - diagnosis and assessment:

- 4 History and examination
- 4 Assessment of co-morbidity
- 4 Perform ultrasound examination of femoral artery

**Clinical Skills** Femoral Artery Aneurysm - treatment:

- 4 Selection of patients for conservative management

Ruptured Femoral Artery Aneurysm - treatment:

- 4 Methods of repair of femoral aneurysm

**Technical Skills  
and Procedures**

Ruptured Femoral Artery Aneurysm

- 4 Extra-peritoneal control of iliac vessels

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Popliteal aneurysm**

**Category** Final Special Interest Vascular

**Sub-category:** Vasc C

*Assessment and open surgical management of popliteal aneurysms.*

*Popliteal artery aneurysm - diagnosis and assessment: Ability to diagnose and investigate patients with popliteal artery aneurysms.*

**Objective**

*Popliteal Artery Aneurysm - treatment: Ability to manage straightforward popliteal artery aneurysms electively.*

*Thrombosed popliteal artery aneurysm: Ability to recognise and manage thrombosed popliteal artery aneurysms presenting acutely.*

Popliteal artery aneurysm - diagnosis and assessment:

- 4 Anatomy of the popliteal artery and branches
- 4 Aetiology
- 4 Indications for intervention
- 4 Natural history, risk of limb loss
- 4 Investigation: ultrasound, CT scan, MR scan, role of angiography

**Knowledge**

Popliteal Artery Aneurysm - treatment:

- 4 Indications for interventional treatment
- 4 Knowledge of surgical approaches
- 3 Indications for open versus endovascular repair

Thrombosed popliteal artery aneurysm:

- 4 Recognise and describe clinical symptoms and signs.
- 4 Investigation: Duplex, angiography
- 4 Treatment options; thrombolysis, surgery, conservative
- 4 Complications of thrombolysis, bleeding, distal embolisation
- 4 Indications for fasciotomy

Popliteal artery aneurysm - diagnosis and assessment:

- 4 History and examination
- 4 Assessment of co-morbidity
- 4 Perform ultrasound examination of popliteal artery

Popliteal Artery Aneurysm - treatment:

- 4 Selection of patients for conservative management, open operation or endovascular stent graft
- 4 Only op name on list is 'Aneurysm-Popliteal-repair' Perform exclusion bypass of popliteal artery aneurysm
- 4 Perform direct inlay graft repair
- 1 Perform endovascular graft placement

**Clinical Skills**

Thrombosed popliteal artery aneurysm:

- 4 Initiate thrombolysis
- 4 Manage patient undergoing thrombolysis
- 3 Emergency surgical bypass for thrombosed popliteal artery aneurysm

Popliteal Artery Aneurysm - treatment:

- 3 Aneurysm-popliteal-repair-exclusion bypass of popliteal artery aneurysm
- 3 Aneurysm-Popliteal-repair-direct inlay graft repair
- 4 Fasciotomy

**Technical Skills and Procedures**

Thrombosed popliteal artery aneurysm:

- 4 Percutaneous angiography
- 4 Peroperative angiography
- 4 Peroperative thrombolysis
- 4 Fasciotomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Acute limb ischaemia</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc C
<b>Objective</b>	<i>Ability to recognise and manage acute limb ischaemia.</i>

*Acute limb ischaemia: To recognise and treat acute limb ischaemia.*

*Complications of acute limb ischaemia: Recognise and manage complications of treatment of acute limb ischaemia.*

*Thrombolysis: Management of thrombolysis.*

Acute limb ischaemia:

- 4 Pathophysiology of acute limb ischaemia
- 4 Anatomy of the arterial system
- 3 Risk factors for acute limb ischaemia
- 4 Knowledge of causes of acute limb ischaemia
- 4 Indications for emergency intervention
- 4 Indications for embolectomy, thrombolysis, primary amputation
- 4 Subsequent management and investigation of patient with acute limb ischaemia

## **Knowledge**

Complications of acute limb ischaemia:

- 4 Ischaemia reperfusion injury and systemic effects
- 4 Ways of attenuating effects of reperfusion

Thrombolysis:

- 4 Knowledge of methods and agents used for thrombolysis
- 4 Indications for thrombolysis
- 4 Complications of thrombolysis

Acute limb ischaemia:

- 4 History and examination to detect acute limb ischaemia
- 4 Arrange appropriate urgent investigations: duplex, angiogram
- 4 Can recognise when intervention is not appropriate
- 4 Vein cuff/patch

Complications of acute limb ischaemia:

## **Clinical Skills**

- 4 Manage patient when embolectomy fails
- 3 Manage patient with rhabdomyolysis
- 4 Emergency bypass

Thrombolysis:

- 4 Manage patient undergoing Thrombolysis
- 4 Management of complications of Thrombolysis

Acute limb ischaemia:

## **Technical Skills and Procedures**

- 4 Percutaneous angiogram
- 4 Peroperative angiogram
- 4 Thrombo-embolectomy-arterial-femoral
- 4 Thrombo-embolectomy-arterial-brachial
- 4 Thrombo-embolectomy-arterial-popliteal
- 4 Thrombo-embolectomy-arterial-tibial
- 4 Peroperative thrombolysis

Complications of acute limb ischaemia:

4 Fasciotomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>InterventRadAA</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc C <i>Assessment and management of patients with aortic aneurysm disease.</i>
<b>Objective</b>	<i>To select patients appropriately for Aortic Aneurysm and Dissection procedures.</i>  <i>To understand the pre-procedure and post-procedure management and follow up for these procedures and patients.</i>  <i>To demonstrate technical competence in the performance of these procedures.</i>
<b>Knowledge</b>	4 Clinical characteristics of a patient with aortic aneurysm (thoracic and abdominal) disease and aortic Dissections 4 Common aetiologies of aortic disease 4 Classification of thoracic aneurysms including dissections 4 Implications of medical, surgical and endovascular management 4 Role of non-invasive investigation; Duplex/MRA/CT angiography/IADSA 4 Indications for percutaneous interventions in patients with Aortic disease including the role of endovascular treatments of traumatic Aortic injuries eg dissection and pseudoaneurysm 4 Limitations of endovascular treatment of thoracic and abdominal aortic aneurysms 4 Medical and surgical options 4 Pre, intra and post procedural pharmacological management 4 Understands the place of new emerging technologies 4 Type and rates of complications of Aortic vascular interventions and their management 4 Results of intervention in terms of patient survival, relief of symptoms and vessel patency 4 History and examination in a patient with Aortic disease 4 Recognise patients with thoracic and abdominal aortic aneurysms or aortic dissection and branch vessel compromise who may benefit from endovascular intervention eg fenestration and or stent placement 4 Interpretation of non-invasive imaging, examination and past surgical history to plan optimal arterial access
<b>Clinical Skills</b>	4 Integrate preprocedural imaging information in the planning of the type of graft chosen for each patient, the appropriate size of the graft and components and appropriate access for the endovascular procedure 4 Proper puncture site management techniques 4 Preprocedural and periprocedural embolization of branch vessels as necessary to successfully exclude aneurysms and endovascular techniques

- 4 Familiarity with a wide range of interventional equipment, including guidewires, sheaths, balloons, stents and endografts
- 4 Intraprocedural pressure measurements and interpretation thereof
- 4 Technical competence in the performance of Aortic vascular interventions including balloon angioplasty and stent placement techniques
- 4 Ability to recognise all types of endoleaks and competency in the various techniques of treatment of endoleaks
- 4 Use of puncture site closure devices
- 4 Coordinate proper follow up imaging after successful endovascular aortic aneurysm repair
- 4 Clear, prompt and concise reports
- 4 Percutaneous angiography
- 4 Peroperative angiography
- 4 Peroperative angioplasty
- 4 AAA-endovascular stent graft
- 4 AAA-endovascular stent graft-femoral artery dissection+closure
- 4 AAA-endovascular stent graft-place guidewire+deploy proximal end
- 4 AAA-endovascular stent graft-cannulation+deployment of contralateral limb

**Technical Skills and Procedures**

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>InterventRadPVD-LL</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc C
	<i>Assessment and management of patients with lower extremity peripheral vascular disease. Using interventional radiology.</i>
<b>Objective</b>	<i>To select patients appropriately for lower limb interventional procedures.</i>
	<i>To understand the pre-procedure and post-procedure management and follow up for these procedures and patients.</i>
	<i>To demonstrate technical competence in the performance of these procedures.</i>
<b>Knowledge</b>	<ul style="list-style-type: none"> <li>4 Indications for percutaneous interventions in patients with lower limb ischaemia</li> <li>4 Medical and surgical options</li> <li>4 Atherosclerotic lesions suitable for treatment and their expected response to intervention</li> <li>4 Pre, intra and post procedural pharmacological management including restenosis</li> <li>4 Absolute contraindication to pharmacologic thrombolysis</li> <li>4 Differences between embolic and in situ thrombolysis</li> <li>4 Emerging technologies including brachytherapy</li> <li>4 Complications of balloon angioplasty, stent placement and thrombolysis procedures and their incidence</li> <li>4 Results of intervention in terms of limb salvage, patient survival and vessel patency</li> </ul>
<b>Clinical Skills</b>	<ul style="list-style-type: none"> <li>4 History and examination to detect Lower Limb ischaemia</li> <li>4 Classify the severity of Lower Limb Ischaemia</li> <li>4 Interpretation of non-invasive imaging, examination and past surgical history to plan optimal arterial access</li> </ul>



- 4 Proper puncture site management techniques
- 4 Familiarity with a wide range of interventional equipment, including but not limited to guidewires, sheaths, balloons, stents and endografts
- 4 Ability to perform intraprocedural pressure measurements and interpretation thereof
- 4 Technical competence in the performance of peripheral vascular interventions including balloon angioplasty, stent placement, recanalisation techniques and thrombolysis
- 4 Use of puncture site closure devices
- 4 Percutaneous angiography
- 4 PTA/stent-SFA stenosis
- 4 PTA/stent-SFA occlusion

**Technical Skills and Procedures**

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **InterventRadVTE**

**Category** Final Special Interest Vascular

**Sub-category:** Vasc C

*Assessment and management of patients requiring IVC filter placements.*

**Objective**

*To be able to evaluate and provide IVC Filter placement for patients with venous thromboembolism (VTE).*

- 4 Classification of patients with acute and chronic VTEs based upon history, physical examination and imaging
- 4 Indications for IVC filter placement and pulmonary angiography in patients with VTEs
- 4 Medical and surgical treatments for patients with VTEs

**Knowledge**

- 4 Complications of pulmonary angiography, inferior vena cavography, vascular access and IVC filter placement and their incidence
- 4 Potential advantages and limitations of various filter types including the maximal caval diameter in which each type of device may be placed
- 4 Anatomic variants and pathology identified at inferior vena cavography and IVC filter placement
- 4 History and perform a clinical examination in a patient with VTEs
- 4 Integrate non-invasive testing, vascular imaging and physical findings to plan optimal access for IVC filter placement
- 4 Familiarity with a wide range of interventional equipment including but not limited to guidewires, catheters and IVC filters
- 4 Pre, intra and post procedural pharmacological management for patients undergoing IVC Filter placement including anticoagulation
- 4 Intraprocedural pressure monitoring during pulmonary angiography
- 4 Clear, prompt and concise reports

**Clinical Skills**

**Technical Skills and Procedures**

- 4 Percutaneous angiography

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Chronic lower limb ischaemia**

**Category** Final Special Interest Vascular

**Sub-category:** Vasc C

*Management of the chronically ischaemic lower limb, including operation for most cases.*

*Atherosclerosis: Knowledge of the pathophysiology of chronic lower limb ischaemia.*

*Chronic Lower Limb Ischaemia - Assessment: Diagnosis and investigation of most patients with chronic lower limb ischaemia.*

**Objective** *Chronic lower limb ischaemia - Surgery: Operation for chronic lower limb ischaemia in most patients.*

*Chronic lower limb ischaemia - Conservative Management: Ability to arrange suitable conservative management of chronic lower limb ischaemia.*

*Amputation: Recognise indications for amputation and perform common amputations.*

*Endovascular Treatment: Understand indications for endovascular treatment and undertake common procedures under supervision.*

Atherosclerosis:

- 4 Pathology of atherosclerosis (atherothrombosis) and complications
- 4 Recognise risk factors for arterial disease
- 4 Natural history of lower limb arterial disease
- 4 Critical limb ischaemia

Chronic Lower Limb Ischaemia - Assessment:

- 4 Anatomy of arteries supplying the lower limb
- 4 Role of ultrasound and angiography and other imaging (e.g. MRA)
- 3 Role of angioplasty
- 3 Transluminal and sub-intimal angioplasty

Chronic lower limb ischaemia - Surgery:

**Knowledge** 4 Indications for intervention  
4 Surgical approaches to infra-inguinal vessels  
3 Types of anaesthesia  
4 Potential complications of vascular surgery  
3 Technical components of vascular anastomosis and commonly occurring problems

Chronic lower limb ischaemia - Conservative Management:

- 3 Basic principles of management of hypertension and hyperlipidaemia and diabetes
- 4 Epidemiology of tobacco smoking
- 2 Role of antiplatelet drugs

Amputation:

- 4 Types of amputation and advantages of each

4 Potential complications of amputation

Endovascular Treatment:

3 Approaches and techniques of angioplasty (transluminal and sub-intimal)

3 Indications for stenting

Chronic Lower Limb Ischaemia - Assessment:

4 Ability to take a relevant history and examine vascular system

4 Use of ankle pressure measurements

4 Duplex ultrasound

3 Percutaneous angiography

2 Interpretation of angiograms

4 Selection for surgery and angioplasty

Chronic lower limb ischaemia - Surgery:

4 Expose femoral vessel

4 Vascular anastomosis

4 Angioplasty/patch

4 Vein cuff/patch

**Clinical Skills**

Chronic lower limb ischaemia - Conservative Management:

3 Management of graft surveillance programme/clinic

3 Ability to run risk factor clinic

Endovascular Treatment:

3 Manage complications of angioplasty- bleeding, acute ischaemia, embolisation

Chronic lower limb ischaemia - Surgery

4 Occlusive-Aorto-femoral bypass

4 Occlusive-Aorto-iliac/iliac endarterectomy

4 Occlusive-Axillo-femoral bypass

4 Occlusive-Profundaplasty

4 Peroperative angiography

3 Peroperative angioplasty

4 Lower limb-femoral endarterectomy/patch

4 Lower limb-femoro-femoral cross-over graft

**Technical Skills  
and Procedures**

4 Lower limb-ileofemoral bypass

4 Lower limb-fem-popliteal bypass-AK

4 Lower limb-fem-popliteal bypass-AK-part-harvest vein

4 Lower limb-fem-popliteal bypass-AK-part-femoral dissection

4 Lower limb-fem-popliteal bypass-AK-part-femoral anastomosis

4 Lower limb-fem-popliteal bypass-AK-part-AK popliteal dissection

4 Lower limb-fem-popliteal bypass-AK-part-AK popliteal anastomosis

3 Lower limb-fem-popliteal bypass-BK

4 Lower limb-fem-popliteal bypass-BK-part-harvest vein

4 Lower limb-fem-popliteal bypass-BK-part-femoral dissection

4 Lower limb-fem-popliteal bypass-BK-part-femoral anastomosis

2 Lower limb-fem-popliteal bypass-BK-part-BK popliteal dissection

- 2 Lower limb-fem-popliteal bypass-BK-part-BK popliteal anastomosis
- 2 Lower limb-fem-popliteal bypass-BK-crural vessels
- 4 Lower limb-fem-popliteal bypass-BK-crural vessels-part-harvest vein
- 4 Lower limb-fem-popliteal bypass-BK-crural vessels-part-femoral dissection
- 4 Lower limb-fem-popliteal bypass-BK-crural vessels-part-femoral anastomosis
- 2 Lower limb-fem-popliteal bypass-BK-crural vessels-part-crural vessel dissection
- 1 Lower limb-fem-popliteal bypass-BK-crural vessels-part-crural vessel anastomosis
- 3 Reoperation-occlusion-aorta
- 3 Reoperation-occlusion-femorodistal graft

Amputation:

- 4 Amputation-digit(s)
- 4 Amputation-trans-metatarsal
- 4 Amputation-through knee
- 4 Amputation-BK
- 4 Amputation-AK
- 4 Amputation-revision

Endovascular Treatment:

- 3 Transluminal angioplasty of iliac stenosis
- 3 Transluminal angioplasty of iliac occlusion
- 3 Transluminal angioplasty of SFA stenosis
- 3 Transluminal angioplasty of SFA occlusion
- 3 Subintimal angioplasty of infra-inguinal vessels

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Ruptured Abdominal Aortic Aneurysm</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc C
<b>Objective</b>	<i>The management of ruptured aortic aneurysm, including supervised operation in some cases.</i>
	Diagnosis:
	4 Patients at risk
	4 Clinical features
	4 Role and timing of investigation
<b>Knowledge</b>	Initial Management:
	4 Hypovolaemia relevant to the condition
	4 Understands importance of immediate intervention
	Operation:
	4 Anatomy of the abdomen and major vessels
	4 Basic physiology of aortic clamping
	4 Coagulopathy

Post-operative care:  
3 Nutrition  
4 Fluid balance  
4 Respiratory and renal physiology  
4 Cardiac function

Complications:  
4 Early and late complications  
3 Indications for investigation such as CT scan

Diagnosis:  
4 History and examination

Initial Management:  
3 Patient selection

Operation:  
2 Operation for ruptured aortic aneurysm  
4 Recognises signs of coagulopathy  
4 Able to initiate basic treatment of coagulopathy

