European Training Requirements for the Specialty of General Surgery

Authors

Arthur Felice (President of the Division of General Surgery; President of EBS)

Veronique Laloe (Division Webmaster and Chairperson of the Eligibility Committee)

Reviewers

Luc Michel (Vice President)

Joseph Weerts (Secretary)

Paul Ridgway (Treasurer, President of the Board and Chairperson of the Examination)

Faris Al Aswad (Vice-president of the Board)

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Preamble

The UEMS is a non-governmental organisation representing national associations of medical specialists at the European Level. It is now more than 60 years 'young'. With a current membership of 40 national associations and operating through 43 Specialist Sections and European Boards and representing over 1.6 million specialists of which approx. 184,000 are surgeons in the various specialties, the UEMS is committed to promote the free movement of medical specialists across Europe while ensuring the highest level of training which will pave the way to the improvement of quality of care for the benefit of all European citizens. The UEMS areas of expertise notably encompass Continuing Medical Education, Post Graduate Specialty Training and Quality Assurance.

It is the UEMS' conviction that the quality of medical care and expertise is directly linked to the quality of training provided to the medical professionals. Therefore, the UEMS committed itself to contribute to the improvement of medical training at the European level through the development of European Standards in the different medical disciplines. No matter where doctors are trained, they should have at least the same core competencies.

In 1994, the UEMS adopted its Charter on Post Graduate Training aiming at providing the recommendations at the European level for good medical training. Made up of six chapters, this Charter set the basis for the European approach in the field of Post Graduate Training. With five chapters being common to all specialties, this Charter provided a sixth chapter, known as "Chapter 6", that each Specialist Section was to complete according to the specific needs of their discipline.

More than a decade after the introduction of this Charter, the UEMS Specialist Sections and European Boards have continued working on developing these European Standards in Medical training that reflects modern medical practice and current scientific findings. In doing so, the UEMS Specialist Sections and European Boards did not aim to supersede the National Authorities' competence in defining the content of postgraduate training in their own State, but rather to complement these and ensure that high quality training is provided across Europe.

At the European level, the legal mechanism ensuring the free movement of doctors through the recognition of their qualifications was established back in the 1970s by the European Union. Sectorial Directives were adopted and one Directive addressed specifically the issue of medical Training at the European level. However, in 2005, the European Commission proposed to the European Parliament and Council to have a unique legal framework for the recognition of the Professional Qualifications to facilitate and improve the mobility of all workers throughout Europe. This Directive 2005/36/EC established the mechanism of automatic mutual recognition of qualifications for medical doctors according to training requirements within all Member States; this is based on the length of training in the Specialty and the title of qualification.

Given the long-standing experience of UEMS Specialist Sections and European Boards on the one hand and the European legal framework enabling Medical Specialists and Trainees to move from one country to another on the other hand, the UEMS is uniquely in position to provide specialty-based recommendations. The UEMS values professional competence as "*the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served*"[1]. While professional activity is regulated by national law in EU

Member States, it is the UEMS understanding that it has to comply with International treaties and UN declarations on Human Rights as well as the WMA International Code of Medical Ethics.

The ETR document for the specialty of General Surgery is based on the most recent update of the previous Chapter 6 of the Training Charter and The Working document Guidelines. It defines specialist competencies and procedures as well as how to document and assess them. The UEMS Division of General Surgery feels that European Training Requirements (ETRs) are essential because of:

- Harmonization
- Professional mobility with safeguards
- Maintenance of standards
- Quality Assurance and Improvement
- Equity and ultimately:
- Patient safety

Acronyms used

CCST (CCT): Certificate of completion of specialist training

CESMA: Council of European Specialist Medical Assessments

CBD: Case-based discussion.

CEX: Clinical evaluation exercise

CST: Certificate of specialist training

EACCME: European Accreditation Council for CME

EBSQ: European Board Specialist Qualification

ECAMSQ: European Council for Accreditation of Medical Specialist Qualifications

EPA: Entrustable Professional Activity (unit)

ETRs: European Training Requirements

FEBS General Surgery: Fellow of the European Board of Surgery in General Surgery

GMC: General Medical Council

MCQ: Multiple choice question

Mini-CEX: Mini-clinical evaluation exercise.

Mini-PAT: Mini peer assessment tool.

MSF: Multi-source feedback (peer assessment or 360° assessment)

NASCE: Network of Accredited Clinical Skills Centres in Europe

OSATS: Objective Structured Assessment of Technical Skill

OSCE: Objective structured clinical examination

PACES: Practical assessment of clinical examination skills

PBA: Procedure-based assessments

RITA: Record of in-training assessment

SAC: Specialist Accreditation Committee

SBA: Single best answer type MCQ

S-DOPS: Surgical direct observation of procedural skills

Type A+ve MCQ: An Single Best Answer MCQ where the question is set in a positive manner

UEMS: Union of European Medical Specialists

Glossary of Terms

Appraisal. A process in which "the supervising consultant or the educational supervisor provides thorough constructive and regular dialogue, feedback on performance and assistance in career progression". It may mean the assessment of a system.

Assessment. The activity of measuring the mastery of curriculum content, using pre-defined criteria, and passing a judgment by assigning a value (i.e. a grade or numerical value) to such mastery

Assessment blueprinting. A procedure to ensure that the curriculum has been sampled appropriately.

Case-based discussion (CBD) is an evaluation of the trainee's performance during the clinical case and is usually based on a review of patient case notes.

Clinical evaluation exercise CEX or Mini-CEX A mini-CEX encounter consists of a single faculty member observing a resident while that resident conducts a focused history and physical examination in any of several settings.

Curriculum is prescriptive or specific and refers to the entire content taught in the training programme. At the same time, it possesses details about the objectives, academic content and the ***methodologies to be adopted*** during training in order to achieve the aims.

Descriptor. A brief, accurate, specific and focused description of the level of candidate ability denoted by a point on a rating scale.

Entrustable Professional Activity (EPA) is a 'unit indicating a critical part of professional work that can be identified as a unit to be entrusted to a trainee once sufficient competence has been reached'. An EPA goes a level higher than the traditional 4th level of competence which is the 'independence competency'. The key factor is Entrustment. The trainee is not only capable of tackling the particular procedures or units independently, but he can be trusted to do this by his tutors.

European Training Requirements (ETRs) provide specialty-based recommendations involving the expected competencies that a specialist trainee, a specialist and specialist training institutions are expected to possess through formalised training and organisation. They underline the need for common language-bridging and criteria for medical training and work through wide participation in standard setting.

Evaluation. The process of assessing an educational system (e.g. curriculum evaluation), of which assessment is only one constituent.

Formative assessment. Assessment that is carried out mainly to give feedback to the trainee to improve him/herself or to others (e.g. teachers, accrediting bodies, examiners, educational institutions).

Grading of competence. A scale used to measure trainee ability. In the best designed rating scales, the points on the rating scale are 'anchored' with descriptors, describing the trainee characteristics that are indicated by each point.

Mini peer assessment tool [mini-PAT]) uses multi-source feedback from a variety of healthcare professionals to assess the trainees' professional and behavioural skills, such as communication skills, team-work, judgment, compassion, and probity. It comprises a self-assessment by the trainee and the collated ratings from a range of the trainee's co-workers. It may be included in multi-source feedback or MSF.

Multiple choice questions (MCQs). A generic term used for a group of written assessments, where the candidate selects a response from a pre-prepared set of options. Multiple choice question (MCQ): one-from-five format (called Single Best Answer).

Objective structured clinical examination (OSCE). An assessment framework that can be used to assess trainee competence in clinical skills, in a 'snap shot' simulated situation of patient management problems. It may take several forms: Written or computer-based assessment that attempts to assess the problem-solving skills of the trainee, or Face-to face clinical problem is followed by a set of questions focusing on the key features of that clinical case; i.e. the key feature approach.

Objective Structured Assessment of Technical Skill (OSATS). An assessment developed for the appraisal of technical skill in surgical trainees. The OSATS platform consists of surgical trainees rotating among skill stations while being evaluated by tutor surgeons using checklists and global rating scales.

Performance assessment. An assessment conducted under normal, real-life conditions in which the trainee works; e.g., work-based assessment.

Portfolio. A collection of trainee work, which provides evidence of the achievement of knowledge, skills, attitudes and professional growth through a process of self-reflection over a period of time. It may be electronic or paper based.

Portfolio assessment. An assessment framework that includes various assessment tools to measure the trainee achievement of identified learning outcomes.

Procedure-based assessments [PBA). Records of direct observation of more complex procedures performed in the operating theatre, which are more appropriate for senior trainees.

Professionalism. A set of key values or a code of conduct espoused, either explicitly or implicitly, by a professional body to guide the behaviour of its members.

Quality assurance. A system of procedures, checks or audits that evaluates and monitors the work and the products of an institute, and proposes corrective measures, if necessary, to ensure that the outcomes are met as anticipated.

Record of in-training assessment (RITA). A method of postgraduate, workplace assessment for specialist trainees.

Reliability. The precision with which a part or whole of the assessment result can be reproduced, usually expressed as a reliability coefficient (r), which should be a value between 1 and 0.

Simulated patients. Actors or member of the lay public, who are trained to reproduce clinical histories and certain physical signs during assessments such as the OSCE.

Single best answer (SBA) MCQs. The term used in UEMS EBSQ exams for MCQs where only one answer out of five options, is correct.

Skill. An organised, psycho-motor activity that can be learnt and developed by practice.

Standard setting. The process of establishing a cut point for passing or failing candidates at a summative assessment.

Standardised patients. Real patients who have been trained to reliably reproduce clinical histories and physical signs.

Surgical direct observation of procedural skills [S-DOPS]. A record of direct observation of a practical skill performed by the trainee which is usually aimed at junior trainees.

Syllabus is descriptive and therefore, explicitly describes which areas will be covered in a subject.

Three hundred and sixty-degree (360%) assessment. A method of performance assessment, which incorporates the input from a number of stakeholders; e.g. senior doctors, peers, patients, junior doctors, co-workers

Validation. A process that a test/examination or a questionnaire is put through (i.e., piloted), before it is actually used, to ensure that it is fit-for-purpose.

Validity. The degree to which an assessment tests what it purports to assess.

Definitions:

Definition of the General Surgery Specialty

General Surgery is a large specialty requiring knowledge of basic sciences, specialized knowledge and skills in managing congenital and acquired diseases and injuries of most organ systems, which are treated by surgical methods. It provides for the operative and non-operative management, i.e., prevention, diagnosis, evaluation, treatment, intensive care and rehabilitation of patients with pathological processes that affect these organs, including the management of pain. It also involves the necessary knowledge and expertise leading to referral to specialized centres when this is indicated and possible. Where this is not possible because of time and geographical considerations, the General Surgeon must possess the multi-specialty skills necessary to carry out these interventions safely. General Surgeons co-operate closely with other surgical specialists and indeed, other Specialists in the fields of Anaesthesiology, Intensive Care, Emergency Medicine, Radiology and Interventional Radiology, Neurology, Paediatrics, Internal Medicine, Geriatrics, Physical and Rehabilitation Medicine, Obstetrics and Gynaecology and also Pharmacy. This involves a high level of competence in non-technical skills and a commitment to Continuous Professional Development.

Definition of Training

In our context, training is the organized procedure by which doctors learn, acquire and apply the knowledge, skills, abilities, and attitudes needed in the specialty of General Surgery.

Definition of European Training Requirements

ETRs provide specialty-based recommendations involving the expected competencies that a specialist trainee, a specialist and specialist training institutions are expected to possess through formalised training and organisation. They underline the need for common language-bridging and criteria for medical training and work through wide participation in standard setting.

Definition of a Trainee

A medical trainee is a doctor who has completed their general professional training as a physician and is in an accredited training programme to become a recognised medical specialist.