**Clinical Skills**

Post-operative care:  
2 Understands need for nutritional support  
4 Fluid requirements  
3 Able to work in an ITU environment

Complications:  
3 Clinical recognition of complications  
3 Recognise need for early and late re-intervention  
2 Carry out appropriate surgery with other disciplines as necessary

Operation  
2 AAA-bifurcated graft  
3 AAA-bifurcated graft-part-control/dissection  
3 AAA-bifurcated graft-part-femoral anastomosis  
3 AAA-bifurcated graft-part-proximal anastomosis

**Technical Skills and Procedures**

2 AAA-tube graft-complete operation  
3 AAA-tube graft-part-control/dissection  
3 AAA-tube graft-part-distal aortic anastomosis  
3 AAA-tube graft-part-proximal anastomosis  
1 AAA-suprarenal aneurysm repair  
1 AAA-aortocaval fistula repair  
1 AAA-aortointestinal fistula repair

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Acute compartment syndrome</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc C
	<i>Recognise and manage Limb Compartment Syndrome.</i>
<b>Objective</b>	<i>Compartment Syndrome: ability to diagnose and assess acute compartment syndrome</i>

*Surgical treatment: surgery for limb compartment syndrome*

*Complications: recognition and management of complications of compartment syndrome.*

Compartment Syndrome:

4 Pathology and Physiology

4 Aetiology

4 Able to understand compartment pressure measurements

**Knowledge**

Surgical Treatment:

4 Anatomy of compartments and structures at risk

Complications:

3 Wound care and timing of skin grafting

4 Recognise neurological problems

Compartment Syndrome:

4 Recognise patients at risk

4 Identify clinical symptoms and signs

**Clinical Skills**

Surgical Treatment:

4 Appropriate surgery

Complications:

4 Ability to perform skin graft or refer appropriately

Surgical Treatment

**Technical Skills  
and Procedures**

4 Fasciotomy

4 Amputation-AK

4 Amputation-BK

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic**

**Chronic lower limb ischaemia**

**Category**

Final Special Interest Vascular

**Sub-category:**

Vasc D

*Management of the chronically ischaemic lower limb, including operation.*

*Atherosclerosis: knowledge of the pathophysiology of chronic lower limb ischaemia.*

**Objective**

*Chronic Lower Limb Ischaemia - Assessment: Diagnosis and investigation of chronic lower limb ischaemia.*

*Chronic lower limb ischaemia - Surgery: Operation where appropriate for chronic lower limb ischaemia.*

*Chronic lower limb ischaemia - Conservative Management: Ability to arrange suitable conservative management of chronic lower limb ischaemia.*

*Amputation: Recognise indications for amputation and perform amputations as needed.*

*Endovascular Treatment: Understand indications for endovascular treatment and undertake common procedures.*

Atherosclerosis:

- 4 Pathology of atherosclerosis (atherothrombosis) and complications
- 4 Recognise risk factors for arterial disease
- 4 Natural history of lower limb arterial disease
- 4 Critical limb ischaemia

Chronic Lower Limb Ischaemia - Assessment:

- 4 Anatomy of arteries supplying the lower limb
- 4 Role of ultrasound and angiography and other imaging (e.g. MRA)
- 4 Role of angioplasty
- 4 Transluminal and sub-intimal angioplasty

Chronic lower limb ischaemia - Surgery:

- 4 Indications for intervention
- 4 Surgical approaches to infra-inguinal vessels
- 3 Types of anaesthesia
- 4 Potential complications of vascular surgery
- 4 Technical components of vascular anastomosis and commonly occurring problems

**Knowledge**

Chronic lower limb ischaemia - Conservative Management:

- 3 Basic principles of management of hypertension and hyperlipidaemia and diabetes
- 4 Epidemiology of tobacco smoking
- 4 Role of antiplatelet drugs

Amputation:

- 4 Types of amputation and advantages of each
- 4 Potential complications of amputation

Endovascular Treatment:

- 4 Approaches and techniques of angioplasty (transluminal and sub-intimal)
- 4 Indications for stenting

Chronic Lower Limb Ischaemia - Assessment:

**Clinical Skills**

- 4 Ability to take a relevant history and examine vascular system
- 4 Use of ankle pressure measurements
- 4 Duplex ultrasound

- 2 Interpretation of angiograms
- 4 Selection for surgery and angioplasty

Chronic lower limb ischaemia - Surgery:

- 4 Expose femoral vessels
- 4 Vascular anastomosis
- 4 Angioplasty / patch
- 4 Vein cuff/patch

Chronic lower limb ischaemia - Conservative Management:

- 4 Management of graft surveillance programme/clinic
- 4 Ability to run risk factor clinic

Endovascular Treatment:

- 4 Manage complications of angioplasty- bleeding, acute ischaemia, embolisation (4)

Chronic Lower Limb Ischaemia - Assessment:

- 4 Percutaneous angiography

Chronic lower limb ischaemia - Surgery

- 4 Occlusive-Aorto-femoral bypass
- 4 Occlusive-Aorto-iliac/iliac endarterectomy
- 4 Occlusive-Axillo-femoral bypass
- 4 Occlusive-Profundaplasty
- 4 Peroperative angiography
- 4 Peroperative angioplasty
- 4 Lower limb-femoral endarterectomy/patch
- 4 Lower limb-femoro-femoral cross-over graft
- 4 Lower limb-ileofemoral bypass
- 4 Lower limb-fem-popliteal bypass-AK
- 4 Lower limb-fem-popliteal bypass-AK-part-harvest vein
- 4 Lower limb-fem-popliteal bypass-AK-part-femoral dissection
- 4 Lower limb-fem-popliteal bypass-AK-part-femoral anastomosis
- 4 Lower limb-fem-popliteal bypass-AK-part-AK popliteal dissection
- 4 Lower limb-fem-popliteal bypass-AK-part-AK popliteal anastomosis
- 4 Lower limb-fem-popliteal bypass-BK
- 4 Lower limb-fem-popliteal bypass-BK popliteal-part-harvest vein
- 4 Lower limb-fem-popliteal bypass-BK-part-femoral dissection
- 4 Lower limb-fem-popliteal bypass-BK-part-femoral anastomosis
- 4 Lower limb-fem-popliteal bypass-BK-part-BK popliteal dissection
- 4 Lower limb-fem-popliteal bypass-BK-part-BK popliteal anastomosis
- 3 Lower limb-fem-popliteal bypass-BK-crural vessels
- 4 Lower limb-fem-popliteal bypass-BK-crural vessels-part-harvest vein
- 4 Lower limb-fem-popliteal bypass-BK-crural vessels-part-femoral dissection
- 4 Lower limb-fem-popliteal bypass-BK-crural vessels-part-femoral anastomosis
- 4 Lower limb-fem-popliteal bypass-BK-crural vessels-part-crural vessel dissection

**Technical Skills and Procedures**



- 3 Lower limb-fem-popliteal bypass-BK-crural vessels-part-crural vessel anastomosis
- 3 Reoperation-occlusion-aorta
- 3 Reoperation-occlusion-femorodistal graft

Amputation:

- 4 Amputation-digit(s)
- 4 Amputation-trans-metatarsal
- 4 Amputation-through knee
- 4 Amputation-BK
- 4 Amputation-AK
- 4 Amputation-revision

Endovascular Treatment:

- 4 Transluminal angioplasty of iliac stenosis
- 4 Transluminal angioplasty of Iliac occlusion
- 4 Transluminal angioplasty of SFA stenosis
- 4 Transluminal angioplasty of SFA occlusion
- 4 Subintimal angioplasty of infra-inguinal vessels

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Diabetic foot</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc D
<b>Objective</b>	<p><i>Identify the diabetic foot, assess appropriately and operation in most cases.</i></p> <p><i>Pathology of the diabetic foot: Understanding of the pathophysiology of diabetic foot.</i></p> <p><i>Diabetic foot - diagnosis and assessment: Ability to diagnose and assess the patient with diabetic foot.</i></p> <p><i>Treatment: Ability to provide operative treatment for the majority of patients who require surgery for diabetic foot.</i></p> <p><i>Management of diabetes in the acutely ill patient: Ability to manage patients with diabetes in the peri-operative period.</i></p> <p>Pathology of the diabetic foot:</p>
<b>Knowledge</b>	<ul style="list-style-type: none"> <li>4 Ischaemia; macroscopic and microscopic</li> <li>4 Neuropathy; sensory, motor and autonomic</li> <li>4 Infection</li> <li>4 Impaired wound healing</li> </ul> <p>Diabetic foot - diagnosis and assessment:</p>

4 Clinical manifestations of diabetic foot disease

Treatment:

- 4 Anatomy of the foot and web spaces
- 3 Surgical approaches to the foot
- 4 Use of antibiotics

Management of diabetes in the acutely ill patient:

- 3 Potential complications
- 3 Principles of medical management

Diabetic foot - diagnosis and assessment:

- 4 History and examination of the limb and recognition of the abnormality of ischaemia and neuropathy
- 4 Investigation of the ischaemic diabetic foot
- 4 Doppler ankle brachial pressures and toe pressures
- 3 Interpretation of clinical laboratory results, pathology results, vascular laboratory data and angiograms
- 4 Selection for surgery and angioplasty

Treatment:

### **Clinical Skills**

- 4 Ability to debride and drain sepsis
- 4 Expose femoral vessels
- 4 Vascular anastomosis
- 4 Angioplasty/patch
- 4 Vein cuff/patch
- 3 Ability to manage post-operative complications specific to vascular surgery
- 4 Follow-up and education of diabetic patients with foot problems

Management of diabetes in the acutely ill patient:

- 3 Peri-operative management of diabetes and other comorbidity

Diabetic foot - diagnosis and assessment:

- 4 Percutaneous angiography

Treatment

### **Technical Skills and Procedures**

- 4 Occlusive-Aorto-femoral by-pass
- 4 Occlusive-Aorto ileofemoral endarterectomy
- 4 Occlusive-Axillo-femoral by-pass
- 4 Peroperative angiography
- 4 Peroperative angioplasty
- 4 Lower limb-femoral endarterectomy/patch
- 4 Lower limb-femoro-femoral cross-over graft
- 4 Lower limb-ileofemoral bypass
- 4 Lower limb-fem-popliteal bypass-AK
- 4 Lower limb-fem-popliteal bypass-AK-part-harvest vein
- 4 Lower limb-fem-popliteal bypass-AK-part-femoral dissection
- 4 Lower limb-fem-popliteal bypass-AK-part-femoral anastomosis

- 4 Lower limb-fem-popliteal bypass-AK-part-AK popliteal dissection
- 4 Lower limb-fem-popliteal bypass-AK-part-AK popliteal anastomosis
- 4 Lower limb-fem-popliteal bypass-BK
- 4 Lower limb-fem-popliteal bypass-BK-part-harvest vein
- 4 Lower limb-fem-popliteal bypass-BK-part-femoral dissection
- 4 Lower limb-fem-popliteal bypass-BK-part-femoral anastomosis
- 4 Lower limb-fem-popliteal bypass-BK-part-BK popliteal dissection
- 4 Lower limb-fem-popliteal bypass-BK-part-BK popliteal anastomosis
- 4 Lower limb-fem-distal bypass-crural vessels
- 4 Lower limb-fem-distal bypass-crural vessels-part-harvest vein
- 4 Lower limb-fem-distal bypass-crural vessels-part-femoral dissection
- 4 Lower limb-fem-distal bypass-crural vessels-part-femoral anastomosis
- 4 Lower limb-fem-distal bypass-crural vessels-part-crural vessel dissection
- 4 Lower limb-fem-distal bypass-crural vessels-part-crural vessel anastomosis
- 3 Re-operation-occlusion-aorta
- 3 Re-operation-occlusion-femorodistal graft

#### Amputation

- 4 Amputation-digit(s)
- 4 Amputation-transmetatarsal
- 4 Amputation-through knee
- 4 Amputation-BK
- 4 Amputation-AK
- 4 Amputation-revision

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>False aneurysm</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc D
	<i>Assessment and management of false aneurysms.</i>
<b>Objective</b>	<p><i>False aneurysms of peripheral arteries - diagnosis and assessment: Ability to diagnose and investigate patients with false aneurysms of peripheral arteries.</i></p> <p><i>Treatment of false aneurysm: Ability to treat surgically and endovascularly commonly occurring false aneurysms.</i></p> <p>False aneurysms of peripheral arteries - diagnosis and assessment:</p> <ul style="list-style-type: none"> <li>4 Pathology of false aneurysms</li> <li>4 Aetiology, Trauma, post surgical, infective, connective tissue disorders</li> <li>4 Complications of false aneurysms</li> </ul>
<b>Knowledge</b>	<p>Treatment of false aneurysm:</p> <ul style="list-style-type: none"> <li>4 Recognise sites of common occurring false aneurysms; Femoral, brachial, radial aortic, anastomotic</li> <li>4 Indications for direct repair, ligation or endovascular repair</li> <li>4 Indications for use of thrombin</li> </ul>
<b>Clinical Skills</b>	False aneurysms of peripheral arteries - diagnosis and assessment:

- 4 History and examination
- 4 Assessment of co-morbidity
- 4 Perform ultrasound examination of femoral artery

Treatment of false aneurysm:

- 4 Selection of appropriate treatment
- 4 Ultrasound thrombin injection of false aneurysm

Treatment of false aneurysm:

- Technical Skills and Procedures**
- 4 False aneurysm repair-iv drug abuser
  - 4 False aneurysm repair-post anastomosis
  - 4 False aneurysm repair-post catheterisation
  - 4 False aneurysm-ligation
  - 4 Extra peritoneal control of iliac vessels

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Mesenteric ischaemia  
**Category** Final Special Interest Vascular  
**Sub-category:** Vasc D

*Diagnosis of mesenteric ischaemia and management of some cases by interventional radiology rather than open reconstruction.*

*Mesenteric ischaemia - diagnosis and assessment: Recognition of mesenteric ischaemia and appropriate investigation.*

**Objective**

*Mesenteric ischaemia- treatment: Ability to manage mesenteric ischaemia in consultation with other specialist vascular surgeons and interventional radiologists.*

*Mesenteric ischaemia - ongoing care: Ability to manage the ongoing care of mesenteric ischaemia in consultation with other specialities.*

Mesenteric ischaemia - diagnosis and assessment:

- 4 Anatomy of aorta and mesenteric vessels
- 4 Pathophysiology of acute mesenteric ischaemia including embolism, thrombosis, venous occlusion, trauma, gut ischaemia following aortic reconstruction
- 4 Pathophysiology of chronic mesenteric ischaemia including atherosclerosis, aneurysm, extrinsic compression syndromes

**Knowledge** Mesenteric ischaemia- treatment:

- 3 Means of treatment of chronic mesenteric ischaemia both via operation and interventional radiology
- 4 Secondary prevention of vascular disease
- 3 Treatment of comorbidity
- 3 Means of treatment of acute mesenteric ischaemia

Mesenteric ischaemia - ongoing care:

4 Complications of treatment  
Mesenteric ischaemia - diagnosis and assessment:

4 History and examination  
3 Arrange appropriate investigation to exclude other pathology  
4 Arrange appropriate investigation to identify mesenteric ischaemia, including mesenteric angiography, intra-arterial DSA, CT, MRA imaging, pre and post prandial mesenteric Duplex ultrasound  
3 Interpretation of the clinical picture with the radiological abnormalities

**Clinical Skills**

Mesenteric ischaemia- treatment:

3 Selection of patients for appropriate intervention whether emergency or elective

Mesenteric ischaemia - ongoing care:

4 Detection of complications  
3 Management of organ failure  
3 Management of comorbidity  
2 Nutritional support  
Mesenteric ischaemia - diagnosis and assessment:

3 Percutaneous angiography

**Technical Skills and Procedures**

Mesenteric ischaemia- treatment:

3 Peroperative angioplasty  
2 Reconstruction-arterial-mesenteric  
4 Small bowel resection  
3 Hartmann's procedure

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic**            **Renal artery disease**  
**Category**        Final Special Interest Vascular  
**Sub-category:**    Vasc D

*To recognise, investigate and treat all aspects of renal artery disease.*

*Pathology of renal artery disease: Understanding of the pathophysiology of renal artery disease.*

**Objective**

*Diagnosis and Investigation: Ability to diagnose and assess the patient with renal artery disease.*

*Treatment: To select patients for medical, interventional radiological procedures and or operative surgery.*

*Complications of Treatment: To manage patients with renal artery disease in the peri-operative period.*

**Knowledge**

Pathology of renal artery disease:

- 4 Normal renal artery anatomy
- 3 Normal Renal Physiology
- 3 Renal Physiology in acute and chronic renal failure
- 4 Causes of acute and chronic renal failure
- 4 Renal Pathology; atherosclerosis, emboli, fibromuscular dysplasia, aneurysmal disease, arteritis, trauma and drug treatments

Diagnosis and Investigation:

- 4 Clinical manifestations
- 4 Investigations; duplex, MRA, CT angiography, Isotope scans and IADS
- 4 Predictive value and limitations of the above

Treatment:

- 4 Natural history
- 4 Drug treatments and risk factor modification
- 3 Renal protection; drugs, contrast agents and iv fluids
- 4 Range of balloons, wires, sheaths, guiding catheters used in renal artery interventions
- 4 Role of angioplasty and stenting in renal artery disease
- 4 Surgical approach and options for renal artery disease

Complications of Treatment:

- 4 Recognise and understand clinical and biochemical features of acute renal failure
- 3 Methods of renal support in the acute and chronic setting
- 4 Options for salvage procedures

Diagnosis and Investigation:

- 4 History and examination
- 4 Urine and Blood Tests
- 4 Ultrasound scan
- 4 Interpretation of investigations

Treatment:

**Clinical Skills**

- 4 Selection for medical, radiological and or surgery treatment
- 3 Prescribing appropriate medical therapies and avoidance of nephrotoxic agents
- 3 Renal artery angioplasty /stenting /embolisation

Complications of Treatment:

- 3 Manage patient in acute renal failure

**Technical Skills and Procedures**

Treatment:

- 4 Reconstruction-arterial-renal

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Upper limb ischaemia/TOS</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc D
	<i>Understanding of the management of upper limb vascular disease, including operation.</i>
	<i>Chronic Upper limb ischaemia - diagnosis and assessment: Ability to diagnose and assess upper limb ischaemia.</i>
	<i>Chronic Upper Limb ischaemia - treatment: Understanding of the indications for intervention in upper limb ischaemia and ability to perform more common operations.</i>
<b>Objective</b>	<i>Chronic Upper limb ischaemia - ongoing care: Ability to arrange ongoing care of the patient with upper limb ischaemia.</i>
	<i>Raynaud's Disease: To understand the pathology, investigation and management of vasospastic conditions of the upper limb.</i>
	<i>Hyperhydrosis: To recognise and understand pathology of hyperhydrosis and treat condition.</i>
	Chronic Upper limb ischaemia - diagnosis and assessment:
	4 Anatomy of the vessels of the upper limb and thorax
	4 Pathophysiology of ischaemia of the upper limb; atheroma, external pressure, radiation, inflammation, radiation, embolism
	4 Pathophysiology of subclavian steal
	4 Thoracic outlet syndrome, knowledge of anatomy, presentation, differential diagnosis, pathology and investigation
	Chronic Upper Limb ischaemia - treatment:
	4 Indications for conservative management, radiological intervention and surgery
	4 Indications for treatment of subclavian steal
<b>Knowledge</b>	4 Wires, sheaths and stents for upper limb use
	4 Techniques and conduits for upper limb bypass
	4 Drug treatment eg prostacyclin
	Chronic Upper limb ischaemia - ongoing care:
	4 Means of secondary prevention of upper limb ischaemia
	4 Complications of surgery for upper limb ischaemia
	3 Causes of pain in the upper limb following intervention including complex regional pain syndrome
	3 Therapeutic options for management of CRPS including dorsal sympathectomy
	Raynaud's Disease:

- 3 Pathophysiology and associated conditions
- 4 Investigation
- 3 Medical management
- 4 Role of Surgery amputation of digits, dorsal sympathectomy and digital vessel sympathectomy

Hyperhidrosis:

- 3 Knowledge of physiology of sweating and neurological control
- 3 Recognise associated medical conditions
- 4 Anatomy of the sympathetic nervous system
- 3 Treatment medical and surgical

Chronic Upper limb ischaemia - diagnosis and assessment:

- 4 History and examination of the vascular system of the upper limb
- 4 History and examination of the upper limb to diagnose thoracic outlet syndrome
- 4 Appropriate investigation; Duplex ultrasound, MR angiography, angiography CTA, IADSA

Chronic Upper Limb ischaemia - treatment:

- Clinical Skills** 4 Selection of patients for different forms of intervention

Chronic Upper limb ischaemia - ongoing care:

- 4 Manage complications of surgery or interventional radiology including surveillance

Raynaud's Disease:

- 3 Treat patients with Raynauds

Chronic Upper Limb ischaemia - treatment:

- 4 Amputation-digit(s)
- 4 Amputation-upper limb
- 3 Excision of cervical rib-supraclavicular
- 3 Excision of cervical rib-transaxillary (with 1strib)
- 3 Thoracic outlet syndrome-1st rib resection-supraclavicular
- 3 Thoracic outlet syndrome-1st rib resection-transaxillary
- 3 Carotid-subclavian bypass

**Technical Skills and Procedures**

Chronic Upper limb ischaemia - ongoing care:

- 4 Thoracoscopic cervical sympathectomy

Raynaud's Disease:

- 4 Thoracoscopic cervical sympathectomy

Hyperhidrosis:



- 4 Botox injections to axilla
- 4 Thoracoscopic cervical sympathectomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Vascular trauma</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc D <i>Identification, assessment and management of injuries to blood vessels.</i>  <i>Mechanism of acute arterial injury: Ability to diagnose arterial injury.</i>
<b>Objective</b>	<i>Management: Ability to control bleeding and to repair damaged vessel in straightforward cases.</i>  <i>Complications: Diagnose complications of arterial injury, including management of compartment syndrome.</i> Mechanism of acute arterial injury:  4 Situations when arterial injury may occur  Management:
<b>Knowledge</b>	3 Indications for investigation 4 Anatomy of approach to major vascular structures  Complications:  3 Potential complications eg. blood loss, compartment syndrome, nerve injury, venous injury Mechanism of acute arterial injury:  3 Diagnose arterial injury  Management:
<b>Clinical Skills</b>	3 Arrange appropriate investigations eg angiography 3 Control bleeding  Complications:  3 Diagnose and investigate complications appropriately Management:
<b>Technical Skills and Procedures</b>	3 Arterial trauma operation Complications:  3 Fasciotomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Access for Dialysis C+D</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc D
<b>Objective</b>	<i>Provide access for renal dialysis for most patients with renal failure</i>
	Renal Failure: 4 Classification 4 Causes 4 Pathophysiology 4 Treatment options
<b>Knowledge</b>	Renal Dialysis: 4 Indications 4 Types of dialysis 4 Access sites 4 Complications 4 Timing of access  4 Vascular anatomy of the upper and lower limbs  4 Principles of pre-operative preparation and post-operative management including assessment of cardiac function and venous conduits Assess patients referred for vascular access: 4 Prepare patients for theatre 4 Arrange appropriate investigations  4 Identify appropriate access site  Construct A-V fistula: 4 Radio-cephalic 4 Brachio-cephalic 4 Brachio-basilic  Needling techniques: 4 Button hole 4 Rope-ladder
<b>Clinical Skills</b>	4 Use of PTFE grafts  4 Insert central venous dialysis catheter including tunnelled catheters  4 Insert and remove peritoneal dialysis catheter  Manage post-op care: 4 Investigations 4 Fluid management 4 Drug therapy 4 Vascular complications - steal, venous hypertension, cardiac failure and aneurysm

Manage complications:  
 4 Thrombosis  
 4 Haemorrhage  
 4 Infection  
 4 CAPD peritonitis including sclerosing peritonitis  
 4 Peritoneal dialysis catheter-insert  
 4 Peritoneal dialysis catheter-removal  
**Technical Skills and Procedures** 4 Central venous line insertion  
 4 Access-arterio-venous fistula  
 4 Access-arterio-venous fistula-ligation  
 4 Access-secondary vascular

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Carotid atherosclerosis</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc E
<b>Objective</b>	<p><i>Ability to investigate and manage cerebrovascular disease.</i></p> <p><i>Diagnosis and assessment of cerebro-vascular disease: Ability to diagnose cerebro-vascular disease and assess the cause and severity.</i></p> <p><i>Treatment of cerebro-vascular disease: Management of both medical and surgical intervention in cerebro-vascular disease.</i></p> <p><i>Peri-operative cerebrovascular blood flow assessment: Ability to assess cerebrovascular blood flow during the peri-operative period.</i></p> <p><i>Acute stroke: Understanding of the place of surgery in acute stroke.</i></p> <p><i>Cardiac assessment: Ability to manage the patient with both carotid and vascular disease.</i></p> <p><i>Ongoing care for cerebro-vascular disease: Ability to supervise ongoing care for cerebrovascular disease.</i></p> <p><i>Endovascular treatment: Endovascular management of carotid disease.</i></p> <p>Diagnosis and assessment of cerebro-vascular disease:</p> <p>4 Anatomy of vessels of the head and neck          4 Physiology of cerebral circulation          4 Knowledge of aetiology and epidemiology of stroke          4 Pathophysiology of cerebro-vascular disease</p>
<b>Knowledge</b>	<p>Treatment of cerebro-vascular disease:</p> <p>4 Indications for conservative management and for surgery          4 Medical treatment          4 Evidence from the stroke studies (NASCET, ECST, ACST)</p> <p>Peri-operative cerebrovascular blood flow assessment:</p>

4 Methods of peri-operative assessment of cerebral blood flow: Transcranial Doppler, stump pressure, EEG

Acute stroke:

4 Indications for intervention in acute/evolving stroke

Cardiac assessment:

4 Methods of assessment of cardiac status

Ongoing care for cerebro-vascular disease:

4 Conservative treatment for cerebrovascular disease

4 Complications of medical and surgical treatment

Endovascular treatment:

4 Indications for carotid stenting

Diagnosis and assessment of cerebro-vascular disease:

4 History and examination pertaining to cerebro-vascular disease

4 Appropriate investigations: Carotid Duplex (able to perform), MR angiogram, CT scan and CT angiogram, Carotid arteriography

Treatment of cerebro-vascular disease:

4 Selection of patients for surgery or interventional radiology

Peri-operative cerebrovascular blood flow assessment:

4 Use of shunt

## **Clinical Skills**

Acute stroke:

4 Carotid surgery in acute stroke

Cardiac assessment:

4 Synchronous carotid and cardiac surgery

Ongoing care for cerebro-vascular disease:

4 manage complications of medical and surgical treatment including stroke, bleeding, airway obstruction, acute occlusion, cranial nerve injury

4 Follow-up of patients following carotid surgery

Treatment of cerebro-vascular disease

## **Technical Skills and Procedures**

4 Carotid endarterectomy-complete operation GA

4 Carotid endarterectomy-complete operation LA

4 Carotid endarterectomy-part-dissection

4 Carotid endarterectomy-part-endarterectomy

4 Carotid endarterectomy-part-patchclosure

4 Carotid-subclavian-bypass  
3 Re-do carotid surgery

Endovascular surgery

3 Carotid stent graft

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Carotid body tumours + aneurysm</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc E <i>Investigation and management of carotid body tumours and carotid aneurysms.</i>
	<i>Diagnosis and assessment of carotid body tumour: Ability to diagnose and investigate carotid body tumours.</i>
<b>Objective</b>	<i>Treatment of carotid body tumours: Perform operation for carotid body tumours.</i>
	<i>Management of complications of treatment for carotid body tumours: Ability to manage complications of surgery for carotid body tumours.</i>
	<i>Carotid aneurysms: Ability to diagnose and manage carotid aneurysms.</i>
	Diagnosis and assessment of carotid body tumour:  4 Epidemiology and pathology 4 Associated medical conditions 4 Investigation: Angiogram, CT scan, MR angiogram, CT angiogram, MIBI Scan
	Treatment of carotid body tumours:  4 Indications for treatment
<b>Knowledge</b>	Management of complications of treatment for carotid body tumours:  4 Understanding of possible complications: Bleeding, cranial nerve injury, airway obstruction, malignancy
	Carotid aneurysms:  4 Aetiology, pathology and natural history 4 Diagnosis 4 Investigation: Duplex, CT scan, MR angiogram 4 Indications for surgery
	Diagnosis and assessment of carotid body tumour:  4 Clinical examination and recognise clinical features
<b>Clinical Skills</b>	Management of complications of treatment for carotid body tumours:

4 Identify and manage complications

Carotid aneurysms:

4 Clinical examination

4 Methods of reconstruction including: Direct repair, Vein jump graft

Treatment of carotid body tumours:

**Technical Skills  
and Procedures**

4 Carotid body tumour excision

Carotid aneurysms:

4 Carotid aneurysm excision

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Carotid trauma

**Category** Final Special Interest Vascular

**Sub-category:** Vasc E

*Management of all carotid trauma.*

**Objective**

*Diagnosis and management of carotid artery trauma: Ability to diagnose and manage carotid artery trauma.*

*Airway management: Understanding of the indications for tracheostomy in carotid artery trauma.*

Diagnosis and management of carotid artery trauma:

**Knowledge**

4 Mechanisms of sharp and blunt carotid artery injury

4 Aetiology of carotid artery dissection

4 Investigation: Angiography, Duplex, MR angiography, CT Scan

4 Medical management of carotid dissection

Airway management:

4 Indications for tracheostomy

Diagnosis and management of carotid artery trauma:

**Clinical Skills**

4 Perform Duplex Scan

4 Control of bleeding in injured artery

4 Arterial trauma management

4 Repair including: intimal flap, direct repair, vein jump graft, use of shunt

**Technical Skills  
and Procedures**

No content

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Aortic aneurysm

**Category** Final Special Interest Vascular

**Sub-category:** Vasc E

*Assessment and management of all abdominal aortic aneurysms, including complex aneurysms and endovascular repair.*

*Aortic aneurysm - diagnosis and assessment: Ability to diagnose and investigate patients with aortic aneurysm.*

*Aortic aneurysm - treatment: Ability to manage aortic aneurysms electively.*

**Objective**

*Aortic aneurysm - ongoing care: Ability to manage ongoing care of aortic aneurysm and refer complications appropriately.*

*Aortic Aneurysm - Management of complex aneurysms: Ability to manage complex aortic aneurysms.*

*Endovascular AAA repair: Perform endovascular aortic aneurysm repair.*

*Endovascular AAA repair - ongoing management: Ability to manage the complications of endovascular management of aortic aneurysms.*

Aortic aneurysm - diagnosis and assessment:

- 4 Anatomy of the aorta and main branches
- 4 Aetiology
- 4 Indications for intervention
- 4 Natural history
- 4 Investigation: Ultrasound, CT scan, MR scan
- 4 Screening programmes

Aortic aneurysm - treatment:

- 4 Knowledge of open repair
- 4 Indications for open versus endovascular repair

Aortic aneurysm - ongoing care:

**Knowledge**

- 4 Complications of open aortic surgery
- 4 Means of secondary prevention of vascular disease
- 4 Understand indications for renal support

Aortic Aneurysm - Management of complex aneurysms:

- 4 strategy to deal with : horseshoe kidney, inflammatory, mycotic aneurysm, aorto-caval fistula, co-existent renal transplant

Endovascular AAA repair:

- 4 Limitations of technique
- 4 Investigations
- 4 Methods of assessment for endovascular suitability

Endovascular AAA repair - ongoing management:

- 4 Types of endoleak
- 4 Follow-up regimen and management of complications

4 Indications for supra-renal fixation  
Aortic aneurysm - diagnosis and assessment:

- 4 History and examination
- 4 Assessment of co-morbidity
- 4 Able to objectively assess cardiac, respiratory and renal system

Aortic aneurysm - treatment:

- 4 Selection of patients for conservative management, open operation or endovascular stent graft

Aortic aneurysm - ongoing care:

**Clinical Skills** 4 Ability to recognise and manage complications: bleeding (including DIC), thrombosis, embolism, gut ischaemia, organ failure and leg ischaemia

Aortic Aneurysm - Management of complex aneurysms:

- 4 Able to repair AAA in conjunction with aorto-caval fistula, when inflammatory aneurysm, transplanted and horseshoe kidney
- 4 Able to deal with mycotic AAA

Endovascular AAA repair - ongoing management:

- 4 Recognise endoleak on angiogram and treat it endovascularly
- 4 Place graft cuff proximal and distally
- 4 Remove graft that has migrated and replace with open graft
- 4 Deal with occluded limb
- 4 Supra-renal fixation of graft

Aortic aneurysm-treatment

- 4 AAA-tube graft-part-control/dissection
- 4 AAA-tube graft-part-proximal anastomosis
- 4 AAA-tube graft-part-distal aortic anastomosis
- 4 AAA-tube graft
- 4 AAA-bifurcated graft-part-control/dissection
- 4 AAA-bifurcated graft-part-proximal anastomosis
- 4 AAA-bifurcated graft-part-femoral anastomosis
- 4 AAA-bifurcated graft
- 4 AAA-suprarenal aneurysm repair
- 4 AAA-aortocaval fistula repair
- 4 AAA-aortointestinal fistula repair
- 4 Reoperation-infected graft-aorta

**Technical Skills  
and Procedures**

Endovascular AAA repair:

- 4 AAA-endovascular stent graft-complete operation
- 4 AAA-endovascular stent graft-femoral artery dissection and closure
- 4 AAA-endovascular stent graft-place guidewire+deploy proximal end
- 4 AAA-endovascular stent graft-cannulation=deployment of contralateral limb

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills



<b>Topic</b>	<b>Popliteal aneurysm</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc E
	<i>Assessment and management of popliteal aneurysms.</i>
	<i>Popliteal artery aneurysm - diagnosis and assessment: Ability to diagnose and investigate patients with popliteal artery aneurysms.</i>
<b>Objective</b>	<i>Popliteal Artery Aneurysm - treatment: Ability to manage straightforward popliteal artery aneurysms electively.</i>
	<i>Thrombosed popliteal artery aneurysm: Ability to recognise and assess thrombosed popliteal artery aneurysms presenting acutely.</i>
	Popliteal artery aneurysm - diagnosis and assessment:
	4 Anatomy of the popliteal artery and branches
	4 Aetiology
	4 Indications for intervention
	4 Natural history, risk of limb loss
	4 Investigation: ultrasound, CT scan, MR scan, role of angiography
	Popliteal Artery Aneurysm - treatment:
<b>Knowledge</b>	4 Indications for interventional treatment
	4 Knowledge of surgical approaches
	4 Indications for open versus endovascular repair
	Thrombosed popliteal artery aneurysm:
	4 Recognise and describe clinical symptoms and signs
	4 Investigation, Duplex, angiography
	4 Treatment options; thrombolysis, surgery, conservative
	4 Complications of thrombolysis, bleeding, distal embolisation
	4 Indications for fasciotomy
	Popliteal artery aneurysm - diagnosis and assessment:
	4 History and examination
	4 Assessment of co-morbidity
	4 Perform ultrasound examination of popliteal artery
	Popliteal Artery Aneurysm - treatment:
<b>Clinical Skills</b>	4 Selection of patients for conservative management, open operation or endovascular stent graft
	Thrombosed popliteal artery aneurysm:
	4 Initiate thrombolysis
	4 Manage patient undergoing thrombolysis
	4 Emergency surgical bypass for thrombosed popliteal artery aneurysm