Definition of Training outcomes

This refers to what a learner knows, understands and is able to do on completion of the learning process, which are defined in terms of knowledge, technical and non-technical skills and competence.

Need for General Surgery as a Specialty

During the last several decades, General Surgery experienced difficult times in terms of popularity resulting from a trend towards hyper-specialisation guided by social (e.g., family and social disruption; gender discrimination) and financial reasons. The workload trend in General Surgery in the last twenty years, has increased by more than 30%, whilst workforce trends indicate a negative gradient. Now there is a recovery phase as a result of remedial measures taken, following adverse effects of rampant hyper-specialisation in some countries. Despite all this, General Surgery is certainly still a unifying force in surgery and a gatekeeper for surgical education. What is it that makes General Surgery necessary?

- Pigeon-holing, more comprehensive treatment and continuity.
- Staffing district general hospitals
- Staffing in Hospitals in small island states and small islands off the coast of larger states
- Training surgeons for service in third world countries.
- Dealing with emergency surgery, where Emergency Surgery is not widely established as a separate specialty
- Basis for training of Emergency Surgeons

Like everything else, General Surgery needs to continuously evolve and adapt. The traditional skills and techniques should continue to form the basis of surgical education, but more and more training will be needed in emerging technologies.

There are some difficulties: Individual states in the EU have different formative programmes, health organisation, geographical challenges and logistics. This renders standardisation of training and assessment difficult, but not impossible. However, issues of patient safety and professional mobility make standardisation a necessity.

Admittedly, some countries exclude General Surgery as an entity, (e.g., Sweden, Denmark, France), but adopt the concept of an Emergency Surgeon (Bakjoursskolan-Swedish version of emergency surgical protocol, which mainly consists of damage control and transfer) instead. This involves transplanting the 'damage-control concept' to the general surgeon. However, General Surgeons have traditionally formed the backbone of services involved with surgical emergencies: damage-control surgery and damage control resuscitation (Physiology given priority over anatomical reconstruction), are not alien to General Surgery. Even 'specialised' Emergency Surgeons need substantial experience in General Surgery.

Synthetically, General Surgery is a unifying force in surgery. There is need for inclusion not exclusion.

There are some problems:

- Tendency towards 'hyper-specialties' and 'single-organ specialties'.

- Take-over by specialties outside surgery e.g., Gastroenterology endoscopic procedures and Interventional Radiology
- Gatekeeping of our referrals has been lost to other specialties, e.g., gastroenterologists, sometimes resulting in late or 'complicated' referrals.
- Paradigm shift from strictly operative to possibly conservative gold standards for surgical emergencies*: Is this EBM or medicine of convenience?*

There are possible solutions to the most pressing problems:

1. Increasing the General Surgery training posts while decreasing the proportion of hyper-specialist posts.
2. Multi-disciplinary teams should include General Surgeons where relevant
3. Judicious increase in medical student uptake in some countries (needs appropriate projections)
4. Incentives for emergency cover
5. Incentives for rural practice
6. Less emphasis on direct involvement in research and more on proper appraisal of research (avoiding poor quality research and information overload)
7. Improving lifestyle issues e.g. part-time and shared work
8. Hybrid clinical-academic roles for those who are not full time
9. Better utilisation of female and senior surgeon expertise, e.g., job-sharing
10. Proportionate liability premiums for part-timers instead of flat rates

The desired effects would be:

- A direct effect on demographics in General Surgery
- Encourage more medical graduates, especially females, to take up General Surgery
- Avoid long periods detached from clinical practice for purposes of research resulting in de-skilling and contributing to the information overload
- Reduce burnout rate
- Balance the increased demand due to the growing and aging population

Vision, Purpose and Key objectives

Vision: To serve patients throughout Europe by developing, supporting and encouraging doctors of the highest quality in the specialty of General Surgery.

Purpose: To achieve the delivery of high-quality patient care by promoting and harmonizing high standards for medical practice and postgraduate education, resulting in clinical excellence.

Key Objectives: To define, secure and assess the standards of training in General Surgery in Europe, including the awarding of Fellowships (FEBS General Surgery) and accreditation of training centres. To evaluate the quality of International General Surgery CME/CPD in Europe in conjunction with EACCME. To promote exchange of General Surgery Trainees across Europe. To collect and analyse workforce demographics in General Surgery. To administer a UEMS EBSQ Examination at least once a year. To contribute to the proceedings of the UEMS Surgery Section and Board (EBS) in an active and constructive manner.

The Fellowship of the European Board of Surgery in General Surgery (FEBS General Surgery)

One of the methods used to promote and assure standards of General Surgery in Europe and beyond, is the conferment by the European Board of Surgery of the title of Fellow of the European Board of Surgery (FEBS General Surgery), as its European Board of Surgery Qualification (UEMS EBSQ), through two pathways:

- FEBS General Surgery through a two-step quality validation process of Eligibility Assessment and Examination. This is by far the most commonly used method.
- Honorary FEBS: When a reputable Surgeon, not already in possession of the FEBS, is invited by the Division of General Surgery Executive and the Board of Examination, to serve as an Examiner in the UEMS EBSQ General Surgery Examination, this Colleague will be awarded the Honorary FEBS General Surgery. Thus, this method is applied only on rare occasions. This Honorary Qualification is no longer conferred in response to a proposal or an application, but only through such an invitation.

Those newly admitted to the Fellowship will be given a Certificate as official documentation. They will be entitled to hold all honours and privileges appertaining to a Fellow of the European Board of Surgery in General Surgery. This Fellowship is a significant high-level indication of professional competence and excellence. It basically reflects the ongoing important European standardisation, harmonisation and quality assurance process in medicine. It **does not give the right to practice in any UEMS member country *(Glasgow Declaration: Appendix 1; point 3)*. Such a right is only granted by the relevant National Authority.**

A. TRAINING REQUIREMENTS FOR TRAINEES

General requirements:

The UEMS EBSQ General Surgery Examination is open to any general surgeon, provided that the Eligibility Committee and the Division Executive are satisfied and that the training, skills and qualifications meet its standards. As a minimum, the applicant must be medically qualified, have completed six years of post-graduate surgical training and be a surgeon able to perform independently most basic general procedures. A Certificate of Completion of Surgical Training or a specialist registration are **not** prerequisites, since it is

required procedure, in some countries to confer this only after successful completion of a summative Exit Examination, in addition to the formative assessments during the Training Programme. In such a case, the Exit Examination, e.g., the UEMS EBSQ General Surgery, would be part of the necessary Training Programme, and one of the requirements for applying to the Regulatory Body to be considered for CCST/CCT.

Content of training and learning outcomes

It is important at this stage to emphasise the difference between **Syllabus** and **Curriculum:**

A **Syllabus** is descriptive and therefore, explicitly describes which areas will be covered in a subject. A **Curriculum** is prescriptive or specific and refers to the entire content taught in the training programme. At the same time, it possesses details about the objectives, academic content and the ***methodologies to be adopted*** during training in order to achieve the aims.

Relating the extent and detail of the Syllabus, Curriculum and the requirements in the Logbook in the ETR General Surgery;

The Syllabus is understandably very wide, as is in the very nature of General Surgery. However, one needs to distinguish between what constitutes a ***Syllabus****, what is inherent in a* ***Curriculum*** *and what constitutes the* ***Competence-based Logbook****. The former two terms have been clearly defined and discussed in detail the ETR for the Specialty of General Surgery earlier. The Competence-based Logbook can be found in File form in* ***Appendix 1, page 133.***

In order to tackle the very real problem of an inescapably wide Syllabus, which is intrinsic to General Surgery, the concept of Entrustable Professional Activities (EPAs) as units, has been introduced into the Curriculum and, especially, in the Competence-based Logbook file, since a number of years. This has served us well. Additionally, the EPAs have been sub-classified into Essential EPAs and Desirable but Non-essential EPAs. This strategy helps to tackle the issue of the different emphasis and contents in the Curricula of different National Training Programmes, giving the Eligibility process the necessary flexibility. It also defines requirements at a more essential level. Thus, the Competence-based Logbook and more specifically the Essential Entrustable professional Activities, render a clear idea of what the Eligibility Committee would expect trainees in General Surgery to have solidly achieved during their training, without alienating them from being familiar with other aspects of Surgery which might come in handy. It might also be a basis for further hyper-specialty training and bias.

SYLLABUS FOR THE UEMS EBSQ GENERAL SURGERY EXAMINATION

Chapters in the Syllabus

1. **GENERAL ASPECTS of SURGERY**

1.1. SURGERY on the SKIN and SUBCUTANEOUS TISSUES (including superficial sepsis)

1.2. SURGERY on the RETICULO-ENDOTHELIAL SYSTEM

1.3. FLUID AND ELECTROLYTE BALANCE

1.4. SURGICAL NUTRITION

1.5. VENOUS THROMBOSIS and EMBOLISM

1.6. CLINICAL METHODOLOGY

1.7. DIAGNOSTICS

1.8. OUTPATIENT SKILLS

1.9. GENETIC ASPECTS of SURGICAL DISEASE

1.10. NON-TECHNICAL SKILLS in GENERAL SURGERY

2. ABDOMEN

2.1 ABDOMINAL WALL (non-hernia)

2.2 HERNIA (elective)

2.3 UPPER GASTROINTESTINAL

Acute dysphagia, oesophageal varices, Boerhaave's syndrome, iatrogenic perforation, reflux disease, hiatus hernia, peptic stricture, achalasia, motility disorders, carcinoma of the oesophagus, gastric ulcer, duodenal ulcer, gastric and duodenal polyps, acute perforation, GI bleeding, acute upper GI haemorrhage, acute gastric dilatation, acute gastric volvulus, gastric carcinoma, GIST, gastric lymphoma.

2.4 HEPATOBILIARY and PANCREATIC

Gallstone disease, acute pancreatitis, chronic pancreatitis, pancreatic cancer, periampullary cancer of pancreas, cystic tumours of pancreas, neuroendocrine tumours of pancreas, intraductal papillary mucinous neoplasms of pancreas, pancreatic trauma, liver metastases, primary liver cancer, cholangiocarcinoma and gallbladder cancer, benign and cystic tumours, liver trauma.

2.5 COLORECTAL

Acute painful peri-anal conditions, haemorrhoids, anal fissure, anorectal abscess, fistuila-in-ano, diverticular disease, acute colonic diverticulitis, volvulus of the colon, rectal bleeding, massive lower GI bleeding, acute colitis, endometriosis, colon trauma, rectal trauma, anal trauma, foreign bodies, colorectal neoplasia, presacral lesions, faecal incontinence, rectal prolapse, solitary rectal ulcer, constipation, anal stenosis, irritable bowel syndrome, chronic rectal pain syndrome, IBD, colitis, miscellaneous colitides, stomas.