4 Fasciotomy  
Popliteal Artery Aneurysm - treatment:

4 Aneurysm-popliteal-repair-exclusion bypass of popliteal artery aneurysm  
4 Aneurysm-Popliteal-repair-direct inlay graft repair  
4 Fasciotomy

**Technical Skills  
and Procedures**

Thrombosed popliteal artery aneurysm:

4 Percutaneous angiography  
4 Peroperative angiography  
4 Peroperative thrombolysis  
4 Fasciotomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Sympathectomy

**Category** Final Special Interest Vascular

**Sub-category:** Vasc E

*Assessment and management of patients requiring a either lumbar or cervical sympathectomy.*

*Sympathetic Nervous System: Knowledge of the anatomy and physiology of the sympathetic nervous system.*

**Objective**

*Indications for and management of lumbar sympathectomy: Identification and management of the patient who might benefit from lumbar sympathectomy.*

*Indications for and management of cervical sympathectomy: Identification and management of the patient who might benefit from cervical sympathectomy.*

Sympathetic Nervous System:

4 Anatomy of the autonomic nervous system and the relationship with surrounding structures  
4 Functions of the sympathetic nervous system and the pathologic conditions resulting from abnormal sympathetic activity  
4 Potential beneficial effects of sympathetic ablation and possible adverse side effects  
4 Techniques of sympathectomy

**Knowledge** Indications for and management of lumbar sympathectomy:

4 Indications sympathectomy for arterial occlusive disease  
4 Probable outcome when sympathectomy is used for ischaemic ulcers, gangrene, rest pain, and the differences in clinical response for diabetes and non-diabetes  
4 Role of sympathectomy for Buerger's disease, embolic disease, Raynaud's phenomenon, causalgia and post traumatic rest pain

Indications for and management of cervical sympathectomy:

4 Role of sympathectomy for palmar and axillary hyperhidrosis and facial flushing

Indications for and management of lumbar sympathectomy:

4 History and examine a patient with sympathetic dysfunction

4 Detection and management of the complications of lumbar sympathectomy

**Clinical Skills** Indications for and management of cervical sympathectomy:

4 History and examine a patient with sympathetic dysfunction

3 Competent in the technique of axillary Botox injection

4 Detection and management of complications from thoroscopic cervical sympathectomy

Indications for and management of lumbar sympathectomy:

4 Sympathectomy-lumbar-chemical

**Technical Skills and Procedures** 4 Sympathectomy-lumbar-surgical

Indications for and management of cervical sympathectomy:

4 Thoracoscopic cervical sympathectomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Ruptured Abdominal Aortic Aneurysm**

**Category** Final Special Interest Vascular

**Sub-category:** Vasc E

**Objective**

*The management of ruptured aneurysm, including operation.*

- *The diagnosis of ruptured aortic aneurysm*

- *The assessment and pre-operative management of ruptured aortic aneurysm*

- *Operation for ruptured aortic aneurysm*

- *The post-operative management of ruptured aortic aneurysm*

- *The recognition of complications following surgery for ruptured aneurysm and ability to deal with them.*

Diagnosis

4 Patients at risk

4 Clinical features

4 Role and timing of investigation

Initial Management

4 Hypovolaemia relevant to the condition

4 Understands importance of immediate intervention

**Knowledge**

Operation

4 Anatomy of the abdomen and major vessels

4 Basic physiology of aortic clamping

4 Coagulopathy

Post-operative care

3 Nutrition

4 Fluid balance

4 Respiratory and renal physiology  
4 Cardiac function

Complications  
4 Early and late complications  
4 Indications for investigation such as CT Scan  
Diagnosis  
4 History and examination

Initial Management  
4 Patient selection

Operation  
4 Operation for ruptured aortic aneurysm  
4 Recognises signs of coagulopathy  
4 Able to initiate basic treatment of coagulopathy

**Clinical Skills**

Post-operative care  
3 Understands need for nutritional support  
4 Fluid requirements  
3 Able to work in an ITU environment

Complications  
4 Clinical recognition of complications  
4 Recognise need for early and late re-intervention  
3 Carry out appropriate surgery with other disciplines as necessary

Operation  
4 AAA-bifurcated graft  
4 AAA-bifurcated graft-part-control/dissection  
4 AAA-bifurcated graft-part-femoral anastomosis  
4 AAA-bifurcated graft-part-proximal anastomosis  
4 AAA-tube graft  
4 AAA-tube graft-part-control/dissection  
4 AAA-tube graft-part-distal aortic anastomosis  
4 AAA-tube graft-part-proximal anastomosis  
3 AAA-suprarenal aneurysm repair  
3 AAA-aortocaval fistula repair  
3 AAA-aortointestinal fistula repair

**Technical Skills  
and Procedures**

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Disorders of the Lymphatic Channels</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc F <i>Assessment and management of patients with lymphoedema.</i>
<b>Objective</b>	<i>Anatomy and pathophysiology of disorders of the Lymphatic channels: To describe the anatomy and physiology of lymphoedema.</i>  <i>Diagnosis and Assessment of lymphoedema: Ability to evaluate a patient with lymphoedema.</i>

*Management of lymphoedema: Management of a patient with lymphoedema.*

*Diagnosis and management of chyle leak: Ability to manage patients who develop chyle leaks.*

Anatomy and pathophysiology of disorders of the Lymphatic channels:

4 Anatomy of the adult lymphatic system from the level of the terminal lymphatics to the cisterna chyli

4 Microscopic anatomy of the lymphatic capillaries and conducting lymph vessels and specifically how they differ from veins and arteries

4 Physiological determinants of lymph flow, including intrinsic contractility of lymph vessels, increased interstitial pressure, muscular activity, arterial pressure, respiratory pressure, and gravity

4 Major differences between the physiology of the lymphatic system from the venous system

4 Major functions of the lymphatic system, including transport of interstitial fluid and macromolecular proteins lost from capillaries, bacterial and fungal infections, foreign material

4 Classification of causes of lymphoedema

4 Primary lymphoedema Congenital -Non-familial; Familial (Milroy's Disease)

4 Primary Lymphoedema Praecox - Non-familial; Familial (Meige Disease)

4 Primary Lymphoedema Tarda

4 Secondary lymphoedema, including filariasis, lymph node excision and radiation, tumour invasion, infection, and trauma

4 Functional classification of lymphoedema based on the underlying lymphatic anatomy as determined by lymphangiography

4 Compensatory mechanisms that develop in response to increased interstitial pressure, and the tissue effects of chronic lymphatic obstruction including impaired immune cell trafficking, lymphatic obstruction, and chronic intestinal inflammation

4 Secondary consequences of long-standing lymphoedema: infection, fibrosis, and neoplasia

4 Functional and anatomical abnormalities that cause chylous disorders

4 Consequences of the loss of chyle into body cavities or through a chylocutaneous fistula

## Knowledge

Diagnosis and Assessment of lymphoedema:

3 Accuracy and limitations of the imaging modalities used to evaluate lymphatic disease: lymphoscintigraphy, computed tomography, and magnetic resonance imaging

3 Technique of lymphoscintigraphy, the features of a normal lymphoscintigram and the typical scintigraphic findings in primary and secondary lymphoedema

3 Indications, techniques, interpretation and complications of lymphangiograms

Management of lymphoedema:

4 Mechanisms of action and effectiveness/ineffectiveness of pharmacologic agents such as diuretics, benzopyrones, and steroids in the treatment of lymphoedema

4 Mechanical techniques to reduce a limb swelling including elevation, compression (elastic and non-elastic support, intermittent pneumatic

compression, including pressure, ratio of compression/decompression, duration of therapy). and manual lymphatic drainage

4 Role of antibiotics in the treatment and prophylaxis of recurrent cellulitis in patients with chronic lymphoedema

4 Indications for surgical management of chronic lymphoedema

Diagnosis and management of chyle leak:

3 Biochemical and radiological methods of assessing a patient with a possible chyle leak

Diagnosis and Assessment of lymphoedema:

4 History and examination

4 Distinguish lymphoedema from other causes of extremity oedema

4 Differentiate between the various clinical presentation of and complications of chronic lymphoedema including infection (fungal and bacterial) and malignancy

Management of lymphoedema:

4 Non-operative management of primary and secondary lymphoedema

3 To be familiar with the operative technique, complication rate, and effectiveness of excisional procedures including the Charles procedure, Thompson's buried dermal flap, suction curettage, and Sistrunk procedures

3 Indications, technique, complication rate, and outcome of direct lymphatic reconstruction such as lymphovenous anastomosis including lymphnodal-venous and lymphvenous procedures

3 Indications, technique, complication rate, and outcome of lymphatic grafting

3 To describe the indication, technique, complications rate of indirect lymphatic reconstructions such as the mesenteric bridge operation, omental flap, and autotransplantation of free lymphatic flap

3 Indications, technique, complications, and outcome of procedures for primary chylous disorders

Diagnosis and management of chyle leak:

4 Management of wounds and drains leaking chyle

3 Nutritional management of chyle leak including the indications for low fat diet, medium chain triglyceride diet and parenteral nutrition

**Technical Skills and Procedures**

No content

**Professional Skills**

Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>InterventCarotid</b>
<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc F
	<i>Ability to investigate and manage cerebrovascular disease, including by interventional radiology.</i>
<b>Objective</b>	<i>Diagnosis and assessment of cerebro-vascular disease: Ability to diagnose cerebro-vascular disease and assess the cause and severity.</i>

*Treatment of cerebro-vascular disease: Management of both medical and surgical intervention in cerebro-vascular disease.*

*Peri-operative cerebrovascular blood flow assessment: Ability to assess cerebrovascular blood flow during the peri-operative period.*

*Acute stroke: Understanding of the place of surgery in acute stroke.*

*Cardiac assessment: Ability to manage the patient with both carotid and vascular disease.*

*Ongoing care for cerebro-vascular disease: Ability to supervise ongoing care for cerebrovascular disease.*

*Endovascular treatment: Endovascular management of carotid disease.*

Diagnosis and assessment of cerebro-vascular disease:

- 4 Anatomy of vessels of the head and neck
- 4 Physiology of cerebral circulation
- 4 Knowledge of aetiology and epidemiology of stroke
- 4 Pathophysiology of cerebro-vascular disease

Treatment of cerebro-vascular disease:

- 4 Indications for conservative management and for surgery
- 4 Medical treatment
- 4 Evidence from the stroke studies (NASCET, ECST, ACST)

Peri-operative cerebrovascular blood flow assessment:

- 4 Methods of peri-operative assessment of cerebral blood flow: transcranial Doppler, stump pressure, EEG

**Knowledge**

Acute stroke:

- 4 Describe indications for intervention in acute/evolving stroke

Cardiac assessment:

- 4 Can describe methods of assessment of cardiac status

Ongoing care for cerebro-vascular disease:

- 4 Conservative treatment for cerebrovascular disease
- 4 complications of medical and surgical treatment

Endovascular treatment:

- 4 indications for carotid stenting

Diagnosis and assessment of cerebro-vascular disease:

**Clinical Skills**

- 4 History and examination pertaining to cerebro-vascular disease

4 Appropriate investigations: Carotid Duplex,MR angiogram, CT scan and CT angiogram, arteriography

4 Familiarity with interventional equipment; guidewires, sheaths, balloons, stents, endografts

Treatment of cerebro-vascular disease:

4 Selection of patients for surgery or interventional radiology

Peri-operative cerebrovascular blood flow assessment:

4 Use of shunt

Acute stroke:

4 Carotid surgery in acute stroke

Cardiac assessment:

4 Synchronous carotid and cardiac surgery

Ongoing care for cerebro-vascular disease:

4 Manage complications of medical and surgical treatment including stroke, bleeding, airway obstruction, acute occlusion, cranial nerve injury

4 Follow-up of patients following carotid surgery.

Diagnosis and assessment of cerebro-vascular disease:

4 Percutaneous angiography

Treatment of cerebro-vascular disease:

4 Carotid endarterectomy-complete operation GA

4 Carotid endarterectomy-part-dissection

**Technical Skills and Procedures** 4 Carotid endarterectomy-part-endarterectomy

4 Carotid endarterectomy-part-patch closure

4 Carotid-subclavian bypass

3 Carotid stent graft

3 Re-do carotid surgery

4 Carotid endarterectomy-complete operation LA

Endovascular treatment:

4 Carotid Stent Graft

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **InterventRadHaemodialysis**

**Category** Final Special Interest Vascular

**Sub-category:** Vasc F

**Objective** *Assessment and management of patients requiring haemodialysis access*



*intervention, where interventional radiology may be helpful.*

*Central Venous Access for Haemodialysis using interventional radiology: To be able to evaluate and provide haemodialysis access interventions.*

<b>Knowledge</b>	<ul style="list-style-type: none"><li>4 Principles outlined in the Dialysis Outcomes Quality Initiative for Vascular Access (DOQI) including the need for increased creation of autogenous arteriovenous fistulas, surveillance of fistulas with early intervention to prevent access failure and decreased dependence on catheter dialysis</li><li>4 PTFE configurations, locations and expected outcomes</li><li>4 Autologous fistula configurations, locations and expected outcomes</li><li>4 Preferred order for creation of arteriovenous fistulas</li><li>2 Basic understanding of the pathophysiology of arteriovenous access fistula</li><li>4 Presentation of central venous lesions, venous anastomotic lesions, arterial inflow lesions, failure of maturation</li><li>4 Surveillance methods, advantages/disadvantages: examination, volume flow, Doppler, pressure measurements</li><li>4 Use of imaging; ultrasound, contrast venography, alternative contrast agents, MR and CT venography</li><li>4 Need for surveillance and prophylactic angioplasty/surgical revision</li><li>4 Techniques of declotting thrombosed access: pharmacologic, pharmacomechanical and mechanical thrombolysis</li><li>4 Available mechanical thrombectomy devices and their advantages and disadvantages</li><li>4 Indications for stent placement in these patients</li><li>4 Potential complications of percutaneous interventions in dialysis grafts and fistulae and their management</li><li>4 Incidence of central vein stenosis including risk factors, prevention strategies and treatment</li><li>4 Indications and contraindications for placement of temporary haemodialysis catheters with imaging guidance including the DOQI guidelines for maximum recommended duration of temporary catheters</li><li>4 History and examination to detect access failure; prolonged post dialysis bleeding, decreased Kt/V, decreased creatinine clearance, arm oedema and steal syndrome</li><li>4 Indications and contraindications for endovascular and surgical interventions for failing and thrombosed dialysis fistula and grafts</li></ul>
<b>Clinical Skills</b>	<ul style="list-style-type: none"><li>4 Technical competence in percutaneous interventions for dialysis grafts and fistulae</li><li>4 Insertion of tunnelled haemodialysis catheters and their advantages and disadvantages</li><li>4 Management of the infected haemodialysis catheter</li><li>4 Technical competence in operative and radiological placement of peritoneal dialysis catheters.</li></ul>
<b>Technical Skills and Procedures</b>	<ul style="list-style-type: none"><li>4 Peritoneal dialysis catheter-insert</li><li>4 Peritoneal dialysis catheter-removal</li><li>4 Access-arterio-venous fistula</li><li>4 Access-arterio-venous fistula-ligation</li><li>4 Access-secondary vascular</li></ul>
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

**Topic**      **InterventRadMesenteric**

<b>Category</b>	Final Special Interest Vascular
<b>Sub-category:</b>	Vasc F
	<i>Assessment and management of patients with mesenteric vascular disease using interventional radiology.</i>
<b>Objective</b>	<i>To select patients appropriately for Mesenteric vascular procedures.</i>
	<i>To understand the pre-procedure and post-procedure management and follow up for these procedures and patients.</i>
	<i>To demonstrate technical competence in the performance of these procedures.</i>
<b>Knowledge</b>	<ul style="list-style-type: none"> <li>4 Clinical characteristics of a patient with acute and chronic mesenteric ischaemia</li> <li>4 Common aetiologies of acute mesenteric ischaemia and non-occlusive mesenteric ischaemia</li> <li>4 Role of non-invasive investigation; Duplex/MRA/CT angiography/IADSA</li> <li>4 Indications for percutaneous interventions in patients with acute and chronic mesenteric disease</li> <li>4 Medical and surgical options</li> <li>4 Atherosclerotic lesions suitable for treatment and their expected response to intervention</li> <li>4 Pre, intra and post procedural pharmacological management</li> <li>3 Emerging technologies including brachytherapy</li> <li>4 Complications of mesenteric vascular interventions and their management</li> <li>4 Results of intervention in terms of patient survival, relief of symptoms and vessel patency</li> <li>4 History and examination in a patient with acute and chronic mesenteric disease</li> <li>4 Interpretation of non-invasive imaging, examination and past surgical history to plan optimal arterial access</li> <li>4 Understanding of renal protective agents including alternative contrast agents</li> <li>4 Recognition of the angiographic appearances of arcuate ligament compression syndrome and institute appropriate treatment</li> <li>4 Proper puncture site management techniques</li> </ul>
<b>Clinical Skills</b>	<ul style="list-style-type: none"> <li>4 Familiarity with a wide range of interventional equipment, including but not limited to guidewires, sheaths, balloons, stents and endografts</li> <li>4 Ability to perform intraprocedural pressure measurements and interpretation thereof</li> <li>4 Technical competence in the performance of peripheral vascular interventions including balloon angioplasty, stent placement, recanalisation techniques</li> <li>4 Embolisation for mesenteric aneurysms and pseudoaneurysms</li> <li>4 Use of puncture site closure devices</li> <li>4 Clear, prompt and concise reports</li> </ul>
<b>Technical Skills and Procedures</b>	4 Percutaneous angiography
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