2.6 MORBID OBESITY and BARIATRIC SURGERY

2.7 BOWEL VACULAR MALFORMATIONS

2.8 LAPAROSCOPIC SURGERY

3. TRAUMA

3.1 TRAUMA PRINCIPLES
3.2 ABDOMEN and THORAX TRAUMA

3.3 HEAD and NECK TRAUMA

3.4 EXTREMITY and SOFT TISSUE TRAUMA

3.5 VASCULAR TRAUMA

3.6 ADVANCED TRAUMA: WARFARE, TERRORISM and CIVIL STRIFE - GENERAL PRINCIPLES

4. EMERGENCY SURGERY

4.1 SUPERFICIAL SEPSIS including NECROTISING INFECTIONS

4.2 PERITONITIS / ACUTE ABDOMEN (combined)

4.3 ACUTE INTESTINAL OBSTRUCTION

4.4 ACUTE APPENDICITIS

4.5 STRANGULATED HERNIA

4.6 ACUTE GYNAECOLOGICAL DISEASE

4.7 COMPLICATIONS of ABDOMINAL SURGERY

5. VASCULAR SURGERY for GENERAL SURGEONS

5.1 SUPERFICIAL VENOUS DISEASE

5.2 DEEP VENOUS DISEASE

5.3 ACUTE ISCHAEMIA

5.4 EMERGENCY ANEURYSM DISEASE

5.5 MESENTERIC VASCULAR DISEASE

5.6 ACUTE LIMB ISCHAEMIA

5.7 CHRONIC ISCHAEMIA

5.8 UPPER LIMB ISCHAEMIA

5.9 CHRONIC LOWER LIMB ISCHAEMIA

5.10 ANEURYSMAL DISEASE

5.11 EMERGENCY VASCULAR SURGERY

5.12 PERIPHERAL ARTERY ANEURYSM

5.13 VASCULAR ACCESS

5.14 RENAL VASCULAR DISEASE

5.15 CAROTID ARTERY DISEASE

5.16 HYPERHYDROSIS

5.17 LYMPHOEDEMA

6. BREAST SURGERY

6.1 BREAST ASSESSMENT

6.2 BENIGN BREAST CONDITIONS

6.3 BREAST CANCER

7. **ENDOCRINE SURGERY**

7.1 NECK SWELLINGS

7.2 THYROID GLAND

7.3 PARATHYROID GLANDS

7.4 ADRENAL GLAND

7.5 ENDOCRINE PANCREAS

7.6 MULTIPLE ENDOCRINE NEOPLASIA (*MEN*)

8. **HEAD AND NECK for GENERAL SURGEONS (non-endocrine)**

9. UROLOGY for GENERAL SURGEONS

10. TRANSPLANT SURGERY for GENERAL SURGEONS

10.1 ACCESS FOR DIALYSIS

10.2 ORGAN RETRIEVAL

10.3 KIDNEY TRANSPLANT

10.4 PAEDIATRIC KIDNEY TRANSPLANTATION

10.5 PANCREATIC TRANSPLANTATION

10.6 LIVER TRANSPLANTATION

11. PAEDIATRIC SURGERY for GENERAL SURGEONS

11.1 THE CHILD with ABDOMINAL PAIN

11.2 INTUSSUSCEPTION

11.3 THE CHILD with ACUTE GROIN/SCROTAL CONDITION

11.4 THE CHILD with NON-ACUTE GROIN CONDITION

11.5 THE CHILD with VOMITING

11.6 THE CHILD with CONSTIPATION

11.7 ABDOMINAL WALL CONDITIONS in CHILDREN

11.8 THE CHILD with a UROLOGICAL CONDITION

11.9 THE CHILD with HEAD and NECK SWELLING

11.10 TRAUMA in CHILDREN

11.11 MISCELLANEOUS PAEDIATRIC SURGERY for GENERAL SURGEONS

12. PLASTIC SURGERY for GENERAL SURGEONS

13. NEUROSURGERY for GENERAL SURGEONS

14. SURGERY ON THE MUSCULOSKELETAL SYSTEM for GENERAL SURGEONS

15. INTERVENTIONAL RADIOLOGY for GENERAL SURGEONS

16. ONCOLOGY FOR GENERAL SURGEONS

SYLLABUS DEFINITION

This is an academic document that communicates course information and defines expectations and responsibilities in preparation for the UEMS EBSQ Examination in General Surgery, leading to conferment of the FEBS General Surgery.

WHY IS IT NECESSARY?

Because of the necessity to maintain standards. This need is a consequence of:

- Free movement of healthcare professionals in Europe
- Movement of patients and medical tourism
- The improving understanding of disease
- New technologies
- The evolution of disease
- The introduction of patient electronic record and establishment of benchmarks
- An aging and more complex population
- New requirements to remain in practice
- Shorter working hours and shorter period of training
- To ensure patient safety

WHAT IS ASSESSED?

- Knowledge
- Clinical and technical skills
- Attitudes
- Relating to patients
- Communication and interpersonal skills
- Teamwork and collaboration
- Management including self-management

In other words, all that leads to an enhanced quality of patient care and patient safety.

OBJECTIVES OF THIS SYLLABUS:

- To communicate information and define expectations and responsibilities for potential candidates, in their preparation for the UEMS EBSQ Examination in General Surgery, leading to conferment of the FEBS General Surgery.
- To help the designers of the assessments and examiners, leading to transparency, fairness, equity, maintenance of standards, Quality Assurance and Improvement and ultimately, patient safety.
- Setting the course towards convergence of Exit Examinations in Europe and beyond so as to approach a real Extra-European Higher Education Area which includes Medicine.

Always referring to the Syllabus for General Surgery, the **objectives, knowledge, clinical skills and technical skills** required are listed by chapters with reference to each main domain. **Non-technical Skills** are discussed under General aspects of Surgery.

SYLLABUS CONTENTS

1. GENERAL ASPECTS of SURGERY

1a. SURGERY on the SKIN and SUBCUTANEOUS TISSUES (including superficial sepsis)

MALIGNANT SKIN CONDITIONS

OBJECTIVE: Recognise and appropriately manage malignant skin lesions. Diagnose and treat appropriately small basal cell carcinomas. Diagnose malignant melanoma and refer appropriately. Diagnose squamous cell carcinoma and refer appropriately if large.

KNOWLEDGE: Basal cell carcinoma: Anatomy. Histopathology. Natural history.

Malignant melanoma: Anatomy. Histopathology. Natural history. Staging.

Squamous cell carcinoma: Anatomy. Histopathology. Natural history of malignant transformation in chronic ulcers.

CLINICAL SKILLS: Basal cell carcinoma: Assess skin lesion. Biopsy of large skin lesions to plan treatment. Closure of large defects after excision by split skin grafts, full thickness grafts, flap closure.

Malignant melanoma: Assess skin lesion Indications for wider excision, lymph node biopsy, axillary or groin block dissection based on staging.

Squamous cell carcinoma: Assess skin lesion including incisional biopsy.

TECHNICAL SKILLS: Basal cell carcinoma: Malignant skin lesion-excision biopsy (small). Malignant melanoma: Malignant skin lesion-excision biopsy melanoma (small). Squamous cell carcinoma: Malignant skin lesion-excision biopsy (small).

HIDRADENITIS SUPPURITIVA

OBJECTIVE: Competency in the diagnosis and management of hidradenitis suppuritiva

KNOWLEDGE: Pathophysiology of hidradenitis suppurativa

CLINICAL SKILLS: Assess the symptoms and signs of hidradrenitis suppurativa

TECHNICAL SKILLS: Manage hidradenitis suppuritiva by both medical and surgical means

INGROWING TOENAIL

OBJECTIVE: Competency in the management of ingrowing toenail.

TECHNICAL SKILLS: Ingrowing toenail operation: Nail avulsion / wedge resection / phenolisation.

SURGERY FOR SUPERFICIAL SEPSIS

OBJECTIVE: Competency in the management of superficial sepsis including necrotizing infections, abscesses, Fournier's gangrene, necrotising fasciitis, gas gangrene, debridement, diabetic foot.

TECHNICAL SKILLS: Surgery for superficial sepsis including necrotizing infections: abscess drainage, radical excisional surgery for Fournier's gangrene, necrotising fasciitis, gas gangrene, debridement, diabetic foot. See below for pilonidal sinus.

SURGERY FOR PERI-ANAL SEPSIS

OBJECTIVE: Recognise and manage acute peri-anal sepsis

CLINICAL SKILLS: Differentiate cryptoglandular abscess and fistula from other causes. Assessment of abscess/fistula by techniques designed to elucidate pathological anatomy: Goodsall's rule and digital examination, fistulogram used to define the anatomy of fistulae, injections, Magnetic Resonance Imaging (MRI), endoanal ultrasound.

TECHNICAL SKILLS: Management of anorectal abscess including preoperative and postoperative care and the appropriate procedure based on anatomical spaces.

PILONIDAL DISEASE

OBJECTIVE: Emergency management of pilonidal abscess.

KNOWLEDGE: Pathophysiology of pilonidal disease.

CLINICAL SKILLS: Assess the symptoms and signs of pilonidal disease: abscess, sinus.

TECHNICAL SKILLS: Surgical management of pilonidal disease: drainage of pilonidal abscess. Pilonidal sinus: Drainage of pilonidal abscess, lay open, excision + suture, Karadakis procedure, graft or flap.

PRURITUS ANI

OBJECTIVE: Competency in the management of pruritis ani.

KNOWLEDGE: Aetiology and clinical presentation of pruritus ani

CLINICAL SKILLS: Arrange medical management and surgical management of pruritus ani with attention to: hygiene, diet, anatomical (obesity, deep anal cleft), coexisting anal pathology, systemic disease, gynaecological associated, infections, post-antibiotic syndrome, contact dermatitis, dermatology, radiation, neoplasm, idiopathic pruritis ani.

SEXUALLY TRANSMITTED DISEASE

OBJECTIVE: Diagnosis and management

KNOWLEDGE: Aetiology of HIV, syphilis, gonorrhoea, chlamydia, herpes. Influence of human papilloma virus serotypes on the subsequent development of cancer.

CLINICAL SKILLS: Diagnosis of condylomata acuminate. Diagnosis and treatment of HIV, syphilis, gonorrhoea, chlamydia, herpes. Medical (topical chemicals) and surgical treatment options for condylomata acuminata.

TECHNICAL SKILLS: Anal skin tags/warts-excision. Topical treatment.

1b. SURGERY of the RETICULO-ENDOTHELIAL SYSTEM

OBJECTIVE: Knowledge of general and specialist surgical support needed in the management of conditions affecting the reticulo-endothelial and haemopoietic systems.

Lymphatic conditions: knowledge of the general and specialist surgical support needed in the management of conditions affecting the lymphatic system. Simple lymph node biopsy.

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

KNOWLEDGE: Lymphatic conditions: Non-Hodgkin's lymphoma. Lymphadenopathy. Hodgkin's disease. Staging classifications.

Conditions involving the spleen: Indications for elective splenectomy. haemolytic anaemia, ITP, thrombocytopaenia, myeloproliferative disorders. Indications for emergency splenectomy. Sequelae of splenectomy. Splenic conditions. Thrombophilia.

CLINICAL SKILLS: Lymphatic conditions: planning appropriate diagnostic tests.

Liver biopsy. Conditions involving the spleen: planning appropriate treatment schedule in consultation with haematologist.

TECHNICAL SKILLS: Lymphatic conditions: Biopsy-Fine Needle Aspiration cytology (FNAC). Liver biopsy. Lymph node biopsy-groin, axilla.

Conditions involving the spleen: Splenectomy. Management of trauma to the spleen.

1c. FLUID and ELECTROLYTE BALANCE

OBJECTIVES: Recognition of the need for intravenous fluid administration, assessment of whether this is appropriate and management of treatment with IV fluids.

KNOWLEDGE: Body composition and metabolic requirements in health and disease. Complications of intravenous fluids administration and their management.

CLINICAL SKILLS: Assessment of GI tract function, in particular of absorption.

TECHNICAL SKILLS: Insertion of nasogastric tube and confirmation of position. Insertion of naso-jejunal tube, using bedside imager, radiological screening or endoscopy. Percutaneous Endoscopic Gastrostomy (PEG) tube insertion / replacement, including jejunal extensions. Formation of feeding enterostomy (open /

lap). Vascular access for parenteral feeding, including peripheral access, Peripherally Inserted Central Catheter (PICC) and tunnelled or cuffed central lines or implantable ports.

1d. SURGICAL NUTRITION

OBJECTIVES: Recognise the need for artificial nutritional support, assess whether this is appropriate and manage treatment with enteral and parenteral nutrition, in partnership with nutritional support team. Recognise the need for artificial nutritional support, assess whether this is appropriate and manage treatment with enteral or parenteral nutrition as leader or member of the nutritional support team.

KNOWLEDGE: Methods of nutritional screening and assessment.

Pathophysiology of the GI tract including short bowel syndrome, high output stoma, enterocutaneous fistulae, pancreatic insufficiency.

Consequences of obesity and medical and surgical options for management, including complications.

Causes and consequences of nutritional deficiency, including eating disorders. Body composition and metabolic requirements in health and disease. Indications for nutritional intervention. Indications + options for nutritional support: Enteral vs parenteral.

Complications of enteral and parenteral nutrition and their management. Refeeding syndrome. Causes, diagnosis, and management of enterocutaneous fistulae.

Appropriate composition and skills in a nutrition support team.

Legal and ethical aspects of nutritional support.

CLINICAL SKILLS: Diagnose and assess a patient presenting with abdominal wall hernia, including inguinal, femoral, epigastric, umbilical, paraumbilical, rare hernias (such as obturator and Spigelian hernias) and incisional hernias. Assessment of GI tract function, in particular of absorption. Assessment of nutritional status, including use of screening tools. Assessment of causes of weight loss, including malabsorption and psychological issues. Decision making about appropriate means of artificial nutritional support.

Assess patient for enteral nutrition; choice of tube: nasogastric, nasojejunal, percutaneous endoscopic gastrostomy (PEG), percutaneous endoscopic jejunostomy (PEJ), surgical jejunostomy and feed type/amount.

Assess patient for parenteral nutrition; choice of intravenous catheter and feed type. Prescription of appropriate enteral or parenteral feed.

Care of the patient on enteral and parenteral support, monitoring of outcome and management of complications.

Assess obesity and appropriate referral.

TECHNICAL SKILLS: Insertion of nasogastric tube and confirmation of position. Insertion of nasojejunal tube, using bedside imager, radiological screening or endoscopy. Percutaneous Endoscopic Gastrostomy (PEG) tube insertion / replacement, including jejunal extensions. Formation of feeding enterostomy (open / laparoscopic). Vascular access for parenteral feeding, including peripheral access, Peripherally Inserted Central Catheter (PICC) and tunnelled or cuffed central lines or implantable ports.

1e. VENOUS THROMBOSIS AND EMBOLISM

OBJECTIVE: Full understanding of prevention and management of venous thrombosis and Embolism. Coagulation: Understanding of the physiology and pathophysiology of coagulation.

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**.**

KNOWLEDGE: Coagulation: Clotting mechanism (Virchow triad). Effect of surgery and trauma on coagulation. Tests for thrombophilia and other disorders of coagulation.

Diagnosis: Methods of investigation for suspected thromboembolic disease.

Treatment: Anticoagulation, heparin, warfarin and Novel Oral anticoagulants (NOACs). Role of V/Q scanning, CT angiography and thrombolysis. Place of pulmonary embolectomy.

Prophylaxis: Detailed knowledge of methods of prevention, mechanical and pharmacological.

CLINICAL SKILLS: Coagulation: Recognition of patients at risk.

Diagnosis: Awareness of symptoms and signs associated with pulmonary embolism and DVT.

Treatment: Initiate and monitor treatment. Prophylaxis: Awareness at all times of the importance of prophylaxis.

1f. CLINICAL METHODOLOGY in General Surgery

OBJECTIVES: To aid in clinical problem, decision-making and risk taking. To develop a good understanding of clinical thought.

KNOWLEDGE: Awareness of the evolution of ideas in medicine. The concept of normality and disease. The various thought processes used in the clinical process. Rules of logic. Fallacies of reasoning.

Regarding investigations, to understand the meaning of sensitivity, specificity, false positive rate, predictive value, odds, prior probability.

Clinical algorithms.

Guidelines. Protocols.

Scoring systems.

SKILLS: Working in an uncertain and probabilistic atmosphere. Data collection and elaboration. Making best use of current evidence. Investigating wisely. Deciding on the next step. Application of scoring systems. Appraisal of research evidence. Involvement in interfaces. Making best use of new technology. Continuous Professional Development (CPD).

1g. DIAGNOSTICS in General Surgery

OBJECTIVE: To be aware of and to use diagnostic tools adequately, including radiological (imaging) investigations and laboratory results. Ability to adequately request and interpret those investigations.

KNOWLEDGE: Awareness of the evolution of investigation tools in medicine, their indication, their cost, their interpretation. The concept of normality and disease. The various thought processes used in the interpretation of results.

Awareness of guidelines, protocols, scoring systems.

CLINICAL SKILLS: Organisation of appropriate investigations. Ability to prioritise investigations.

1h. OUTPATIENT SKILLS in General Surgery

OBJECTIVE: To assess individual outpatients adequately, to manage a single outpatient clinic. Ability to assess individual outpatients, organise a consultant led Outpatient service.

KNOWLEDGE Individual patient assessment: Relevant anatomy, physiology and clinical knowledge for the system involved. Organisation of outpatient service: Understanding of the administrative system of the hospital. Relevant guidelines for disease management.

CLINICAL SKILLS: Individual patient assessment: focused history taking and examination. Organise appropriate investigations.

Management of an outpatient clinic: Ability to allocate patients to appropriate staff members. Ability to prioritise urgent patient investigations and operation. Organisation of outpatient service: Prioritisation of patient appointments.

TECHNICAL SKILLS: Individual patient assessment: Sigmoidoscopy-rigid. Haemorrhoids-OP treatment (injection/banding or infrared coagulation).

1h. GENETIC ASPECTS of SURGICAL DISEASE

OBJECTIVES: Basic understanding of genetically determined diseases. Endocrine: Basic understanding of the influence of genetics on endocrine disease. Colorectal: Basic understanding of the influence of genetics on colorectal cancer development Breast: Basic understanding of the influence of genetics of breast cancer development. Upper GI/HPB: Basic understanding of the influence of genetics in upper GI disease. Clinical and molecular genetics: Basic understanding of the principles of genetics.

KNOWLEDGE: Endocrine: Thyroid, parathyroid, pancreas and adrenal Principal genetically influenced endocrine diseases and syndromes, MEN I, MEN II.

Colorectal: Outline knowledge of genetic changes that predispose to colorectal cancer including familial adenomatous polyposis, HNPCC and other polyposis syndromes.

Breast: Outline knowledge of genetic changes that predispose to breast cancer; BRCA1, BRCA2, P53. Upper GI/HPB: Principal genetically influenced upper gastrointestinal diseases and syndromes, including duodenal polyposis, familial gastric cancer, Peutz-Jeghers syndrome and polycystic disease of the liver.

Clinical and molecular genetics: Modes of inheritance. Genetic Testing. Screening. Prophylactic intervention. Therapeutic intervention. Ethics.

1i. NON-TECHNICAL SKILLS in General Surgery

Situation awareness, decision-making, communication & teamwork, and leadership. In practice, the following aspects would need to be covered:

CLINICAL REASONING

Working knowledge of the thought processes employed in the clinical practice: this involves knowledge, experience, being conversant with the rules of logic and fallacies of reasoning. This is essential for proper decision-making and risk management. Development of a working diagnosis and a differential diagnosis on the basis of the clinical evidence, institution of an appropriate investigative and therapeutic plan, seeking appropriate support from others and taking account of the patient's wishes.

RESEARCH

Demonstrates critical appraisal skills in relation to the published literature Demonstrates ability to apply for appropriate ethical research approval. Demonstrates knowledge of research organisation and funding sources. Demonstrates ability to write a scientific paper. Leads in a departmental or other local journal club. Contributes to the development of local or national clinical guidelines or protocols. Organise or lead a departmental audit meeting. Lead a complete clinical audit cycle including development of conclusions, the changes needed for improvement, implementation of findings and re-audit to assess the effectiveness of the changes. Seeks opportunity to visit other departments and learn from other professionals. Ability to pose a research question (clinical, basic or population health). Develop a proposal to solve the research question. Identify, consult and collaborate with appropriate content experts to conduct the research. Propose the methodology approach to solve the question. Carry out the research outlined in the proposal.

Disseminate and defend the results of the research. Identify areas for further research that flow from the results. Publication in peer-reviewed journals.

ETHICAL RESEARCH

Differentiates audit and research and understands the different types of research approach e.g. qualitative and quantitative. Knows how to use literature databases. Demonstrates good presentation and writing skills. Critically reviews an article to identify the level of evidence. Attends departmental audit meetings. Contributes data to a local or national audit. Identifies a problem and develops standards for a local audit.

Seeks feedback on performance from clinical supervisor/mentor/patients/carers/service users.

PATIENT ASSESSMENT

Undertakes patient assessment (including history and examination) under difficult circumstances e.g. severely ill patients, angry or distressed patients or relatives. Uses and interprets findings adjuncts to basic examination appropriately. Recognises and deals with complex situations of communication, accommodates disparate needs and develops strategies to cope. Is sensitive to patients' cultural concerns and norms. Is able to explain diagnoses and medical procedures in ways that enable patients understand and make decisions about their own health care. Obtains records and presents accurate clinical history and physical examination relevant to the clinical presentation, including an indication of patient's views. Responds honestly and promptly to patient questions. Knows when to refer for senior help. Is respectful to patients by introducing self clearly to patients and indicates own place in team, checks that patients are comfortable and willing to be seen, informs patients about elements of examination and any procedures that the patient will undergo.

RECORD KEEPING

Is able to format notes in a logical way and writes legibly. Able to write timely, comprehensive, informative letters to patients and to GPs.

TIME MANAGEMENT

Works systematically through tasks and attempts to prioritise. Discusses the relative importance of tasks with more senior colleagues. Understands importance of communicating progress with other team members

PATIENT SAFETY

Participates in clinical governance processes. Respects and follows local protocols and guidelines. Takes direction from the team members on patient safety. Discusses risks of treatments with patients and is able to help patients make decisions about their treatment. Ensures the safe use of equipment. Acts promptly when patient condition deteriorates. Raises concerns promptly. Leads team discussion on risk assessment,

risk management, clinical incidents. Works to make organisational changes that will reduce risk and improve safety. Promotes patient safety to more junior colleagues. Recognises and reports untoward or significant events. Undertakes a root cause analysis. Shows support for junior colleagues who are involved in untoward events.

INFECTION CONTROL

Performs clinical procedures whilst maintaining full aseptic precautions. Follows local infection control protocols. Explains infection control protocols to students and to patients and their relatives. Aware of the risks of nosocomial infections. Collaborates with infection control specialists.

COMMUNICATION

Conducts a simple consultation with due empathy and sensitivity and writes accurate records thereof. Recognises when bad news must be imparted. Accepts his/her role in the healthcare team and communicates appropriately with all relevant members thereof. Shows mastery of patient communication in all situations, anticipating and managing any difficulties that may occur. Able to break bad news in both unexpected and planned circumstances. Predicts and manages conflict between members of the healthcare team. Beginning to take leadership role as appropriate, fully respecting the skills, responsibilities and viewpoints of all team members.

TEACHING AND TRAINING

Prepares appropriate materials to support teaching episodes. Seeks and interprets feedback following teaching. Supervises and appraises medical student, nurse or colleague. Plans, develops and delivers small group teaching to medical students, nurses or colleagues. Keeping up to date and understanding how to analyse information. Performs a workplace-based assessment including giving appropriate feedback. Devises a variety of different assessments (eg MCQs, WPBAs). Acts as a mentor to a medical student, nurses or colleague. Plans, develops and delivers educational programmes with clear objectives and outcomes. Plans, develops and delivers an assessment programme to support educational activities.

MANAGEMENT

Self-awareness and self-management. Obtains 360° feedback as part of an assessment. Participates in peer learning and explores leadership styles and preferences. Timely completion of written clinical notes. Through feedback, discusses and reflects on how a personally emotional situation affected communication with another person. Organises, prioritises and manages daily work efficiently and effectively. Works with, guides, supervises and supports junior colleagues. Starting to lead and direct the clinical team in effective fashion. Participates in case conferences as part of multidisciplinary and multi-agency team. Responds to service pressures in a responsible and considered way. Liaises with colleagues in the planning and implementation of work rotas.