**Topic**            **InterventRadRenovasc**  
**Category**        Final Special Interest Vascular  
**Sub-category:**    Vasc F

*Assessment and management of patients with renal vascular disease using interventional radiology.*

*To select patients appropriately for renovascular procedures.*

**Objective**

*To understand the pre-procedure and post-procedure management and follow up for these procedures and patients.*

*To demonstrate technical competence in the performance of these procedures.*

**Knowledge**

4 Clinical characteristics of a patient with renovascular hypertension  
4 Role of non-invasive investigation; Duplex/MRA  
4 Indications for percutaneous interventions in patients with: ischaemic nephropathy, renovascular hypertension  
4 Medical and surgical options  
4 Atherosclerotic lesions suitable for treatment and their expected response to intervention

4 Role of renoprotective agents in the pre and post procedure management of patients with renal vascular disease  
4 Pre, intra and post procedural pharmacological management including restenosis  
3 Emerging technologies including brachytherapy  
4 Complications of renal vascular interventions and their management including cholesterol embolisation  
4 Results of intervention in terms of renal function, patient survival and vessel patency

**Clinical Skills**

4 History and examination in a patient with renal vascular disease  
4 Interpretation of non-invasive imaging, examination and past surgical history to plan optimal arterial access  
4 Understanding of renal protective agents including alternative contrast agents  
4 Recognition of the angiographic appearances of fibromuscular hyperplasia and institute appropriate treatment  
4 Proper puncture site management techniques  
4 Familiarity with a wide range of interventional equipment, including but not limited to guidewires, sheaths, balloons, stents and endografts  
4 Ability to perform intraprocedural pressure measurements and interpretation thereof  
4 Technical competence in the performance of peripheral vascular interventions including balloon angioplasty, stent placement, recanalisation techniques and thrombolysis  
4 Use of puncture site closure devices  
4 Clear, prompt and concise reports

**Technical Skills and Procedures**

4 Percutaneous angiography

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **InterventRadVascMalform**

**Category** Final Special Interest Vascular

**Sub-category:** Vasc F

**Objective** *Assess and manage patients with vascular malformations using interventional radiology.*

	4 Classification of vascular malformations according to their clinical presentation and natural history
	4 Use of imaging studies in the assessment of vascular malformations
<b>Knowledge</b>	4 Indications for treatment of low and high flow vascular malformations
	4 Complications associated with treatment
	2 Basic principles and agents used in the treatment of low and high flow vascular malformations
<b>Clinical Skills</b>	4 History and examination of a patient with a vascular malformation
	4 Elicit the clinical signs associated with low flow and high flow vascular malformations
	4 Recognise the need to refer to a specialist centre with expertise in the field
<b>Technical Skills and Procedures</b>	4 Percutaneous angiography
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>Benign breast lumps</b>
<b>Category</b>	Final Special Interest Breast
<b>Sub-category:</b>	Breast A
<b>Objective</b>	<i>Assess and manage discrete benign breast lumps.</i>
<b>Knowledge</b>	4 Normal breast anatomy and physiology
	4 Breast development and involution
	3 Effect of hormonal medications
	3 Role of imaging
	4 Pathology of benign breast conditions
	4 Possible diagnoses; breast cyst, fibroadenoma, benign breast nodule
<b>Clinical Skills</b>	4 History and examination
	4 Needle aspiration of breast cyst
<b>Technical Skills and Procedures</b>	3 Biopsy-FNA
	3 Biopsy-core
	3 Breast lump excision
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>Breast pain and nodularity</b>
<b>Category</b>	Final Special Interest Breast
<b>Sub-category:</b>	Breast A
<b>Objective</b>	<i>Assess and manage breast pain and nodularity.</i>
<b>Knowledge</b>	4 Normal breast anatomy and physiology
	3 Effects of hormonal medication
	3 Role of imaging in assessment
	3 Medical treatments
<b>Clinical Skills</b>	4 Obtaining relevant history
	4 clinical examination
<b>Technical Skills and Procedures</b>	<b>No content</b>
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>Conditions affecting the nipple</b>
<b>Category</b>	Final Special Interest Breast
<b>Sub-category:</b>	Breast B
<b>Objective</b>	<i>Assess and manage conditions affecting the nipple.</i>
<b>Knowledge</b>	4 Normal anatomy and physiology
	4 Changes in pregnancy and lactation
	4 Causes of nipple discharge, nipple inversion, nipple eczema, recurrent nipple sepsis, mammary duct fistula
	4 Role of imaging
<b>Clinical Skills</b>	4 Pathology of duct ectasia and intraduct papilloma
	4 History and examination
	3 Nipple smear cytology preparation
<b>Technical Skills and Procedures</b>	4 Nipple biopsy
	4 Mammary ducts-total duct excision(Hadfields)
	4 Mammary ducts-microdochectomy
<b>Professional Skills</b>	3 Mammary duct fistula-treatment
	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>Breast cancer</b>
<b>Category</b>	Final Special Interest Breast
<b>Sub-category:</b>	Breast B
<b>Objective</b>	<i>Diagnose, assess, manage (excluding oncoplastic procedures) and appropriately refer breast cancer.</i>
<b>Knowledge</b>	<i>Symptomatic early breast cancer or screen detected breast cancer: Manage symptomatic or screen detected early breast cancer excluding oncoplastic procedures.</i>
	4 Natural history and presentation
	4 Epidemiology and risk factors
	4 Assessment and management of family history and genetic risk
<b>Clinical Skills</b>	4 Role of triple assessment
	3 Pathology, staging and prognostic factors
	3 Treatment of the axilla
	3 Adjuvant therapies (hormonal, chemotherapy, radiotherapy)
<b>Technical Skills and Procedures</b>	4 Role of surgeon in NHS breast screening programme
	4 History and examination
	3 Identification of patients for reconstructive surgery
	4 Biopsy-FNA
<b>Professional Skills</b>	4 Biopsy-core
	4 Breast lump excision
	4 Wide local excision of breast lesion
	4 Mastectomy-simple
	4 Axillary node sample(level 1)
	4 Axillary clearance(level 2+3)
	4 Axilla-sentinel node biopsy
	4 Image guided biopsy
	4 Image guided wide local excision
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

**Topic** **Borderline and premalignant conditions of the breast**  
**Category** Final Special Interest Breast  
**Sub-category:** Breast B  
**Objective** *Assess and manage atypical and precancerous diseases of the breast.*  
 4 Natural history and presentation of atypical ductal hyperplasia, ductal carcinoma in situ, lobular carcinoma in situ  
**Knowledge** 4 Pathology  
 4 Role of imaging and screening in detection  
 4 Diagnostic procedures  
 4 Surgical treatment  
**Clinical Skills** 4 History and examination  
**Technical Skills and Procedures** 4 Breast lump excision  
 4 Image guided operation  
**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Congenital, developmental and aesthetic problems of the breast**  
**Category** Final Special Interest Breast  
**Sub-category:** Breast C  
**Objective** *Assess and refer congenital developmental and aesthetic problems of the breast.*  
 4 Normal and abnormal breast development  
 4 Mammary hypoplasia, Poland's syndrome and breast asymmetry  
 4 Mammary hypertrophy  
 4 Paediatric and adolescent problems  
**Knowledge** 4 Male breast lumps and gynaecomastia  
 4 Effects of injury  
 4 Effects of medication  
 4 Pathophysiology of male breast enlargement  
 4 Role of imaging  
**Clinical Skills** 4 History and examination  
**Technical Skills and Procedures** 4 Biopsy-FNA  
 4 Biopsy-core  
 4 Gynaecomastia excision  
**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Breast cancer**  
**Category** Final Special Interest Breast  
**Sub-category:** Breast C  
**Objective** *Diagnose, assess, manage or appropriately refer less common and advanced presentations of breast cancer; identify and manage complications of treatment (excluding oncoplastic procedures).*  
 4 Natural history and presentation of locally advanced breast cancer, Paget's disease of the nipple, breast cancer in pregnancy, sarcomas of the breast, male breast cancer, lymphoedema  
**Knowledge** 4 Pathology and physiology

	4 Staging of advanced disease
	3 Adjuvant therapies (hormonal, chemotherapy, radiotherapy)
	3 Adverse effects of treatment
	4 Palliative care
<b>Clinical Skills</b>	4 History and examination
	3 Identification of patients for reconstructive surgery
	4 Biopsy-FNA
	4 Biopsy-core
	4 Breast lump excision
	4 Wide local excision of breast lesion
<b>Technical Skills and Procedures</b>	4 Mastectomy-simple
	4 Axillary node sample(level 1)
	4 Axillary clearance(level 2+3)
	4 Axilla-sentinel node biopsy
	4 Image guided biopsy
	4 Image guided wide local excision
	3 Lymph node biopsy-cervical
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>Borderline and premalignant conditions of the breast</b>
<b>Category</b>	Final Special Interest Breast
<b>Sub-category:</b>	Breast C
<b>Objective</b>	<i>Assess and manage atypical and precancerous diseases of the breast.</i>
	4 Natural history and presentation of papillomatosis, phyllodes tumours, adenomyepithelioma
<b>Knowledge</b>	4 Pathology
	4 Role of imaging and screening in detection
	4 Diagnostic procedures
	4 Surgical treatment
<b>Clinical Skills</b>	4 History and examination
<b>Technical Skills and Procedures</b>	4 Breast lump excision
	4 Image guided biopsy
	4 Image guided wide local excision
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>Oncoplastic + reconstructive surgery</b>
<b>Category</b>	Final Special Interest Breast
<b>Sub-category:</b>	Breast D
<b>Objective</b>	<i>The ability to assess patients for oncoplastic and reconstructive breast surgery and perform the procedures</i>
	<i>- The ability to select patients appropriately for surgery and choose which procedure is most suitable for them</i>
	<i>- Be able to perform oncoplastic and plastic surgical breast procedures</i>
	<i>- The ability to manage the post-operative care and follow-up of patients who have had oncoplastic or plastic surgical breast procedures</i>
<b>Knowledge</b>	Assessment of patients who might be suitable for oncoplastic or plastic surgical procedures on the breast
	4 Indications and contraindications for breast reconstruction

- 4 Indications and contraindications for breast augmentation and reduction
- 4 Breast shape and symmetry
- 4 Assessment for risk-reducing mastectomy
- 4 Indications and contraindications for breast conservation and oncoplastic procedures
- 4 Types of congenital and developmental abnormalities
- 4 Approaches to treatment of gynaecomastia

Operative oncoplastic and breast surgery

- 4 Anatomy relevant to breast plastic surgery and reconstruction
- 4 Basis of tissue expansion and implant techniques
- 4 Basis of pedicle and microsurgical techniques

Post-operative Care

- 4 Management and avoidance of complications of breast reconstruction
- 4 Follow up of breast cancer patients after oncoplastic and reconstructive procedures

Assessment of patients who might be suitable for oncoplastic or plastic surgical procedures on the breast

- 4 Integration of reconstruction with cancer therapy
- 4 Selection of suitable patients for oncoplastic and plastic surgical techniques
- 4 Choice of appropriate technique
- 4 Ability to advise on expected outcomes and complications

Operative oncoplastic and breast surgery

- 4 Planning and sequencing of procedures
- 4 Integration of cancer resection and axillary surgery with reconstruction
- 3 Choice of flap - unipedicle/bipedicle/free
- 4 Integration of other procedures such as nipple tattooing and liposuction
- 4 Marking for surgery
- 4 Ability to raise previous mastectomy flaps
- 4 Selection of implants
- 1 Microsurgical techniques
- 1 Other more rarely performed procedures such as superior gluteal artery perforator flap
- 3 Different methods of performing flaps - unipedicle/bipedicle/free flap

**Clinical Skills**

Post-operative Care

- 4 Recognition of post-operative complications, both early and late
- 4 Choice of further procedure such as capsulotomy, capsulectomy and removal of implants
- 4 Recognition of local recurrence of cancer
- 4 Indications for seeking further oncological advice
- 4 Second stage adjustments and liposuction

Operative oncoplastic and breast surgery

- 4 Mastectomy-skin-sparing
- 4 Reconstruction-implant/expander
- 4 Reconstruction-LD flap
- 1 Reconstruction-TRAM/DIEP flap
- 4 Mini flap volume replacement

**Technical Skills and Procedures**



- 4 Mastopexy
- 4 Nipple-areolar reconstruction
- 4 Nipple-eversion
- 4 Augmentation-breast
- 4 Mammoplasty
- 4 Reduction-breast
- 4 Gynaecomastia excision
  
- Post-operative Care
- 4 Augmentation-complications+reoperation
- 4 Reoperation-adjustment of flaps
- 4 Reoperation-implant/expander complication

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Oncoplastic + reconstructive surgery</b>
<b>Category</b>	Final Special Interest Breast
<b>Sub-category:</b>	Breast E
<b>Objective</b>	<p><i>The ability to assess patients for oncoplastic and reconstructive breast surgery and perform the procedures</i></p> <ul style="list-style-type: none"> <li>- <i>The ability to select patients appropriately for surgery and choose which procedure is most suitable for them</i></li> <li>- <i>Be able to perform oncoplastic and plastic surgical breast procedures</i></li> <li>- <i>The ability to manage the post-operative care and follow-up of patients who have had oncoplastic or plastic surgical breast procedures</i></li> </ul> <p>Assessment of patients who might be suitable for oncoplastic or plastic surgical procedures on the breast</p> <ul style="list-style-type: none"> <li>4 Indications and contraindications for breast reconstruction</li> <li>4 Indications and contraindications for breast augmentation and reduction</li> <li>4 Breast shape and symmetry</li> <li>4 Assessment for risk-reducing mastectomy</li> <li>4 Indications and contraindications for breast conservation and oncoplastic procedures</li> <li>4 Types of congenital and developmental abnormalities</li> <li>4 Approaches to treatment of gynaecomastia</li> </ul>
<b>Knowledge</b>	<p>Operative oncoplastic and breast surgery</p> <ul style="list-style-type: none"> <li>4 Anatomy relevant to breast plastic surgery and reconstruction</li> <li>4 Basis of tissue expansion and implant techniques</li> <li>4 Basis of pedicle and microsurgical techniques</li> </ul> <p>Post-operative Care</p> <ul style="list-style-type: none"> <li>4 Management and avoidance of complications of breast reconstruction</li> <li>4 Follow up of breast cancer patients after oncoplastic and reconstructive procedures</li> </ul>
<b>Clinical Skills</b>	<p>Assessment of patients who might be suitable for oncoplastic or plastic surgical procedures on the breast</p> <ul style="list-style-type: none"> <li>4 Integration of reconstruction with cancer therapy</li> </ul>

- 4 Selection of suitable patients for oncoplastic and plastic surgical techniques
- 4 Choice of appropriate technique
- 4 Ability to advise on expected outcomes and complications

Operative oncoplastic and breast surgery

- 4 Planning and sequencing of procedures
- 4 Integration of cancer resection and axillary surgery with reconstruction
- 3 Choice of flap - unipedicle/bipedicle/free
- 4 Integration of other procedures such as nipple tattooing and liposuction
- 4 Marking for surgery
- 4 Ability to raise previous mastectomy flaps
- 4 Selection of implants
- 1 Microsurgical techniques
- 1 Other more rarely performed procedures such as superior gluteal artery perforator flap
- 3 Different methods of performing flaps - unipedicle/bipedicle/free flap

Post-operative Care

- 4 Recognition of post-operative complications, both early and late
- 4 Choice of further procedure such as capsulotomy, capsulectomy and removal of implants
- 4 Recognition of local recurrence of cancer
- 4 Indications for seeking further oncological advice
- 4 Second stage adjustments and liposuction

Operative oncoplastic and breast surgery

- 4 Mastectomy-skin-sparing
- 4 Reconstruction-implant/expander
- 4 Reconstruction-LD flap
- 1 Reconstruction-TRAM/DIEP flap
- 4 Mini-flap volume replacement
- 4 Mastopexy
- 4 Nipple-areolar reconstruction
- 4 Nipple-eversion
- 4 Augmentation-breast
- 4 Mammoplasty
- 4 Reduction-breast
- 4 Gynaecomastia excision

**Technical Skills and Procedures**

Post-operative Care

- 4 Augmentation-complications+reoperation
- 4 Reoperation-adjustment of flaps
- 4 Reoperation-implant/expander complication

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Thyroid</b>
<b>Category</b>	Final Special Interest Endocrine
<b>Sub-category:</b>	Endo A
<b>Objective</b>	<i>Investigation and peri-operative management of thyroid swellings and</i>

*thyrotoxicosis.*

*Pre-operative assessment: Basic knowledge of diagnosis and assessment of thyroid swellings and thyrotoxicosis.*

*Operative management: The principles of operative management of thyroid swellings and thyrotoxicosis.*

*Post-operative management: Basics of post-operative care after thyroid surgery.*

Pre-operative assessment:

- 3 Anatomy of the neck, in particular thyroid and parathyroid glands
- 3 Pathophysiology of thyroid swellings - generalised/solitary; functioning/non-functioning
- 3 Medical treatment of thyrotoxicosis

**Knowledge**

Operative management:

- 3 Principles of operation for thyroid swellings and thyrotoxicosis

Post-operative management:

- 3 Complications of thyroid surgery

Pre-operative assessment:

- 4 History + examination
- 3 Investigations-Thyroid function + autoantibodies; FNA; Ultrasound; Isotope scan

**Clinical Skills**

- 2 Decision for operative or non-operative management and choice of operation

Post-operative management:

- 2 Management of post-operative bleeding, airway problems or hypocalcaemia

Operative management:

**Technical Skills and Procedures**

- 2 Thyroid-lobectomy
- 1 Thyroidectomy-total
- 1 Thyroidectomy-toxic goitre

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Parathyroid

**Category** Final Special Interest Endocrine

**Sub-category:** Endo A

*Basic assessment and treatment of disorders of parathyroid function.*

**Objective** *Diagnosis /Assessment: Diagnosis and basic assessment of disorders of parathyroid function.*

*Operative Management: Understanding of the principles of surgery for*

*disorders of parathyroid function.*

*Post operative management: Basic post operative management after parathyroid surgery.*

Diagnosis /Assessment:

2 Surgical strategies for hyperparathyroidism

Operative Management:

**Knowledge** 3 Complications of parathyroid surgery

Post operative management:

3 Hypercalcaemia; causes, investigation

2 Medical treatment of hypercalcaemia

2 Causes of hyperparathyroidism

Operative Management:

3 Management of bleeding, airway problems or hypocalcaemia

**Clinical Skills** Post operative management:

3 History + examination

3 Arrange investigations - biochemical

**Technical Skills and Procedures** Diagnosis /Assessment:

1 Parathyroidectomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Neck swellings

**Category** Final Special Interest Endocrine

**Sub-category:** Endo A

**Objective** *Assessment and management of neck swellings.*

4 Anatomy of triangles of the neck including: submental / submandibular / anterior / posterior

**Knowledge** 4 Causes of enlargement of salivary glands / thyroid gland incl. thyroglossal cyst / lymph nodes / other (vascular, skin & soft tissue incl. branchial cyst)

4 Investigation of neck swellings including diagnostic imaging, ENT assessment, pathology and biochemistry

**Clinical Skills** 4 History and examination of neck swellings

**Technical Skills** 4 Biopsy-FNA

**and Procedures** 4 Lymph node biopsy-cervical

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Thyroid

**Category** Final Special Interest Endocrine

**Sub-category:** Endo B

	<i>Management of thyroid swellings and thyrotoxicosis in straightforward cases.</i>
<b>Objective</b>	<i>Pre-operative assessment: diagnosis and assessment of thyroid swellings and thyrotoxicosis.</i>
	<i>Operative management: management of thyroid swellings and thyrotoxicosis.</i>
	<i>Post-operative management: post-operative care after thyroid surgery.</i>
	Pre-operative assessment:
<b>Knowledge</b>	4 Anatomy of the neck, in particular thyroid and parathyroid glands
	4 Pathophysiology of thyroid swellings -generalised/solitary; functioning/non-functioning
	3 Medical treatment of thyrotoxicosis
	Post-operative management:
	4 Complications of thyroid surgery
	Pre-operative assessment:
<b>Clinical Skills</b>	4 History + examination
	3 Investigations-Thyroid function + autoantibodies; FNA; Ultrasound; Isotope scan
	3 Decision for operative or non-operative management and choice of operation
	Post operative management:
	4 Management of post-operative bleeding, airway problems or hypocalcaemia
	Operative management:
<b>Technical Skills and Procedures</b>	4 Thyroid-lobectomy
	3 Thyroidectomy-total
	3 Thyroidectomy-toxic goitre
	2 Thyroidectomy-total+cervical node dissection
	2 Thyroid surgery-reoperative
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>Parathyroid</b>
<b>Category</b>	Final Special Interest Endocrine
<b>Sub-category:</b>	Endo C
	<i>Assessment and treatment of disorders of parathyroid function.</i>
<b>Objective</b>	<i>Pre-operative assessment: diagnosis and assessment of disorders of parathyroid function</i>
	<i>Operative management: management of disorders of parathyroid function</i>
	<i>Post operative management: post-operative management after parathyroid surgery</i>
<b>Knowledge</b>	Pre-operative assessment:

- 4 Anatomy/embryology and pathophysiology of parathyroid glands
- 3 Genetic implications of parathyroid disease
- 4 Hypercalcaemia; causes, investigation
- 3 Medical treatment of hypercalcaemia
- 4 Hypocalcaemia; causes, investigation
- 3 Medical treatment of hypocalcaemia
- 3 Causes of hyperparathyroidism; primary/renal/MEN/persistent or recurrent carcinoma
- 3 Indications for and types of pre-operative imaging

Operative management:

- 3 Indications for surgical intervention in renal parathyroid disease
- 3 Surgical strategies for hyperparathyroidism
- 4 Intraoperative management; frozen section, PTH assay

Post-operative management:

- 4 Complications of parathyroid surgery
- 4 Options for and organisation of follow-up

Pre-operative assessment:

- 4 History + examination
- 3 Arrange investigations - biochemical; radiological

Operative management:

**Clinical Skills**

- 3 Selection of patients for surgery
- 3 Different options in parathyroid surgery; 4 gland exploration, single gland excision, subtotal resection and transcervical thymectomy
- 3 Focused approach to parathyroid surgery
- 2 Indications for mediastinal exploration

Post operative management:

- 4 Management of bleeding, airway problems or hypocalcaemia

Operative management:

**Technical Skills and Procedures**

- 4 Parathyroidectomy
- 2 Parathyroid surgery-reoperative

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Adrenal  
**Category** Final Special Interest Endocrine  
**Sub-category:** Endo C

*Assessment of enlarged adrenal gland.*

**Objective** *Adrenal gland: Basic assessment of adrenal swellings.*

*Adrenal Gland - Operative management: principles of operative management*

*of adrenal swellings.*

*Adrenal Gland - post-operative management: basic post-operative management of patients who have had adrenalectomy.*

Adrenal gland:

- 3 Anatomy and physiology of the adrenal gland
- 2 Genetic implications of adrenal disease
- 3 Causes of adrenal mass
- 2 Disorders of adrenal function; hyperadrenalism and hypoadrenalism

Adrenal Gland - Operative management:

**Knowledge**

- 2 Indications for operation in patients with adrenal swellings
- 2 Methods of adrenalectomy - Open; Laparoscopic
- 2 Different operative approaches to the adrenal gland - anterior, posterior, laparoscopic

Adrenal Gland - post-operative management:

- 2 Complications of adrenalectomy

Adrenal gland:

- 2 Arrange investigations - biochemical; radiological

Adrenal Gland - Operative management:

**Clinical Skills**

- 2 Selection of patients for surgery for adrenal swellings
- 2 Appropriate pre-operative preparation of patients with hormone producing tumours in consultation with the endocrinologist and anaesthetist

Adrenal Gland - post-operative management:

- 3 Immediate management of acute adrenal insufficiency
- 3 Management of post-operative bleeding and infection

**Technical Skills and Procedures**

Adrenal Gland - Operative management:

- 1 Adrenalectomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Thyroid</b>
<b>Category</b>	Final Special Interest Endocrine
<b>Sub-category:</b>	Endo D <i>Management of patients with thyroid mass/ disorders of thyroid function.</i>
<b>Objective</b>	<i>Pre op assessment: Diagnosis and assessment of thyroid nodule/s and disordered thyroid function.</i>  <i>Operative Management: Management of thyroid disease-benign and malignant / thyrotoxicosis.</i>

*Post operative management: Post operative care following thyroid surgery for benign and malignant disease.*

Pre operative management:

- 4 Anatomy of the neck / thyroid and parathyroid glands
- 4 Pathophysiology of the thyroid gland
- 4 Disorders of thyroid function; Causes, Treatment options
- 4 Benign disorders of thyroid growth; Diffuse enlargement, Nodular disease
- 4 Thyroid malignancy; Differentiated, Medullary, Anaplastic, Lymphoma
- 4 Genetic implications of thyroid malignancy

**Knowledge** Operative Management:

- 4 Options for surgical treatment of benign thyroid disease and thyroid malignancy

Post operative management:

- 4 Complications of thyroid surgery
- 4 Thyroid replacement therapy in benign disease
- 4 Follow up and non surgical management / treatment of thyroid malignancy

Pre operative management:

- 4 History + Examination
- 4 Investigation of thyroid disease; Biochemical, Immunological, Radiological, Cytology/Histology
- 4 Indications for surgery in thyroid disease; Thyrotoxicosis, Benign nodular disease, Malignancy
- 4 Discussion with patient -consent etc

Operative Management:

- Clinical Skills**
- 4 Choice of appropriate operation
  - 4 Ability to perform near total thyroidectomy and subtotal thyroidectomy
  - 4 Lymph node dissection of both central compartment and lateral compartments
  - 4 Cervical approach to retrosternal goitre
  - 4 Sternotomy for retrosternal goitre

Post operative management:

- 4 Management of bleeding, airway problems, hypocalcaemia
- 4 Diagnosis and management of recurrent thyroid disease - benign / malignant including consultation with MDT

Operative Management:

- Technical Skills and Procedures**
- 4 Thyroid-lobectomy
  - 4 Thyroidectomy-toxic goitre
  - 4 Thyroidectomy-total
  - 4 Thyroid-retrosternal goitre
  - 4 Thyroidectomy-total+cervical node dissection
  - 4 Thyroid surgery-reoperative



4 Thymectomy-transcervical

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Parathyroid</b>
<b>Category</b>	Final Special Interest Endocrine
<b>Sub-category:</b>	Endo D
	<i>Assessment and treatment of disorders of parathyroid function, including repeat exploration of the neck.</i>
	<i>Diagnosis /Assessment: Diagnosis and assessment of disorders of parathyroid function.</i>
<b>Objective</b>	<i>Operative Management: Management of disorders of parathyroid function, including re-exploration of the neck.</i>
	<i>Post operative management: Post operative management after parathyroid surgery.</i>
	Diagnosis /Assessment:
	4 Anatomy and pathophysiology of parathyroid glands
	4 Genetic implications of parathyroid disease
	4 Hypercalcaemia; causes, investigation
	4 Medical treatment of hypercalcaemia
	4 Hypocalcaemia; causes, investigation
	4 Medical treatment of hypocalcaemia
	4 Causes of hyperparathyroidism; primary/renal/MEN/persistent or recurrent carcinoma
<b>Knowledge</b>	4 Indications for and types of pre-operative imaging
	Operative Management:
	3 Indications for surgical intervention in renal parathyroid disease
	4 Surgical strategies for hyperparathyroidism
	4 Intraoperative management; frozen section, PTH assay
	Post-operative management:
	4 Complications of parathyroid surgery
	4 Options and organisation of follow-up
	Diagnosis /Assessment:
	4 History + examination
	4 Arrange investigations - biochemical; radiological
<b>Clinical Skills</b>	Operative Management:
	4 Selection of patients for surgery
	4 Different options in parathyroid surgery; gland exploration, single gland excision, subtotal resection and transcervical thymectomy
	4 Focused approach to parathyroid surgery
	4 Mediastinal exploration

Post operative management:

4 Management of bleeding, airway problems or hypocalcaemia

Operative Management:

**Technical Skills  
and Procedures**

4 Parathyroidectomy

4 Parathyroid surgery-reoperative

4 Thymectomy-transcervical

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Adrenal

**Category** Final Special Interest Endocrine

**Sub-category:** Endo D

*Assessment and management of enlarged adrenal gland, including operation.*

*Adrenal gland- diagnosis and assessment: Assessment of adrenal swellings.*

**Objective** *Adrenal Gland - Operative management: Operative management of adrenal swellings.*

*Adrenal Gland - post-operative management: Post-operative management of patients who have had adrenalectomy.*

Adrenal gland- diagnosis and assessment:

4 Anatomy and physiology of the adrenal gland

4 Genetic implications of adrenal disease

3 Causes of adrenal mass

3 Disorders of adrenal function; hyperadrenalism and hypoadrenalism

Adrenal Gland - Operative management:

**Knowledge**

4 Indications for operation in patients with adrenal swellings

3 Effect of hormone producing tumours during the peri-operative period

3 Methods of adrenalectomy - Open; Laparoscopic

4 Different operative approaches to the adrenal gland - anterior, posterior, laparoscopic

Adrenal Gland - post-operative management:

4 Complications of adrenalectomy

Adrenal gland- diagnosis and assessment:

3 Arrange investigations - biochemical; radiological

**Clinical Skills** Adrenal Gland - Operative management:

4 Selection of patients for surgery for adrenal swellings

3 Appropriate pre-operative preparation of patients with hormone producing tumours in consultation with the endocrinologist and anaesthetist

4 Choice of suitable operative approach

Adrenal Gland - post-operative management:

3 Post-operative management of patients with hormone producing tumours

4 Immediate management of acute adrenal insufficiency

4 Management of post-operative bleeding and infection

4 Appropriate follow-up of patients with adrenal tumours

Adrenal Gland - Operative management:

3 Adrenalectomy

**Technical Skills  
and Procedures**

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** MEN syndromes

**Category** Final Special Interest Endocrine

**Sub-category:** Endo D

*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.*

**Objective**

*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*

Multiple endocrine neoplasia syndromes including MEN1, MEN2 and familial medullary thyroid cancer:

4 MEN Syndromes

4 Genetics and screening

4 Pathophysiology

4 Clinical Presentation

4 Sub clinical disease

4 Natural history

**Knowledge**

Diagnosis and management of MEN Disorders:

4 Medullary Thyroid Cancer

4 Hyperparathyroidism

3 Pheochromocytoma

3 Pancreatic Neuroendocrine Disease

Operative Management:

4 Indications for and timing of surgery including recurrent MTC and parathyroid disease

Post operative management:

4 Complications of each organ related operation  
4 Identification of new / recurrent disease  
Multiple endocrine neoplasia syndromes including MEN1, MEN2 and familial medullary thyroid cancer:

4 Identification of at risk patients and families  
4 Liaison with endocrinologists and geneticists  
4 Counselling of patients and families

Diagnosis and management of MEN Disorders:

4 History + Examination  
4 Investigations; Biochemical, Radiological, Cytology/Histology, Genetic

**Clinical Skills**

Operative Management:

4 Choice of appropriate operation in MEN  
4 Ability to perform a variety of endocrine operations including pancreatic surgery with other specialists depending on experience

Post operative management:

3 Treatment of complications  
4 Liaison with MDT  
4 History and Examination  
4 Investigations

Operative Management:

4 Thyroid-lobectomy  
4 Thyroidectomy-total  
4 Thyroid-retrosternal goitre  
4 Thyroidectomy-total+cervical node dissection  
4 Thyroid surgery-reoperative  
4 Thymectomy-transcervical  
4 Parathyroidectomy  
4 Parathyroid surgery-reoperative  
4 Adrenalectomy

**Technical Skills and Procedures**

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Pancreatic endocrine**

**Category** Final Special Interest Endocrine

**Sub-category:** Endo D

*Diagnosis, assessment and management of pancreatic endocrine tumours (level of involvement in diagnosis and operation may vary between HPB and endocrine units).*

**Objective**

*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.*

Diagnosis:

4 Symptoms and investigation of neuroendocrine tumours; insulinoma, gastrinoma, MEN 1, glucagonoma, PPoma and non-functioning neuroendocrine tumour

Management:

**Knowledge**

4 Treatment options available

Post-operative care:

4 Complications; bleeding, sepsis, fistulae, diabetes

4 Investigations

4 Management options

Diagnosis:

4 History and examination

4 Organising investigations- biochemical, radiological, pre-operative and intraop

Management:

4 Choice of appropriate treatment method

4 Pre-operative preparation

3 Laparoscopic or open surgical approach

**Clinical Skills**

3 Management of metastatic disease

Post-operative care:

4 Diagnosis

4 Organising investigations

4 Interpreting investigations

4 Management of leak

4 Need for re-operation

3 Re-operation for complication

4 Nutrition

4 Follow-up and long-term management of patient

Diagnosis:

2 ERCP-diagnostic

2 Endoscopic ultrasound-linear-diagnostic-HPB

2 Endoscopic ultrasound-radial-hepatobiliarypancreatic

**Technical Skills  
and Procedures**

Management:

3 Pancreas-enucleation of neuroendocrine tumour

3 Pancreatectomy-distal

3 Pancreatico-duodenectomy

- 4 Biliary bypass
- 3 Liver-left hepatectomy
- 3 Liver-right hepatectomy
- 3 Liver-ablation of tumour

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Organ retrieval for transplant**  
**Category** Final Special Interest Transplant  
**Sub-category:** Renal Tx A  
**Objective** *The ability to retrieve abdominal organs for transplantation.*  
 Contraindications to organ donation:  
 4 General  
 4 Organ-specific