TEAMWORK

Discusses problems within a team and provides an analysis and plan for change. Works well in a variety of different teams. Shows the leadership skills necessary to lead the multidisciplinary team. Beginning to lead multidisciplinary team meetings. Promotes contribution from all team members. Fosters an atmosphere of collaboration. Ensures that team functioning is maintained at all times. Recognises need for optimal team dynamics. Promotes conflict resolution. Recognises situations in which others are better equipped to lead or where delegation is appropriate. Works well within the multidisciplinary team and recognises when assistance is required from the relevant team member. Hands over care in a precise, timely and effective manner. Invites and encourages feedback from patients.

LEADERSHIP

Shadows managers. Attends multi-agency conference. Uses and interprets departments performance data and information to debate services. Participates in clinical committee structures within an organisation. Complies with clinical governance requirements of organisation.

QUALITY IMPROVEMENT

Understands that clinical governance is the overarching framework that unites a range of quality improvement activities. Demonstrates personal and service performance. Designs audit protocols and completes audit cycle. Identifies areas for improvement and initiates improvement projects. Supports and participates in the implementation of change. Leads in review of patient safety issue. Understands change management. Maintains personal portfolio. Highlights areas of potential waste. Discuss the most recent guidance from the relevant health regulatory agencies in relation to the surgical specialty.

PROMOTION of GOOD HEALTH

Understands that “quality of life” is an important goal of care and that this may have different meanings for each patient. Promotes patient self-care and independence. Helps the patient to develop an active understanding of their condition and how they can be involved in self-management. Discusses with patients those factors which could influence their health.

PROBITY AND ETHICS

Recognises and responds to both system failure and individual error. Learns from errors. Apologises to patient for any failure as soon as an error is recognised. Provides timely accurate written responses to complaints when required. Counsels patients on the need for information distribution within members of the immediate healthcare team. Seek patients’ consent for disclosure of identifiable information. Discuss with patients with whom they would like information about their health to be shared. Understand the importance the possible need for ethical approval when patient information is to be used for any purpose. Understand the difference between confidentiality and anonymity. Know the process for gaining ethical approval for research. Able to assume a full role in making and implementing decisions about resuscitation status and withholding or withdrawing treatment. Able to support decision making on behalf of those who

are not competent to make decisions about their own care. Obtains consent for interventions that he/she is competent to undertake, even when there are communication difficulties. Identifies cases that should be reported to external bodies. Identify situations where medical legal issues may be relevant. Work with external bodies around cases that should be reported to them. Collaborating with external bodies by preparing and presenting reports as required. Understand the Data Protection Act and Freedom of Information Act.

2. ABDOMEN

2.1 ABDOMINAL WALL (non-hernia)

OBJECTIVE: Management of abnormalities of the abdominal wall. Ability to diagnose abdominal wall masses. Ability to manage congenital, inflammatory, traumatic, degenerative and neoplastic lesions of the abdominal wall masses.

KNOWLEDGE: Anatomy of the abdominal wall. Pathology of the acute and chronic conditions: haematoma, sarcoma, desmoid tumours: principles of management.

CLINICAL SKILLS: Ability to determine that a swelling is in the abdominal wall. Initiate appropriate investigation.

2.2 ELECTIVE HERNIA

OBJECTIVE: Diagnosis and management, including operative management of primary and recurrent abdominal wall hernia.

KNOWLEDGE: Anatomy of inguinal region including the inguinal canal, femoral canal, abdominal wall and related structures e.g. adjacent retroperitoneum and soft tissues. Relationship of structure to function of anatomical structures. Natural history of abdominal wall hernia including presentation, course and possible complications.

Treatment options: current methods of operative repair including open mesh, laparoscopic mesh and posterior wall plication, to include the underlying principles, operative steps, risks, benefits, complications and process of each.

CLINICAL SKILLS: Supervise the postoperative course in hospital and on follow-up.

TECHNICAL SKILLS: Open and laparoscopic repair of femoral, incisional hernia, recurrent incisional hernia, inguinal, recurrent inguinal hernia, umbilical/paraumbilical, epigastric.

2.3 **UPPER GASTROINTESTINAL**

ACUTE DYSPHAGIA

OBJECTIVES: Assessment and initial management of patients presenting with acute dysphagia.

KNOWLEDGE: Applied anatomy: oesophagus and levels of constriction.

Aetiology: Carcinoma, peptic stricture, achalasia.

CLINICAL SKILLS: History and Examination. Investigations: endoscopy, CT.

Initial symptomatic management. Referral to specialist unit for definitive management.

TECHNICAL SKILLS: Endoscopy. Endoscopic palliation including stenting.

OESOPHAGEAL VARICES

OBJECTIVES: Assessment, initial and emergency management of patients presenting with oesophageal varices.

KNOWLEDGE: Anatomy. Pathophysiology. Aetiology of portal hypertension. Clinical presentation. Diagnosis. Child's classification of liver disease.

Treatment options - Endoscopic - injection, banding; Sengstaken tube. Medical treatment. Porto-systemic shunt, Transjugular Intrahepatic Portosystemic Shunt (TIPSS). Indications for surgery. Complications.

CLINICAL SKILLS: History and Examination. Investigation - Endoscopic assessment. Resuscitation. Decision making.

Non-operative treatment - sclerotherapy / banding. Referral to specialist unit for definitive management.

Operative options: porto-caval shunt, oesophageal transection. Postoperative management.

TECHNICAL SKILLS: Endoscopy. Variceal injection. Balloon tamponade.

BOERHAAVE'S SYNDROME

OBJECTIVES: Assessment and initial management of patients presenting with Boerhaave's syndrome (oesophageal rupture due to vomiting).

KNOWLEDGE Anatomy. Pathophysiology – aetiology. Clinical presentation. Investigations - contrast radiology. Complications – empyema.

CLINICAL SKILLS: History and Examination. Investigation. Decision making.

Non-operative treatment. Referral to specialist unit for definitive management.

Interventional options - primary repair, nutritional support. Postoperative management.

TECHNICAL SKILLS: Endoscopy. Thoracotomy + non-resectional management. Oesophagectomy.

IATROGENIC OESOPHAGEAL PERFORATION

OBJECTIVES: Assessment and initial management of patients presenting with iatrogenic oesophageal perforation.

KNOWLEDGE: Anatomy - Oesophagus and mediastinal relationships.

Clinical presentation - Post-instrumentation. Investigation - Contrast radiology.

Pathophysiology of mediastinitis. Complications of mediastinitis.

CLINICAL SKILLS: History and Examination. Investigation. Decision making.

Non-operative treatment: pleural drainage; antibiotics; nutritional support.

Interventional options. Referral to specialist unit for definitive management. Postoperative management.

TECHNICAL SKILLS: Endoscopy. Endoscopic interventions including stents. Thoracotomy + lavage. Oesophagectomy.

GASTRO-OESOPHAGEAL REFLUX DISEASE (GORD)

OBJECTIVES: Assessment and management of patients presenting with GORD.

KNOWLEDGE: Anatomy of lower third of oesophagus, oesophageal sphincter. Pathophysiology of acid or bile reflux; pH abnormalities; motility disorder. Pathology. Classification of oesophagitis. Complications: Barrett's metaplasia; stricture.

CLINICAL SKILLS: History and Examination. Investigation: Endoscopy, pH studies, Manometry. Decision making: Indications for surgery. Non-operative options.

Medical management; posture.

Operative options: Indications for surgery; antireflux surgery - open or laparoscopic. Postoperative management.

TECHNICAL SKILLS: Endoscopy. Anti-reflux surgery. Revisional anti-reflux surgery.

HIATUS HERNIA

OBJECTIVES: Assessment of patients presenting with hiatus hernia.

KNOWLEDGE: Applied anatomy - sliding; para-oesophageal.

Pathophysiology. Pathology. Complications – incarceration, strangulation.

CLINICAL SKILLS: History and Examination.

Investigation - contrast radiology, manometry.

Non-operative options: Medical management: weight loss, posture.

Decision making - indications for operation (antireflux surgery). Postoperative management.

TECHNICAL SKILLS: Endoscopy. Open repair. Laparoscopic repair. Revisional antireflux surgery.

PEPTIC STRICTURE

OBJECTIVES: Assessment and management of patients presenting with peptic stricture.

KNOWLEDGE: Anatomy. Pathophysiology - Physiology of reflux - pH; motility. Pathology –

Differential diagnosis.

Complications – perforation.

CLINICAL SKILLS: History and Examination.

Investigation: Endoscopy; contrast radiology; pH studies; manometry.

Decision making - Indications for dilatation.

Postoperative management - Diagnosis and management of perforation.

TECHNICAL SKILLS: Endoscopy. Oesophageal dilatation.

ACHALASIA

OBJECTIVES: Assessment and management of patients presenting with achalasia.

KNOWLEDGE: Anatomy. Pathophysiology. Pathology. Complications.

CLINICAL SKILLS: History and Examination. Investigation: Decision making – Non-operative options. Postoperative management.

TECHNICAL SKILLS: Endoscopy. Endoscopic dilation. Endoscopic botulinum toxin injection. Laparoscopic cardiomyotomy.

MOTILITY DISORDERS

OBJECTIVES: Assessment and management of patients presenting with oesophageal motility disorders.

KNOWLEDGE: Anatomy. Pathophysiology. Pathology. Complications.

CLINICAL SKILLS: History and Examination. Investigation. Decision making - Non operative options. Postoperative management.

TECHNICAL SKILLS: Endoscopy.

CARCINOMA OF THE OESOPHAGUS

OBJECTIVES: Assessment and management of patients presenting with oesophageal carcinoma.

KNOWLEDGE: Applied Anatomy to oesophageal and oesophago-gastric junctional cancer and lymph nodes.

Pathology - Epidemiology; aetiology: Squamous Cell Carcinoma (SCC) or adenocarcinoma (ACA). Staging – TNM.

Clinical Presentation – dysphagia.

Investigations: CT, EUS, PET-CT, laparoscopy.

Complications.

CLINICAL SKILLS: History and Examination. Investigation - Endoscopy; CT; Endoscopic Ultrasound (EUS); PET-CT; Laparoscopy. Decision making - Assessment of medical comorbidity for radical therapy. Nutritional support. Chemotherapy – Neoadjuvant. Radiotherapy. Combination with chemotherapy. Difference in treatment for SCC or ACA. Other non-operative treatment, including palliation.

Indications for surgery. Postoperative management - Anastomotic leak; chylothorax; recurrent laryngeal nerve injury Follow-up - Detection of recurrence.

TECHNICAL SKILLS: Endoscopy. Endoscopic palliation including stenting. Endoscopic Mucosal resection (EMR). Open Oesophagogastrectomy. Field lymph node dissection. Transthoracic. Transhiatal. Minimally Invasive Oesophagectomy (MIO).

GASTRIC ULCER

OBJECTIVES: Assessment and management of patients presenting with gastric ulcer

KNOWLEDGE: Anatomy. Pathophysiology. Clinical presentation - differential diagnosis of Ca. Complications - perforation, bleeding, pyloric stenosis.

CLINICAL SKILLS: History and Examination. Investigation - endoscopy and biopsy.

Decision making - indications for surgery. Operative options. Postoperative management.

TECHNICAL SKILLS: Endoscopy. Endoscopic therapy. Laparoscopy. Local treatment, ulcer excision. Gastroenterostomy. Partial gastrectomy. Total gastrectomy.

DUODENAL ULCER

OBJECTIVES: Assessment and management of patients with duodenal ulceration and its complications.

KNOWLEDGE: Clinical presentation. Pathophysiology.

Complications – perforation, bleeding, pyloric stenosis.

CLINICAL SKILLS: History and Examination. Investigation – OGD. Resuscitation.

Decision making - indications for operation. Operative options. Postoperative management.

TECHNICAL SKILLS: Endoscopy. Endoscopic therapy.

Laparoscopy. Local treatment, ulcer underrun/oversew. Gastroenterostomy. Partial gastrectomy. Vagotomy and pyloroplasty.

GASTRIC AND DUODENAL POLYPS

OBJECTIVES: Assessment and management of patients presenting with gastric and duodenal polyps.

KNOWLEDGE: Anatomy. Clinical presentation - incidental, bleeding.

Pathology - adenoma, hamartoma, GIST, FAP.

Complications – malignancy.

CLINICAL SKILLS: History and Examination. Investigation - OGD and polypectomy. Decision making. Operative options. Postoperative management.

TECHNICAL SKILLS: Endoscopy. Endoscopic excision. EMR. Laparoscopy. Open excision. Partial gastrectomy.

ACUTE PERFORATION

OBJECTIVES: Diagnosis and preoperative management of perforated peptic ulcer and assessment for operation.

Operative management: Operation for perforated peptic ulcer.

Postoperative management of patients who have had surgery for perforated peptic ulcer.

KNOWLEDGE: Anatomy. Pathophysiology.

Differential diagnosis – perforated duodenal ulcer, gastric ulcer, Carcinoma.

Complications - subphrenic abscess.

CLINICAL SKILLS: History and Examination – peritonitis. Investigation. Resuscitation.

Decision making – comorbidity.

Operative options - closure, local excision, resection. Postoperative management.

TECHNICAL SKILLS: Laparoscopy. Local treatment, ulcer closure or excision. Partial gastrectomy. Total gastrectomy.

GASTROINTESTINAL BLEEDING (see also acute gastric bleeding)

OBJECTIVE: Assessment of all cases of gastrointestinal bleeding, management and referral to subspecialists as needed. Blood loss and hypotension: Understanding and management of blood loss. Recognition of likely cause of GI bleeding.

Treatment: Assessment and management of all cases of gastrointestinal bleeding with referral to subspecialist if needed.

Postoperative care: Post-operative care of patients who have had surgery for GI bleeding. Complications: Manage complications after GI bleeding.

KNOWLEDGE: Blood loss and hypotension. Physiology of hypovolaemia. Coagulopathy. Recognition of all causes of GI bleeding.

Treatment options. Indications for operation. Role of endoscopic procedures and therapeutic radiology.

Postoperative care - fluid balance. Complications.

CLINICAL SKILLS: Blood loss and hypotension Resuscitation of hypotensive patient. High Dependency Unit care. Cause of bleeding Clinical assessment. Organise appropriate endoscopy or other investigation. Treatment - appropriate surgery. Postoperative care. Analgesia. Nutrition. Recognition of complications. Complications. Rebleeding and postoperative problems - early recognition. Treatment of complications.

TECHNICAL SKILLS: Diagnostic gastroduodenoscopy. Flexible sigmoidoscopy/colonoscopy. Referral for appropriate imaging.

ACUTE UPPER GASTROINTESTINAL HAEMORRHAGE

OBJECTIVES: Endoscopic diagnosis of upper GI haemorrhage, endoscopic management of most cases, operative management of cases where endoscopy has failed, including management of complications.

Management: Endoscopic management of most cases of upper GI haemorrhage, operative management where endoscopy has failed.

Post-operative care of all patients who have had surgery for Upper GI haemorrhage, including management of complications.

KNOWLEDGE: Anatomy. Pathophysiology.

Differential diagnosis - Benign ulcer; cancer; vascular malformation; GIST.

Complications - hypovolaemic shock.

CLINICAL SKILLS: History and Examination. Investigation: endoscopy. Resuscitation - management of hypovolaemic shock.

Decision making - indications for intervention. Non-operative treatment – sclerotherapy. Operative options. Postoperative management – rebleeding.

TECHNICAL SKILLS: Endoscopy. Endoscopic therapy.

Gastrotomy + non-resectional treatment – histology. Partial gastrectomy. Total gastrectomy.

ACUTE GASTRIC DILATION

OBJECTIVES: Assessment, initial and emergency management of patients presenting with acute gastric dilatation.

KNOWLEDGE: Applied Anatomy. Pathophysiology: spontaneous, postsplenectomy. Clinical presentation. Complications.

CLINICAL SKILLS: History and Examination. Investigation - contrast radiology. Resuscitation. Decision making. Non-operative treatment: nasogastric aspiration. Referral to specialist unit for definitive management. Operative options. Postoperative management.

TECHNICAL SKILLS: NG tube insertion. Endoscopy. Gastrectomy.

ACUTE GASTRIC VOLVULUS

OBJECTIVES: Assessment and initial management of patients presenting with acute gastric volvulus

KNOWLEDGE: Applied a to para-oesophageal hernia. Pathophysiology. Clinical presentation. Investigation - contrast radiology, CT. Complications - gastric necrosis.

CLINICAL SKILLS: History and Examination. Investigation. Resuscitation – fluid.

Decision making - indications for surgery. Referral to specialist unit for definitive management.

Operative options - endoscopic, urgent or delayed surgery. Postoperative management.

TECHNICAL SKILLS: Endoscopy. Gastropexy. Hiatus hernia repair. Total Gastrectomy.

GASTRIC CARCINOMA

OBJECTIVES: Assessment and management of patients presenting with gastric cancer

KNOWLEDGE: Applied anatomy: arterial blood supply, lymph node tiers. Pathology; Epidemiology; Aetiology – Helicobacter. Pattern of spread.

Clinical presentation - Early gastric cancer; advanced gastric cancer.

Investigation - Endoscopy, CT, EUS, Laparoscopy.

TNM staging.

Complications.

CLINICAL SKILLS: History and Examination. Investigation: endoscopy, CT, endoscopic ultrasound, laparoscopy.

Decision making, comorbidity assessment; nutritional support.

Chemotherapy: neoadjuvant, adjuvant.

Other non-operative treatment including palliation. Pain control.

Interventional options: endoscopic, resectional, extended lymphadenectomy.

Postoperative management: anastomotic leak, duodenal stump disruption.

TECHNICAL SKILLS: Endoscopy. Endoscopic palliation including stenting. EMR. Gastrojejunostomy. Palliative gastrectomy. Subtotal gastrectomy. Total gastrectomy.

GIST (Gastro-Intestinal Stroma Tumour)

OBJECTIVES: Assessment and management of patients presenting with gastrointestinal stromal tumours.

KNOWLEDGE: Applied anatomy. Clinical presentation incidental, bleed.

Pathology - benign, malignant. Complications.

CLINICAL SKILLS: History and Examination. Investigation - OGD, biopsy, CT.

Decision making. Chemotherapy

Operative options - resection, excision. Postoperative management.

TECHNICAL SKILLS: Endoscopy. Laparoscopy. Open excision. Small bowel resection. Partial gastrectomy. Total gastrectomy.

GASTRIC LYMPHOMA

OBJECTIVES: Assessment and management of patients presenting with gastric lymphoma.

KNOWLEDGE: Applied Anatomy. Clinical presentation. Investigation - OGD, CT, PET-CT. Pathology – extra-nodal lymphoma, ***MALT lymphoma*** (***MALToma***). Complications – perforation.

CLINICAL SKILLS: History and Examination. Investigation - OGD, CT, PET-CT.

Decision making. Medical management - chemo, helicobacter eradication. Interventional options. Postoperative management.

TECHNICAL SKILLS: Endoscopy. Gastrojejunostomy. Total gastrectomy.

2.4 HEPATOBILIARY and PANCREATIC

2.4.1 GALLSTONE DISEASE

OBJECTIVES: Diagnosis and management of acute gallstone disease, including operation. Acute gall stone disease including acute cholecystitis, empyema, acute biliary colic and cholangitis

KNOWLEDGE: Anatomy. Pathophysiology. Microbiology. Complications: acute cholecystitis, empyema, mucocoele, acute pancreatitis, chronic cholecystitis, biliary colic, common bile duct stone.

Obstructive jaundice: all causes including gallstones, tumour and inflammatory conditions. Cholangitis. Gall stone ileus. Gall bladder cancer.

Postoperative problems: bile duct injury.

CLINICAL SKILLS: History and Examination - elective, acute, emergency. Investigation - Ultrasound, ERCP, MRCP, CT. Resuscitation.

Decision making. Non-operative treatment - ERCP, ultrasound cholecystotomy.

Operative options - laparoscopic cholecystectomy. Postoperative management.

TECHNICAL SKILLS: Cholecystectomy – laparoscopic and open. Cholecystostomy. Exploration of Common Bile Duct (CBD). Hepaticodocho-jejunostomy.

2.4.2 ACUTE PANCREATITIS

OBJECTIVES: Diagnosis and management of most patients with acute pancreatitis

KNOWLEDGE: Applied anatomy, pathophysiology, scoring systems. Microbiology. Clinical presentation. Investigations - CT, ERCP. Complications.

CLINICAL SKILLS: History and Examination. Investigation. Resuscitation.

Decision making. Non-operative treatment including nutrition, use of antibiotics.

Interventional options - ERCP, radiological drainage.

Postoperative management: Abscess, pseudocyst, haemorrhage.

TECHNICAL SKILLS: Cholecystectomy. Exploration CBD. ERCP. Necrosectomy. Pseudocyst drainage.

2.4.3 CHRONIC PANCREATITIS

OBJECTIVES: Assessment and management of patients with chronic pancreatitis.

KNOWLEDGE: Applied anatomy and pathophysiology. Clinical presentation. Investigation. Complications. Postoperative problems.

CLINICAL SKILLS: History and Examination. Investigation. Resuscitation. Decision making.

Non-operative treatment including ERCP.

Operative options. Postoperative management.

TECHNICAL SKILLS: ERCP. Pancreaticojejunostomy. Pancreaticoduodenectomy. Distal pancreatectomy. Hepaticodocho-jejunostomy. Pseudocyst drainage.

2.4.4 PANCREATIC CANCER / PERIAMPULLARY CANCER of PANCREAS

OBJECTIVES: Assessment and management of patients with pancreatic and ampullary cancer.

KNOWLEDGE: Applied anatomy and pathophysiology.

Epidemiology, aetiology.

TNM staging.

Pathology - Ca pancreas, ampullary.

Clinical presentation.

Investigation - CT, MRCP, MRI, EUS. Complications.

CLINICAL SKILLS: History and Examination. Investigation - CT, MRCP, MRI, EUS. Decision making Comorbidity; Nutritional assessment.

Non-operative treatment including palliation, nutrition.

Interventional options eg ERCP, PTC. Postoperative management.

TECHNICAL SKILLS: Pancreaticoduodenectomy. Distal pancreatectomy. ERCP. Biliary bypass. Gastroenterostomy.

2.4.5 CYSTIC TUMOURS of PANCREAS

OBJECTIVES: Assessment and management of patients with cystic tumours of the pancreas

KNOWLEDGE: Applied Anatomy. Pathophysiology - epidemiology, aetiology. Pathology - benign, malignant. Clinical presentation. Investigation - CT, MRCP, endoscopic ultrasound (EUS). Complications.

CLINICAL SKILLS: History and Examination. Investigation - CT, MRCP, EUS. Decision making. Non-operative treatment including palliation, nutrition. Interventional options eg ERCP, PTC. Postoperative management.

TECHNICAL SKILLS: Pancreaticoduodenectomy. Distal pancreatectomy. ERCP. Biliary bypass. Gastroenterostomy.

2.4.6 NEUROENDOCRINE TUMOURS of PANCREAS

OBJECTIVES: Diagnosis, assessment and management of possible pancreatic endocrine tumours, often in consultation with other specialists.

Management of pancreatic endocrine tumours, level of operative skill expected dependent on local arrangements.

Post-operative care: Management of both immediate and long-term care after surgery for pancreatic endocrine tumour.

KNOWLEDGE: Applied Anatomy. Pathophysiology. Pathology - functioning, non-functioning. Clinical presentation - symptoms of functioning tumour. Investigation - CT, EUS, MRCP. Complications.