**Knowledge**  
 4 Criteria for brainstem death  
 4 Pathophysiology of brainstem death  
 4 Principles of donor management and organ preservation  
 4 Surgical anatomy of multi-organ retrieval

**Clinical Skills**  
 3 Assess and manage organ donors (including live and NHB donors)  
 3 Multiple abdominal organ retrieval from [deceased](#) donors

Deleted: cadaveric

Deleted: cadaver

**Technical Skills and Procedures**  
 4 Kidney transplant-donor operation-[deceased donor](#)  
 3 Kidney transplant-donor operation-live donor  
 3 Liver transplant-donor operation-[deceased donor](#) hepatectomy  
 3 Pancreatic transplant-donor pancreatectomy

Deleted: cadaver

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Renal transplantation**  
**Category** Final Special Interest Transplant  
**Sub-category:** Renal Tx B  
**Objective** *Ability to assess patients for renal transplantation and manage their care with assistance.*  
 Acute and chronic renal failure:  
 4 Causes  
 4 Pathophysiology  
 4 Treatment options  
 4 Complications

**Knowledge**  
 Indications and contraindications for:  
 4 Kidney transplantation  
 4 [Deceased donor](#) and live kidney donation

Deleted: Cadaveric

Anatomy:  
 4 Kidney anatomy and anomalies  
 4 Implantation site

Immunology:  
 3 HLA matching.  
 3 Cytotoxic cross match

- 3 Rejection
- 3 Immunosuppression
  
- 3 Principles of pre-op preparation and post-op management
- 3 Select appropriate patient from the waiting list

- Manage post-op care:
- 3 Investigations
  - 3 Fluid management
  - 3 Drug therapy
  - 3 Renal biopsy

**Clinical Skills**

- Identify and treat post-op complications:
- 3 Vascular complications
  - 3 Ureteric complications
  - 3 Rejection
  - 3 Infection
  - 3 Drug side effects

3 Kidney transplant-donor operation-~~deceased donor~~

Deleted: cadaver

2 Kidney transplant-donor operation-live donor

2 Kidney transplant-complete operation-~~deceased donor~~

Deleted: cadaver

1 Kidney transplant-complete operation-living donor

**Technical Skills and Procedures**

- 1 Kidney transplant-complete operation-regraft
- 3 Kidney transplant-part-dissection of iliac vessels
- 3 Kidney transplant-part-renal vein anastomosis
- 3 Kidney transplant-part-renal artery anastomosis
- 3 Kidney transplant-part-ureteric anastomosis to bladder
- 1 Kidney transplant-part-uretero-ureterostomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Access for dialysis</b>
<b>Category</b>	Final Special Interest Transplant
<b>Sub-category:</b>	Renal Tx B
<b>Objective</b>	<i>Provide access for renal dialysis for most patients with renal failure.</i>
<b>Knowledge</b>	<ul style="list-style-type: none"> <li>4 Renal failure: classification, causes, pathophysiology, treatment options</li> <li>3 Renal Dialysis: indications, types of dialysis, access sites, complications, timing of access</li> <li>4 Vascular anatomy of the upper and lower limbs</li> <li>4 Principles of pre-operative preparation and post-operative management including assessment of cardiac function and venous conduits</li> <li>4 Assess patients referred for vascular access: prepare patients for theatre, arrange appropriate investigations</li> <li>4 Identify appropriate access site</li> <li>3 Construct A-V fistula: Radio-cephalic, Brachio-cephalic, Brachio-basilic</li> </ul>
<b>Clinical Skills</b>	<ul style="list-style-type: none"> <li>4 Needling techniques: buttonhole, rope-ladder</li> <li>3 Use of PTFE grafts</li> <li>4 Insertion and removal of central venous dialysis catheter including tunnelled catheters</li> <li>4 Insert and remove peritoneal dialysis catheter</li> <li>3 Manage post-op care: investigations, fluid management, drug therapy,</li> </ul>

vascular complications - steal, venous hypertension, cardiac failure and aneurysm

3 Manage complications: thrombosis, haemorrhage, infection, CAPD peritonitis including sclerosing peritonitis

4 Peritoneal dialysis catheter-insert

4 Peritoneal dialysis catheter-removal

**Technical Skills** 4 Central venous line insertion

**and Procedures** 4 Access-arterio-venous fistula

4 Access-arterio-venous fistula-ligation

3 Access-secondary vascular

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Renal transplantation**

**Category** Final Special Interest Transplant

**Sub-category:** Renal Tx C+D

**Objective** *Ability to assess patients for renal transplantation and manage their care.*

Acute and chronic renal failure:

4 Causes

4 Pathophysiology

4 Treatment options

4 Complications

Indications and contraindications for:

4 Kidney transplantation

4 [Deceased donor](#) and live kidney donation

Deleted: Cadaveric

**Knowledge** Anatomy:

4 Kidney anatomy and anomalies

4 Implantation site

Immunology:

3 HLA matching.

3 Cytotoxic cross match

3 Rejection

4 Immunosuppression

4 Principles of pre-op preparation and post-op management

4 Select appropriate patient from the waiting list

Manage post-op care:

4 Investigations

4 Fluid management

4 Drug therapy

**Clinical Skills** 4 Renal biopsy

Identify and treat post-op complications:

4 Vascular complications

4 Ureteric complications

4 Rejection

4 Infection



- 4 Drug side effects
- 4 Kidney transplant-donor operation-[deceased donor](#)
- 3 Kidney transplant-donor operation-live donor
- 4 Kidney transplant-complete operation
- 3 Kidney transplant-complete operation-living donor
- 3 Kidney transplant-complete operation-regraft
- 4 Kidney transplant-part-dissection of iliac vessels
- 4 Kidney transplant-part-renal vein anastomosis
- 4 Kidney transplant-part-renal artery anastomosis
- 4 Kidney transplant-part-ureteric anastomosis to bladder
- 4 Kidney transplant-part-uretero-ureterostomy

Deleted: cadaver

**Technical Skills and Procedures**

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Paediatric renal transplantation

**Category** Final Special Interest Transplant

**Sub-category:** Renal Tx C+D

**Objective** *Ability to assess children for renal transplantation and manage their care.*

4 Acute and chronic renal failure:

Causes

Pathophysiology

Treatment options

Complications

4 Indications and contraindications for:

Kidney transplantation

[Deceased donor](#) and live kidney donation

Deleted: Cadaveric

**Knowledge**

4 Anatomy:

Kidney anatomy and anomalies

Implantation site

4 Immunology:

HLA matching.

Cytotoxic cross match

Rejection

Immunosuppression

4 Principles of pre-op preparation and post-op management

4 Select appropriate patient from the waiting list

4 Involvement with paediatric nephrologists in post-op care:

Investigations

Fluid management

Drug therapy

Renal biopsy

**Clinical Skills**

4 Identify and treat post-op complications:

Vascular complications

Ureteric complications

Rejection

Infection  
Drug side effects

**Technical Skills and Procedures**  
4 Paediatric-~~deceased donor~~ kidney transplant  
4 Paediatric-live donor nephrectomy  
4 Paediatric-live donor kidney transplant

Deleted: cadaver

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Access for Dialysis C+D</b>
<b>Category</b>	Final Special Interest Transplant
<b>Sub-category:</b>	Renal Tx C+D
<b>Objective</b>	<i>Provide access for renal dialysis for most patients with renal failure</i>
	Renal Failure:
	4 Classification
	4 Causes
	4 Pathophysiology
	4 Treatment options
	Renal Dialysis:
<b>Knowledge</b>	4 Indications
	4 Types of dialysis
	4 Access sites
	4 Complications
	4 Timing of access
	4 Vascular anatomy of the upper and lower limbs
	4 Principles of pre-operative preparation and post-operative management including assessment of cardiac function and venous conduits
	Assess patients referred for vascular access:
	4 Prepare patients for theatre
	4 Arrange appropriate investigations
	4 Identify appropriate access site
	Construct A-V fistula:
	4 Radio-cephalic
	4 Brachio-cephalic
	4 Brachio-basilic
<b>Clinical Skills</b>	Needling techniques:
	4 Button hole
	4 Rope-ladder
	4 Use of PTFE grafts
	4 Insert central venous dialysis catheter including tunnelled catheters
	4 Insert and remove peritoneal dialysis catheter
	Manage post-op care:

4 Investigations  
4 Fluid management  
4 Drug therapy  
4 Vascular complications - steal, venous hypertension, cardiac failure and aneurysm

Manage complications:  
4 Thrombosis  
4 Haemorrhage  
4 Infection  
4 CAPD peritonitis including sclerosing peritonitis  
4 Peritoneal dialysis catheter-insert  
4 Peritoneal dialysis catheter-removal  
4 Central venous line insertion  
4 Access-arterio-venous fistula  
4 Access-arterio-venous fistula-ligation  
4 Access-secondary vascular

**Technical Skills and Procedures**

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Pancreatic transplantation</b>
<b>Category</b>	Final Special Interest Transplant
<b>Sub-category:</b>	Renal Tx C+D
<b>Objective</b>	<i>Assessment of patients for pancreatic transplantation in consultation with physicians; operative management and post operative care. Full competency is not expected by CCT.</i> Diabetes: 3 Causes 3 Pathophysiology 3 Treatment options 3 Complications  Indications and contraindications for transplants in the diabetic: 4 Kidney transplantation alone 4 Simultaneous kidney + pancreas transplant 4 Pancreas transplant alone 4 Pancreas transplant after kidney transplant
<b>Knowledge</b>	4 Indications and contraindications for pancreatic donation  Anatomy: 4 Pancreatic 4 Implantation site  Immunology: 3 HLA matching. 3 Cytotoxic cross match 3 Rejection 3 Immunosuppression  3 Principles of pre-op preparation and post-op management

4 Select appropriate patient from the waiting list

Manage post-op care:

- 3 Investigations
- 3 Fluid management
- 3 Drug therapy
- 3 Pancreatic biopsy

**Clinical Skills** Identify and treat post-op complications:

- 3 Vascular complications
- 3 Duct leaks
- 3 Pancreatitis
- 3 Rejection
- 3 Infection
- 3 Drug side effects

3 Convert bladder drainage to enteric drainage

**Technical Skills and Procedures** 3 Pancreatic transplant-donor pancreatectomy  
3 Pancreatic transplant-implant graft

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Organ retrieval for transplant**

**Category** Final Special Interest Transplant

**Sub-category:** Liver Tx A

**Objective** *The ability to retrieve abdominal organs for transplantation*

Contraindications to organ donation:

- 4 General
- 4 Organ-specific

**Knowledge**

- 4 Criteria for brainstem death
- 4 Pathophysiology of brainstem death
- 4 Principles of donor management and organ preservation
- 4 Surgical anatomy of multi-organ retrieval

**Clinical Skills** 3 Assess and manage organ donors (including live and NHB donors)

3 Multiple abdominal organ retrieval from [deceased](#) donors

Deleted: cadaveric

4 Kidney transplant-donor operation-[deceased donor](#)

Deleted: cadaver

**Technical Skills and Procedures** 3 Kidney transplant-donor operation-live donor

3 Liver transplant-donor operation-[deceased donor](#) hepatectomy

Deleted: cadaver

3 Pancreatic transplant-donor pancreatectomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Liver transplantation**

**Category** Final Special Interest Transplant

**Sub-category:** Liver Tx B

**Objective** *Assess and manage patients undergoing liver transplantation with assistance.*

Acute and chronic liver failure:

**Knowledge**

- 4 Causes
- 4 Pathophysiology

- 4 Complications
- 4 Treatment options

Indications and contraindications for:

- 4 Liver transplantation
- 4 [Deceased donor](#) and live liver donation

Deleted: Cadaveric

Liver anatomy:

- 3 Anatomical variants
- 3 Surgical anatomy for splitting/reduction/live donation

Immunology:

- 3 Rejection
- 3 Immunosuppression

- 3 Principles of pre-op preparation and post-op management
- 3 Principles of peri-operative Management
- 3 Complications of liver transplantation and their management
- 3 Select appropriate patient from the waiting list

Manage post-op care:

- 3 Investigations
- 3 Fluid management
- 3 Drug therapy
- 3 Liver biopsy

#### Clinical Skills

Identify and treat post-op complications:

- 3 Vascular complications
- 3 Biliary complications
- 3 Rejection
- 3 Infection
- 3 Recurrent disease
- 3 Drug side effects

- 3 Liver transplant-donor operation-[deceased donor](#) hepatectomy

Deleted: cadaver

- 1 Liver transplant-recipient operation
- 2 Liver transplant-part-recipient hepatectomy
- 2 Liver transplant-part-porta hepatis dissection
- 2 Liver transplant-part-caval dissection+hepatic venous dissection
- 2 Liver transplant-part-implantation of donor liver
- 2 Liver transplant-part-caval anastomosis
- 2 Liver transplant-part-portal vein anastomosis+liver reperfusion
- 2 Liver transplant-part-portal venous conduit
- 2 Liver transplant-part-hepatic artery anastomosis
- 2 Liver transplant-part-hepatic arterial conduit
- 2 Liver transplant-part-duct-to-duct biliary anastomosis
- 2 Liver transplant-part-Roux loop biliary anastomosis
- 2 Liver transplant-part-workbench preparation
- 1 Liver transplant-part-donor liver reduction
- 1 Liver transplant-part-donor liver split

#### Technical Skills and Procedures

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Liver transplantation**  
**Category** Final Special Interest Transplant  
**Sub-category:** Liver Tx C+D  
**Objective** *Assess and manage patients undergoing liver transplantation.*  
 Acute and chronic liver failure:  
 4 Causes  
 4 Pathophysiology  
 4 Complications  
 4 Treatment options

Indications and contraindications for:  
 4 Liver transplantation  
 4 [Deceased donor](#) and live liver donation

**Deleted:** Cadaveric

**Knowledge** Liver anatomy:  
 4 Anatomical variants  
 4 Surgical anatomy for splitting/reduction/live donation  
  
 Immunology:  
 4 Rejection  
 4 Immunosuppression  
  
 4 Principles of pre-op preparation and post-op management  
 4 Principles of peri-operative Management  
 4 Complications of liver transplantation and their management  
 4 Select appropriate patient from the waiting list  
  
 Manage post-op care:  
 4 Investigations  
 4 Fluid management  
 4 Drug therapy  
 4 Liver biopsy

**Clinical Skills**

Identify and treat post-op complications:  
 4 Vascular complications  
 4 Biliary complications  
 4 Rejection  
 4 Infection  
 4 Recurrent disease  
 4 Drug side effects

**Deleted:** cadaver

**Technical Skills and Procedures**

4 Liver transplant-donor operation-[deceased donor](#) hepatectomy  
 4 Liver transplant-recipient operation  
 3 Liver transplant-part-recipient hepatectomy  
 3 Liver transplant-part-porta hepatis dissection  
 3 Liver transplant-part-caval dissection+hepatic venous dissection  
 3 Liver transplant-part-implantation of donor liver  
 3 Liver transplant-part-caval anastomosis  
 3 Liver transplant-part-portal vein anastomosis+liver reperfusion  
 3 Liver transplant-part-portal venous conduit  
 3 Liver transplant-part-hepatic artery anastomosis  
 3 Liver transplant-part-hepatic arterial conduit  
 3 Liver transplant-part-duct-to-duct biliary anastomosis

- 4 Liver transplant-part-Roux loop biliary anastomosis
- 3 Liver transplant-part-workbench preparation
- 3 Liver transplant-part-donor liver reduction
- 3 Liver transplant-part-donor liver split

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Pancreatic transplantation</b>
<b>Category</b>	Final Special Interest Transplant
<b>Sub-category:</b>	Liver Tx C+D
<b>Objective</b>	<p><i>Assessment of patients for pancreatic transplantation in consultation with physicians; operative management and post operative care. Full competency is not expected by CCT.</i></p> <p>Diabetes:</p> <ul style="list-style-type: none"> <li>3 Causes</li> <li>3 Pathophysiology</li> <li>3 Treatment options</li> <li>3 Complications</li> </ul> <p>Indications and contraindications for transplants in the diabetic:</p> <ul style="list-style-type: none"> <li>4 Kidney transplantation alone</li> <li>4 Simultaneous kidney + pancreas transplant</li> <li>4 Pancreas transplant alone</li> <li>4 Pancreas transplant after kidney transplant</li> </ul>
<b>Knowledge</b>	<p>4 Indications and contraindications for pancreatic donation</p> <p>Anatomy:</p> <ul style="list-style-type: none"> <li>4 Pancreatic</li> <li>4 Implantation site</li> </ul> <p>Immunology:</p> <ul style="list-style-type: none"> <li>3 HLA matching.</li> <li>3 Cytotoxic cross match</li> <li>3 Rejection</li> <li>3 Immunosuppression</li> </ul> <p>3 Principles of pre-op preparation and post-op management</p> <p>4 Select appropriate patient from the waiting list</p> <p>Manage post-op care:</p> <ul style="list-style-type: none"> <li>3 Investigations</li> <li>3 Fluid management</li> <li>3 Drug therapy</li> <li>3 Pancreatic biopsy</li> </ul>
<b>Clinical Skills</b>	<p>Identify and treat post-op complications:</p> <ul style="list-style-type: none"> <li>3 Vascular complications</li> <li>3 Duct leaks</li> <li>3 Pancreatitis</li> <li>3 Rejection</li> <li>3 Infection</li> </ul>

3 Drug side effects

3 Convert bladder drainage to enteric drainage

**Technical Skills and Procedures** 3 Pancreatic transplant-donor pancreatectomy  
3 Pancreatic transplant-implant graft

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic**            **Abdominal Pain**