CLINICAL SKILLS: History and Examination.

Investigation - CT, EUS, MRCP. Decision making.

Non-operative treatment including palliation, nutrition.

Interventional options eg ERCP, PTC. Postoperative management.

TECHNICAL SKILLS: Pancreaticoduodenectomy Distal pancreatectomy. Enucleation. ERCP. Biliary bypass. Gastroenterostomy.

2.4.7 INTRADUCTAL PAPILLARY MUCINOUS NEOPLASMS of PANCREAS

OBJECTIVES: Assessment and management of IPMN

KNOWLEDGE: Applied Anatomy. Pathophysiology. Pathology. Complications.

CLINICAL SKILLS: History and Examination Investigation. Decision making.

Non-operative treatment including palliation, nutrition. Interventional options eg ERCP, PTC. Postoperative management.

TECHNICAL SKILLS: Pancreaticoduodenectomy. Distal pancreatectomy. Total pancreatectomy. ERCP. Biliary bypass. Gastroenterostomy.

2.4.8 PANCREATIC TRAUMA

OBJECTIVES: Assessment and management of patients with pancreatic trauma.

KNOWLEDGE: Applied Anatomy. Pathophysiology.

Clinical presentation: blunt and penetrating. Investigation - CT, MRI. Complications – fistula.

CLINICAL SKILLS: History and Examination.

Investigation - CT, MRI, laparoscopy. Resuscitation. Decision making.

Non-operative treatment. Interventional options eg ERCP, radiological drainage.

Postoperative management - fistula, nutritional support.

TECHNICAL SKILLS: Cholecystectomy. Debridement & drainage. Pancreaticojejunostomy. Pancreaticoduodenectomy. Distal pancreatectomy. Pseudocyst drainage.

2.4.9 LIVER METASTASES

OBJECTIVES: Assessment and management of liver metastases.

KNOWLEDGE: Applied anatomy of liver segments. Pathophysiology: liver function.

Pathology: solitary, multiple, extrahepatic synchronous disease, colorectal, non-colorectal.

Clinical Presentation. Complications.

CLINICAL SKILLS: History and Examination. Investigation - CT, PET-CT, MRI.

Decision making including scheduling treatment.

Non-operative treatment including chemotherapy and biological therapy.

Interventional options e.g. ablation. Postoperative management.

TECHNICAL SKILLS: Some exposure to intra-operative ultrasound, hepatectomy, extended hepatectomy, peripheral wedge or segmental resection.

2.4.10 PRIMARY LIVER CANCER

OBJECTIVES: Assessment and management of primary liver cancer

KNOWLEDGE: Applied Anatomy. Pathophysiology - hepatitis C. Pathology - differential diagnosis, HepatoCellular Carcinoma (HCC). Clinical Presentation. Complications.

CLINICAL SKILLS: History and Examination. Investigation.

Decision making. Assessment and management of liver insufficiency, Child's classification.

Non-operative treatment including chemoembolisation and biological therapy.

Interventional options eg ablation. Postoperative management.

TECHNICAL SKILLS: Some exposure to intra-operative ultrasound, hepatectomy, extended hepatectomy, peripheral wedge or segmental resection.

2.4.11 CHOLANGIOCARCINOMA AND GALLBLADDER CANCER

OBJECTIVES: Assessment and management of cholangiocarcinoma and gallbladder cancer

KNOWLEDGE: Applied Anatomy. Pathophysiology, incidental finding at cholecystectomy.

Pathology, classification of cholangiocarcinoma.

Clinical presentation.

Complications.

CLINICAL SKILLS: History and Examination Investigation, ERCP, MRCP, ST, MRU.

Decision making. Non-operative treatment including PDT, brachytherapy.

Interventional options eg stenting. Postoperative management.

TECHNICAL SKILLS: Some exposure to extended hepatectomy, central liver resection, hepatic artery lymphadenectomy, hepaticodochojejunostomy.

2.4.12 BENIGN AND CYSTIC TUMOURS

OBJECTIVES: Assessment and management of benign and cystic tumours of the liver

KNOWLEDGE: Applied anatomy and pathophysiology. Simple and complex cysts, hydatid disease.

Pathology. Clinical Presentation. Complications.

CLINICAL SKILLS: History and Examination. Investigation, CT, MRI. Decision-making.

Non-operative options eg medical treatment of hydatid disease.

Interventional options eg embolization. Postoperative management.

TECHNICAL SKILLS: Fenestration. Liver resection.

2.4.13 LIVER TRAUMA

OBJECTIVES: Diagnosis and early management of liver trauma including laparotomy and liver packing or resection.

KNOWLEDGE: Applied anatomy of liver segments. Pathophysiology. Clinical Presentation - blunt and penetrating. Investigations – CT. Complications: haemobilia.

CLINICAL SKILLS: History and Examination. Investigation. Resuscitation. Decision making.

Non-operative treatment.

Interventional options: hepatic artery embolisation, laparotomy. Postoperative management.

TECHNICAL SKILLS: Salvage surgery eg packing. Debridement & hepatectomy.

2.5 COLORECTAL

2.5.1 ACUTE PAINFUL PERI-ANAL CONDITIONS

OBJECTIVE: Diagnose and initially manage anal fissure, thrombosed haemorrhoids and perianal haematoma

KNOWLEDGE: Aetiology of anal fissure, haemorrhoids and perianal haematoma. Anatomical location of a classic anal fissure, thrombosed haemorrhoids and perianal haematoma.

CLINICAL SKILLS: Assessment of the symptoms and signs. Initial conservative management of anal fissure and thrombosed haemorrhoids and planning of surgical treatment for perianal haematoma.

TECHNICAL SKILLS: Examination Under Anaesthesia (EUA), rigid sigmoidoscopy, drainage of perianal haematoma. Treatment of perianal abscess, anal fissure.

2.5.2 HAEMORRHOIDS

OBJECTIVES: Competency in the diagnosis and all medical and surgical treatments for haemorrhoids

KNOWLEDGE: Aetiology of internal and external haemorrhoids. Anatomical distinctions between internal and external haemorrhoids, classifications for internal haemorrhoids.

Indications, contraindications and complications of non-operative treatment of haemorrhoids: topical applications, stool modifiers/softeners.

Indications, contraindications and complications of office treatment of haemorrhoids.

Indications, contraindications and complications of operative treatment of haemorrhoids.

CLINICAL SKILLS: Diagnosis of thrombosed external haemorrhoids, internal haemorrhoids, skin tags. Diagnosis and treatment of complications of office treatment of haemorrhoids – pain, bleeding, sepsis. Diagnosis and treatment of complications of operative treatment of haemorrhoids – urinary retention, haemorrhage, faecal impaction, infection stenosis, incontinence. Ability to manage haemorrhoids in IBD, pregnancy, HIV, Coagulopathy, portal hypertension.

TECHNICAL SKILLS: Haemorrhoids: OutPatient treatment (injection/banding/infrared). Haemorrhoidectomy-operative (open). Haemorrhoidectomy-stapled.

2.5.3 ANAL FISSURE

OBJECTIVE: Competency in the diagnosis and the medical and surgical treatment of anal fissure

KNOWLEDGE: Aetiology of anal fissure. Anatomical location of a classic anal fissure.

CLINICAL SKILLS: Assessment of the signs and symptoms of anal fissure. Arrange the nonoperative management of anal fissure, including indications, contraindications and complications of stool modifications/softeners, topical anaesthetics, topical pharmacology, botulinum toxin.

Indications, contraindications, and complications of the following: lateral internal sphincterotomy anal stretch, anal advancement flap.

Pre and postop care of lateral sphincterotomy, anal advancement flap for fissure.

Treat complications resulting from operations; persistent fissure, incontinence, stenosis.

TECHNICAL SKILLS: Lateral sphincterotomy. Anal advancement flap for fissure/stenosis.

2.5.4 ANORECTAL ABSCESS AND FISTULA in ANO

OBJECTIVE: Competency in the diagnosis and the medical and surgical treatment of abscess and fistula-in-ano.

KNOWLEDGE: The origin of cryptoglandular abscess and fistula. Classification of anorectal cryptoglandular abscess-based on anatomical spaces. Parks classification of anal fistula.

The natural history of surgically-treated anal abscess, including the risk of fistula formation.

Operative strategy for anal fistula based on sphincter involvement/location.

Complications resulting from abscess/fistula surgery: recurrence, incontinence.

CLINICAL SKILLS: Differentiate cryptoglandular abscess and fistula from other causes.

Assessment of abscess/fistula by techniques designed to elucidate pathological anatomy: Goodsall's rule and digital examination, fistulogram, injections, MRI, endoanal ultrasound.

Management of anorectal abscess including preoperative and postoperative care and the appropriate procedure based on anatomical spaces.

Treatment options for fistula-in-ano including fibrin glue / fistula plug.

Modify therapy for: necrotising fasciitis/Fournier's gangrene, leukaemia, other immunocompromised patients, inflammatory bowel disease.

Manage rectovaginal fistula with regard to classification, preoperative evaluation, and treatment of rectovaginal fistula, based on location and aetiology. Arrange pre and postop care for rectovaginal fistula due to obstetric injury. Manage rectourethral fistula depending on location and aetiology.

TECHNICAL SKILLS:

Low fistula: lay open. High fistula: drainage, seton, cutting seton, advancement flap.

Placement of fistula plug. Operation for rectovaginal fistula.

2.5.5 DIVERTICULAR DISEASE

OBJECTIVES: Ability to assess and manage diverticular disease

KNOWLEDGE: Aetiology of colonic diverticular disease. Incidence and epidemiology of colonic diverticular disease.

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

Hinchey classification of complicated diverticular disease.

CLINICAL SKILLS: Recognise the clinical patterns (including right sided diverticular disease) presenting symptoms, physical findings and natural history of colonic diverticular disease.

Diagnostic studies in suitable sequence in the evaluation of both acute and chronic colonic diverticular disease. Medical and dietary management of colonic diverticular disease.

TECHNICAL SKILLS: Colectomy-left. Colectomy-sigmoid. Colostomy-construction. Hartmann's procedure. Hartmann's reversal.

2.5.6 ACUTE COLONIC DIVERTICULITIS

OBJECTIVES: Ability to assess and manage acute presentations of diverticular disease.

KNOWLEDGE: Aetiology of colonic diverticular disease. Incidence and epidemiology of colonic diverticular disease. Complications and classification of diverticular disease, including bleeding, perforation, abscess, fistula, stricture. Hinchey classification of complicated diverticular disease.

CLINICAL SKILLS: Clinical patterns (including right sided diverticular disease) presenting symptoms, physical findings and natural history of colonic diverticular disease.

Appropriate diagnostic studies in suitable sequence in the evaluation of acute colonic diverticular disease.

Medical and dietary management of colonic diverticular disease. Medical management for acute diverticulitis.

Preoperative assessment including the indications for surgery, surgical procedures, and complications for acute diverticulitis.

Choose appropriate surgical procedures including CT guided drainage for the management of acute diverticulitis. Recognise the indications for appropriate resection for diverticular disease including consideration of the extent of resection, use of ureteric stents, and indications for diversion. Appropriate surgical procedures for dealing with complications (fistula, stricture, recurrent episodes) of acute diverticulitis.

TECHNICAL SKILLS: Laparoscopy and washout with drainage for appropriate patients. Colectomy-left. Colectomy-sigmoid. Colostomy-construction. Hartmann's procedure.

2.5.7 VOLVULUS of the COLON

OBJECTIVE: Diagnosis and initial treatment of colonic volvulus

KNOWLEDGE: Aetiology of volvulus of the colon. Incidence and epidemiology of volvulus of the colon. Complications of colonic volvulus including obstruction, ischaemia, perforation.