**Category**        General Surgery of Childhood

**Sub-category:**   None

**Objective**        *The ability to assess and manage a child with abdominal pain including appendicectomy.*

**Knowledge**      4 Pattern of symptoms and relation to likely pathology and age of child  
4 Differential diagnosis  
4 Place and value of investigations  
4 Place of operative intervention, and associated outcomes

**Clinical Skills**    4 Ability to assess ill child  
4 Ability to form a viable investigation and treatment plan

**Technical Skills and Procedures** 4 Appendicectomy  
4 Laparotomy/laparoscopy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic**            **Child with groin condition**

**Category**        General Surgery of Childhood

**Sub-category:**   None

**Objective**        *The ability to assess and manage a child with a common groin condition*  
*- The ability to assess and manage a child with undescended testis including orchidopexy in straightforward cases*  
*- The ability to assess and manage a child with penile inflammation*  
*- The ability to assess and manage a child with inguinal hernia*  
*- The ability to assess and manage a child with hydrocele*  
*- The ability to assess and manage a child with an acute scrotal condition*

**Knowledge**      Undescended testis  
4 Developmental anatomy  
4 Natural history of undescended testis and retractile testis  
4 Place of conservative management  
4 Indications for and outcomes of surgery

**Knowledge**      Penile inflammatory conditions  
4 Developmental anatomy  
4 Natural history  
4 Place of conservative management  
4 Indications for and outcomes of surgery

**Knowledge**      Inguinal Hernia  
4 Developmental anatomy  
4 Natural history  
4 Indications for and outcomes of surgery



Hydrocele  
4 Developmental anatomy  
4 Natural History  
4 Place of conservative management  
4 Indications for and outcomes of surgery

Acute scrotum  
4 Natural history  
4 Place of conservative management  
4 Indications for and outcomes of surgery

Undescended testis  
4 Ability to assess child and reach appropriate diagnosis  
4 Ability to form a treatment plan  
4 Ability to differentiate true undescended testis from retractile variant

Penile inflammatory conditions  
4 Ability to assess child and reach appropriate diagnosis  
4 Ability to form a treatment plan

**Clinical Skills**

Inguinal Hernia  
4 Ability to assess child and reach appropriate diagnosis  
4 Ability to form a treatment plan

Hydrocele  
4 Ability to assess child and reach appropriate diagnosis  
4 Ability to form a treatment plan

Acute scrotum  
4 Ability to access child and reach appropriate diagnosis  
4 Ability to form a treatment plan

Undescended testis  
3 Orchidopexy

Penile inflammatory conditions  
4 Circumcision

**Technical Skills  
and Procedures**

Inguinal hernia  
4 Inguinal hernia (not neonatal) operation

Hydrocele  
4 Hydrocele operation

Acute scrotum  
4 Inguinal hernia (not neonatal) operation  
4 Hydrocele operation  
4 Operation for testicular torsion

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** Intussusception  
**Category** General Surgery of Childhood

<b>Sub-category:</b>	None
<b>Objective</b>	<i>The ability to assess and manage a child with intussusception including management with an expert radiologist and operation.</i>
<b>Knowledge</b>	4 Pattern of symptoms and relation to likely pathology and age of child 4 Role of radiology both for diagnosis and interventional management 4 Differential diagnosis
<b>Clinical Skills</b>	4 Ability to assess child and recognise severity of illness 4 Ability to take appropriate resuscitative measures and form a viable investigation and treatment plan 4 Ability to communicate with all relevant groups 3 Reduction of intussusception
<b>Technical Skills and Procedures</b>	No content
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>Urological Conditions</b>
<b>Category</b>	General Surgery of Childhood
<b>Sub-category:</b>	None
<b>Objective</b>	<i>The ability to assess and manage a child with a common urological condition</i> <i>The ability to assess a child with haematuria</i> <i>The ability to assess a child with urinary tract infection</i> <i>The ability to assess whether circumcision is indicated and carry it out.</i>
<b>Knowledge</b>	Haematuria 4 Pattern of symptoms and relation to likely pathology and age of child 4 Place and value of investigations 4 Differential diagnosis  Urinary Tract Infection 4 Pattern of symptoms and relation to likely pathology and age of child 4 Place and value of investigations 4 Differential diagnosis  Circumcision  3 Developmental anatomy of the foreskin 4 Natural history of the foreskin  Haematuria: 4 Ability to assess child 4 Ability to form a viable investigation and treatment plan 4 Ability to communicate with all relevant groups
<b>Clinical Skills</b>	Urinary Tract Infection: 4 Ability to assess child 4 Ability to form a viable investigation and treatment plan 4 Ability to communicate with all relevant groups  Circumcision 4 Ability to assess indications for circumcision
<b>Technical Skills and Procedures</b>	Haematuria 4 Suprapubic catheter insertion

Circumcision  
4 Circumcision

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

<b>Topic</b>	<b>Abdominal wall conditions</b>
<b>Category</b>	General Surgery of Childhood
<b>Sub-category:</b>	None
<b>Objective</b>	<i>The ability to assess and manage a child with abdominal wall hernia</i> <i>- The ability to assess and manage a child with epigastric hernia</i> <i>- The ability to assess and manage a child with supra-umbilical hernia</i> <i>- The ability to assess and manage a child with umbilical hernia</i> Epigastric hernia: 3 Developmental anatomy 4 Natural history 4 Indications for and outcomes of surgery  Supra-umbilical hernia: 3 Developmental anatomy 4 Natural history to include contrast with umbilical hernia 4 Indications for and outcomes of surgery  Umbilical hernia: 3 Developmental anatomy 4 Natural history 4 Indications for and outcomes of surgery 4 Place of conservative management Epigastric hernia: 4 Ability to assess child and reach appropriate diagnosis 4 Ability to form a treatment plan
<b>Knowledge</b>	
<b>Clinical Skills</b>	Supra-umbilical hernia: 4 Ability to assess child and reach appropriate diagnosis 4 Ability to form a treatment plan  Umbilical hernia: 4 Ability to assess child and reach appropriate diagnosis 4 Ability to form a treatment plan Epigastric hernia: 4 Abdominal wall hernia operation
<b>Technical Skills and Procedures</b>	Supra-umbilical hernia: 4 Abdominal wall hernia operation  Umbilical hernia: 4 Abdominal wall hernia operation

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Child with vomiting**

**Category** General Surgery of Childhood  
**Sub-category:** None  
**Objective** *The ability to assess a child with vomiting.*  
 4 Patterns of symptoms and relation to likely pathology  
 4 Significance of bile stained vomiting  
**Knowledge** 4 Place and value of investigations  
 4 Differential diagnosis  
 4 Methods of medical management  
 4 Place of operative intervention, and associated outcomes  
**Clinical Skills** 4 Ability to assess ill child including an assessment of severity of dehydration  
 4 Ability to form a viable investigation and treatment plan  
**Technical Skills and Procedures** 3 Pyloromyotomy  
**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Constipation**  
**Category** General Surgery of Childhood  
**Sub-category:** None  
**Objective** *The ability to assess and manage a child with constipation*  
 4 Pattern of symptoms and relation to likely pathology and age of child  
**Knowledge** 4 Place and value of investigations  
 4 Differential diagnosis to include medical anomalies and socio-psychological aspects of symptom  
 4 Ability to assess child  
**Clinical Skills** 4 Ability to form a viable investigation and treatment plan  
 4 To include community aspects of further management  
**Technical Skills and Procedures** 4 Manual evacuation  
**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Head and neck swellings**  
**Category** General Surgery of Childhood  
**Sub-category:** None  
**Objective** *The ability to assess and manage a child with a head and neck swelling*  
 4 Pattern of symptoms and relation to likely pathology and age of child  
**Knowledge** 4 Place and value of investigations  
 4 Differential diagnosis  
 4 Relevance of embryonic development of head and neck structures  
**Clinical Skills** 4 Ability to assess child  
 4 Ability to form a viable investigation and treatment plan  
**Technical Skills and Procedures** 3 Lymph node biopsy  
**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Trauma**

<b>Category</b>	General Surgery of Childhood
<b>Sub-category:</b>	None
<b>Objective</b>	<i>The ability to assess and manage a child with trauma.</i>
	4 Algorithms for assessment of trauma victims - primary survey
	4 Algorithms for assessment of trauma victims - secondary survey
<b>Knowledge</b>	4 Likely effects of different types of trauma and relation to age of child
	4 Investigation protocols and local variations thereof
	4 Awareness of NAI and local procedures for dealing with this category of trauma
	4 Ability to appropriately assess trauma cases and carry out resuscitative measures
<b>Clinical Skills</b>	4 Ability to prioritise interventions
	4 Ability to act as part of a team or lead team as appropriate
	4 PALS course
<b>Technical Skills and Procedures</b>	4 Chest drain insertion
	4 Central venous line insertion
	4 Suprapubic catheter insertion
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>Miscellaneous Paediatric Conditions</b>
<b>Category</b>	General Surgery of Childhood
<b>Sub-category:</b>	None
<b>Objective</b>	<i>The ability to assess and manage a child with superficial abscess or with ingrowing toenail.</i>
	Superficial Abscess
	4 Causes of superficial abscess in children
	4 Anatomy of underlying structures
	4 Predisposing conditions
<b>Knowledge</b>	Ingrowing Toenail
	4 Causes of ingrowing toenail
	4 Anatomy of nail and nail bed
	4 Treatment options available
	Superficial Abscess
	4 History and examination
	4 Recognition of the need for other investigation
<b>Clinical Skills</b>	4 Recognition of need for drainage or antibiotics
	Ingrowing Toenail
	4 History and examination
	4 Recognition of need for operative treatment
	Superficial Abscess
<b>Technical Skills and Procedures</b>	4 Abscess drainage
	Ingrowing Toenail
	4 Ingrowing toenail operation
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>Ophthalmology</b>
<b>Category</b>	Final Special Interest Remote and Rural Surgery
<b>Sub-category:</b>	None
<b>Objective</b>	<i>Ability to deal with common minor eye emergencies and refer serious problems appropriately</i>
<b>Knowledge</b>	2 Anatomy of the eye 2 Causes and presentation of foreign bodies in the eye 2 Cause and presentation of dendritic ulcer 2 Causes of flash burns to the eye 2 Common eye infection, their presentation and complications 2 Other causes of red eye, including glaucoma 3 Examination of the eye 3 Removal of foreign bodies from cornea 3 Diagnosis and management of dendritic ulcer
<b>Clinical Skills</b>	3 Diagnosis and management of flash burns 3 Diagnosis and management of common eye infections 3 Slit lamp examination 3 Tonometry
<b>Technical Skills and Procedures</b>	None
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>Otolaryngology</b>
<b>Category</b>	Final Special Interest Remote and Rural Surgery
<b>Sub-category:</b>	None
<b>Objective</b>	<i>Ability to deal with common minor ENT emergencies and refer serious problems appropriately</i>
<b>Knowledge</b>	2 Anatomy of the nose, external auditory canal and pharynx 2 Presentation and complications of foreign bodies in nose, auditory canal and pharynx 3 Examination of the ear, nose and throat 3 Removal of foreign bodies from external auditory canal and nose
<b>Clinical Skills</b>	3 Removal of fish bones etc. from the pharynx 3 Packing of noses - anterior and posterior 3 Treatment of epistaxis
<b>Technical Skills and Procedures</b>	None
<b>Professional Skills</b>	Please see the <a href="#">Professional Skills and Behaviour » Final</a> section for these skills

<b>Topic</b>	<b>Dental</b>
<b>Category</b>	Final Special Interest Remote and Rural Surgery
<b>Sub-category:</b>	None
<b>Objective</b>	<i>Ability to deal with common minor dental emergencies and refer serious problems appropriately</i>
<b>Knowledge</b>	None
<b>Clinical Skills</b>	3 Sewing bleeding sockets after extractions

3 Broken teeth - using temporary 'putty' and management of the tooth knocked out intact using milk  
3 Management of dental abscesses

**Technical Skills and Procedures** None

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Plastic Surgery**

**Category** Final Special Interest Remote and Rural Surgery

**Sub-category:** None

**Objective** *Ability to deal with common minor plastic surgical emergencies and refer serious problems appropriately. See general surgery initial stage for skin lesions; orthopaedic surgery for tendon repairs and plastic surgery for more detail on burns.*

**Knowledge** 3 Pathophysiology of burn injury  
3 Complications of burn injury

**Clinical Skills** 3 Assessment and resuscitation of burn victims  
3 Identification of burn victims with potential airway problems and emergency management in conjunction with anaesthetists  
3 Appropriate referral and transfer to regional burns centre  
3 Management of minor burns conservatively or by split skin graft.

**Technical Skills and Procedures** 3 Skin graft

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Neurosurgery**

**Category** Final Special Interest Remote and Rural Surgery

**Sub-category:** None

**Objective** *Ability to deal with minor head injuries and to refer serious head injuries appropriately. In extreme circumstances, emergency surgical treatment of serious head injuries may be necessary. See orthopaedic surgery for spinal injuries.*

**Knowledge** 2 Anatomy of skull, brain and meninges  
2 Pathophysiology of head injury  
3 Appropriate emergency investigation of head injuries  
3 Indications for surgical intervention in extreme circumstances after discussion with regional neurosurgical centre

**Clinical Skills** 3 Assessment and resuscitation of head injuries

**Technical Skills and Procedures** 3 Burr hole(s)/craniotomy

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills

**Topic** **Military surgery**

**Category** Final Special Interest Military

**Sub-category:** None

*To provide the isolated consultant surgeon on deployment with the ability to perform life and limb saving procedures in arduous conditions. The purpose is to stabilise the patient for evacuation no longer than 48 hours from wounding. This section of the curriculum is still being developed.*

*Pathophysiology of trauma: Knowledge of the pathophysiology of different types of trauma.*

*Safe patient transfer: Ability to make the correct decision re patient transfer.*

*Trauma Laparotomy: Ability to perform trauma laparotomy.*

*Paediatric trauma laparotomy: Ability to perform paediatric trauma laparotomy.*

*Trauma thoracotomy: Ability to perform trauma thoracotomy.*

*Damage control surgery: Judgement in performing damage control surgery if definitive laparotomy inappropriate.*

*Difficult peripheral haemorrhage: Ability to manage difficult peripheral haemorrhage.*

*Severely traumatised ischaemic limbs: Appropriate urgent management of severely traumatised ischaemic limbs.*

*Head Injury: Urgent management of head injury.*

*Pregnant woman with severe abdominal trauma: Urgent management of pregnant woman with abdominal trauma.*

*Burns: Management of burns in the first 48 hours.*

*Surgical airway management in severe head and neck injury: Safe management of the airway in severe head and neck injury.*

*Stabilisation of the jaw after severe facial injury: Stabilise the jaw after severe facial injury.*

Pathophysiology of trauma:

Pathophysiology of  
4 Blunt trauma  
4 Penetrating injury (low and high energy trauma)  
4 Blast injury  
4 Burns

## **Knowledge**

Safe patient transfer:

4 Understanding of strategic/tactical situation

Trauma Laparotomy:

4 Indications for laparotomy



4 Indications for laparostomy

Paediatric trauma laparotomy:

3 Paediatric physiology

Trauma thoracotomy:

4 Indications for thoracotomy

4 Incisions used in particular circumstances

Damage control surgery:

4 Damage control vs definitive laparotomy

Difficult peripheral haemorrhage:

4 Anatomical approach to major vessels

Severely traumatised ischaemic limbs:

4 Anatomical approach to major vessels

Pregnant woman with severe abdominal trauma:

4 Indications for Caesarean section

Burns:

4 Knowledge of fluid replacement regimes for burns patients

Safe patient transfer:

4 Awareness of evacuation assets

4 Uninterventional surgery only if the patient cannot be transferred safely within the relevant timeframe

Trauma Laparotomy:

4 Use of Focussed Abdominal Sonography for Trauma

4 Exposure of retroperitoneal structures

4 Techniques for arresting haemorrhage including liver packing

**Clinical Skills** 4 Safe anastomotic techniques for gut and blood vessels

4 Appropriate formation of stomas

Trauma thoracotomy:

3 Lung resection

3 Cardiac repair without bypass

Damage control surgery:

3 Management of the post-operative patient in difficult circumstances eg acidosis, coagulopathy, rewarming

Difficult peripheral haemorrhage:

4 Safe control of major vessels

Severely traumatised ischaemic limbs

4 Safe control of major vessels

3 Repair of vessels

3 Use of temporary shunts

4 Fasciotomy

4 Decision to amputate

4 Amputation - AK

4 Amputation - BK

4 Amputation - upper limb

Pregnant woman with severe abdominal trauma:

3 Caesarian section

Burns:

4 Escharotomy

4 Fluid replacement

Surgical airway management in severe head and neck injury:

4 Cricothyroidectomy

3 Tracheostomy

Stabilisation of the jaw after severe facial injury:

3 Interdental wiring

Trauma Laparotomy:

4 Laparotomy-trauma

Trauma thoracotomy:

4 Thoracotomy-lateral

4 Thoracotomy-trans-sternal

**Technical Skills  
and Procedures**

Severely traumatised ischaemic limbs

4 Amputation-AK

4 Amputation-BK

4 Amputation-upper limb

Surgical airway management in severe head and neck injury:

4 Cricothyroidotomy (percutaneous tracheostomy)

**Professional Skills** Please see the [Professional Skills and Behaviour » Final](#) section for these skills