CLINICAL SKILLS: Clinical patterns, presenting symptoms, physical findings, and natural history of colonic volvulus based upon its site. Diagnostic studies in appropriate sequence. Appropriate operative procedures for volvulus depending on site.

TECHNICAL SKILLS: Sigmoidoscopy-rigid. Sigmoidoscopy-flexible. Colonoscopy-diagnostic. Colonoscopy-therapeutic - insertion of Percutaneous Endoscopic Colostomy (PEC button).

2.5.8 RECTAL BLEEDING

OBJECTIVE: Ability to investigate rectal bleeding

KNOWLEDGE: Aetiology of lower GI bleeding

CLINICAL SKILLS: Arrange appropriate evaluation of the patient based on age and other medical conditions.

2.5.9 MASSIVE LOWER GASTROINTESTINAL BLEEDING

OBJECTIVE: Management of massive lower GI tract bleeding

KNOWLEDGE: Aetiology of massive lower GI bleeding, including from Meckel's diverticulum. Utility, specificity and sensitivity of colonoscopy, angiography and radioisotope scintigraphy in evaluation of lower GI bleeding. Angiographic treatment of lower GI bleeding.

CLINICAL SKILLS: Assess haemodynamic stability and outline a resuscitation plan.

Understand 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.

Endoscopic treatment of lower GI bleeding including coagulation, injection therapy and laser ablation.

Manage the patient with regard to the indications for radiological intervention or surgery, arrange radiological intervention or appropriate surgical procedures and recognise their possible complications based upon cause, location, patient age and medical condition.

Perform intraoperative evaluation and management of persistent massive lower GI bleeding without an identified site. Manage postoperative lower GI bleeding.

TECHNICAL SKILLS: Colonoscopy-diagnostic. Colonoscopy-therapeutic. Colectomy-total+ileostomy. Colectomy-right. Colectomy-left. Colectomy-sigmoid. Colostomy-construction. Meckel's diverticulectomy. Hartmann's procedure’ Ileostomy-construction.

2.5.10 ACUTE COLITIS

OBJECTIVES: Diagnosis and management of acute colitis including ischaemic, inflammatory and infective

KNOWLEDGE: Vascular anatomy of the colon. The aetiology and pathology of acute colonic ischaemia, inflammatory bowel disease and infective colitis.

CLINICAL SKILLS: Recognise the clinical presentation of all types of acute colitis. Recognise the natural history, diagnosis, and be able to initially manage all types of colitis. Recognise and manage ischaemic colitis after abdominal aortic aneurysm repair.

TECHNICAL SKILLS: Colectomy-right. Colectomy-transverse. Colectomy-left. Colectomy-sigmoid. Colectomy – total + ileostomy. Colectomy – total + ileorectal anastomosis. Crohn's-ileocaecectomy.

2.5.11 ENDOMETRIOSIS

OBJECTIVE: Management of endometriosis affecting the GI tract with the gynaecologists

KNOWLEDGE: Pathophysiology of endometriosis. Indications for intervention and the operative and non-operative management of endometriosis.

CLINICAL SKILLS: Recognition of the clinical presentation and the endoscopic and laparoscopic findings of endometriosis.

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

2.5.12 COLON TRAUMA

OBJECTIVE: Competency in the appropriate diagnosis and treatment of colon trauma

KNOWLEDGE: Uses and limitations of the following imaging and diagnostic tests in the evaluation of blunt abdominal trauma Plain abdominal films. Computed tomography scan. Ultrasound.

CLINICAL SKILLS: Manage the patient with penetrating abdominal trauma with understanding of the criteria for exploratory laparotomy, wound exploration, peritoneal lavage. Appropriate surgical management of colon trauma in the context of the severity of associated injuries and stability of medical condition. Operative or non-operative management of colonic trauma due to colonoscopic or laparoscopic perforation.

TECHNICAL SKILLS: Colon-primary repair. Colectomy-right. Colectomy-left. Colectomy-sigmoid. Colectomy-transverse. Colectomy -total + ileostomy. Hartmann's procedure. Colostomy-construction. Ileostomy-construction.

2.5.13 RECTAL TRAUMA

OBJECTIVE: Competency in the diagnosis and treatment of rectal trauma

KNOWLEDGE: Identify clinical situations requiring evaluation for rectal trauma

CLINICAL SKILLS: Diagnosis of rectal trauma and associated injuries. Surgical management of rectal trauma including drainage, faecal diversion, rectal washout, primary repair.

TECHNICAL SKILLS: Colostomy-construction. Hartmann's procedure. Ileostomy construction. Rectum-operation for trauma.

2.5.14 ANAL TRAUMA

OBJECTIVE: Competency in the management of anal trauma

KNOWLEDGE: Be aware of the aetiology of anal trauma including obstetric injuries.

CLINICAL SKILLS: Manage traumatic anal injuries by faecal diversion, and/or repair.

TECHNICAL SKILLS: Colostomy construction. Anal sphincter repair including postanal repair, anterior sphincter repair + rectocele repair.

2.5.15 FOREIGN BODIES of the colon or rectum

OBJECTIVE: Manage patients with rectal foreign bodies

KNOWLEDGE: Discuss risk of colonic or rectal perforation

CLINICAL SKILLS: Evaluate patients with rectal foreign bodies. Perform various methods of extraction of foreign bodies and assess the indications for surgery. Manage postextraction evaluation with regard to indications for inpatient observation and indications for surgery.

2.5.16 COLORECTAL NEOPLASIA

OBJECTIVE: Epidemiology of colorectal cancer and polyps. Aetiology: Detailed knowledge of the aetiology of colorectal neoplasia and principles of colorectal cancer screening.

Clinical Presentation: Recognise the symptoms and signs of colorectal cancer at different sites. Staging and prognostic Factors: detailed understanding of staging and prognostic factors for colorectal cancer. Management of colon cancer.

KNOWLEDGE: Epidemiology of colorectal cancer and polyps including incidence and prevalence, influence of socio economic, racial and geographic factors.

Current screening strategies for the following general population; moderate risk; high risk.

Aetiology: fatty diet, fibre, calcium, selenium, vitamins (antioxidants), dietary inhibitors, alcohol and smoking, prostaglandin inhibitors.

The adenoma-carcinoma sequence: evidence, categorise adenomas into low risk, intermediate and high risk and discuss screening procedures, significance of metaplastic polyps. De novo carcinoma. Susceptibility to colorectal cancer (CRC): family history, Personal past history (CRC, Polyps, Other Cancers), groups at risk, genetic pathways for colorectal carcinogenesis. Hereditary Non-Polyposis Colorectal Cancer (HNPCC): clinical features, Amsterdam criteria and modifications, extracolonic cancer risk, genetic basis, genetic testing/counselling, surveillance options/limitations, surgical options/limitations. Familial Adenomatous Polyposis (FAP): 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. Hamartomas: definition, juvenile polyposis, Peutz-Jeghers syndrome.

Clinical presentation.

Distribution of CRC within the colon.

Staging and prognostic factors. The evolution of staging systems. Current staging systems (Dukes, TNM). Clinical prognostic factors: age, mode of presentation, clinical stage, blood transfusion. 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. The significance of extent of disease including patterns of spread: direct continuity, intramural, transmural, distal margins, circumferential margins, transperitoneal, lymphatic, haematogenous, implantation.

The assessment of disease extent: detection and management of synchronous lesions, distant metastatic disease, preop detection of local invasion, regional metastatic disease. Management of colorectal cancer.

Special considerations in the operative management of colon cancer: colonic stents, intraluminal cytotoxic irrigation, on-table lavage, perforation, synchronous lesions, ureteric stenting, oophorectomy, "No-touch" technique, pregnancy. The rationale and indications for the use of adjuvant chemotherapy.

CLINICAL SKILLS: Recognise the clinical signs and symptoms of colorectal cancer. Manage malignant change within an adenomatous polyp. Familiarity with the indications and contraindications to surgery, operative technique, pre- and postoperative care, outcomes and the complications of colon cancer. En-bloc resections of adjacent organs. Extended resections to include total abdominal colectomy.

TECHNICAL SKILLS: Colonoscopy-diagnostic. Colonoscopy-therapeutic. Colectomy-left. Colectomy-right. Colectomy-transverse. Colectomy-sigmoid. Colectomy -total + ileostomy. Colostomy-construction. Ileostomy-construction.

RECTAL CANCER

OBJECTIVES: Management of patients with rectal cancer.

KNOWLEDGE: Indications and contraindications, operative technique, pre and postop care, complications and outcomes for local therapy (transanal, Kraske transsacral, York-Mason transsphincteric, Transanal Endoscopic MicroSurgery (TEMS), fulguration, laser, endocavitary radiation), sphincter-sparing resections: high and low anterior resection, tumour specific mesorectal excision, total mesorectal excision, coloanal anastomosis with or without colonic J pouch.

Rationale and indications for the use of adjuvant chemoradiotherapy.

Current preop staging techniques and role of pre and postop radiotherapy.

CLINICAL SKILLS: Recognise the clinical signs and symptoms of rectal cancer.

Familiarity with endoscopic diagnosis and CT and MRI imaging approaches. Indications for transanal treatment.

TECHNICAL SKILLS: Transanal microsurgery. Peranal excision of rectal lesion. Rectum-posterior approach. Rectum-anterior resection (stapled). Rectum-anterior resection - coloanal anastomosis. Rectum abdominoperineal excision including ExtraLevator AbdominoPerineal Excision (ELAPE).

Posterior pelvic clearance. Pelvic exenteration. Reoperation-pelvic malignancy.

DETECTION AND TREATMENT OF RECURRENT AND METACHRONOUS COLORECTAL CANCER

OBJECTIVES: The detection and treatment of recurrent and metachronous colon cancer: Ability to detect and manage recurrent colon and rectal cancer. Pain Management: Ability to manage severe pain.

KNOWLEDGE: Patterns of recurrence. Detection of recurrence using markers, colonoscopy and imaging. Pain Management, including programmes for intractable pain.

CLINICAL SKILLS: Treatment of recurrent colorectal cancer: natural history, chemotherapy, resection, local ablation. Treatment of pelvic recurrence with radiation, chemotherapy, resection. Manage Carcinomatosis: with bowel obstruction, with ureteral obstruction. Palliative care.

TECHNICAL SKILLS: Pelvic malignancy – reoperation.

MISCELLANEOUS MALIGNANT LESIONS

OBJECTIVES: Ability to manage more unusual tumours of the colon and rectum.

CLINICAL SKILLS: Recognise the clinical presentation, assess prognostic factors, and manage ileal, appendiceal, colonic, rectal, carcinoid syndrome.

Recognise clinical presentation, assess prognostic factors, and manage lymphomas including classification, treatment and risk factors.

Recognise clinical presentation, assess prognostic factors, and manage gastrointestinal stromal tumours (GIST).

Recognise clinical presentation, assess prognostic factors, and manage tumours metastasising to the colon: breast, melanoma, ovary.

ANAL NEOPLASIA

OBJECTIVES: Understanding of the pathophysiology and the management of anal neoplasia Ability to diagnose and manage anal canal neoplasia Ability to diagnose and manage anal margin neoplasia

KNOWLEDGE: The significance of the anatomical distinction between the anal margin and the anal canal tumours. The differential lymphatic drainage of the anal canal and margin. The histological transition of the anal canal.

Demographics of anal neoplasia. Changing incidence of anal neoplasia. Association with sexual practices. High-risk groups.

Staging classification of anal neoplasia.

Epidermoid carcinoma: histologic types, routes of metastasis/recurrence. R

ole of salvage therapies: abdominoperineal resection, chemotherapy, radiotherapy.

Other anal canal malignancies: adenocarcinoma, small cell cancer, melanoma.

CLINICAL SKILLS: Diagnosis and management of lesions of the anal canal including HPV genotypes associated with cancer, HIV infection, anal intraepithelial neoplasia (AIN), immunosuppression. Squamous cell carcinoma: clinical features, differential diagnosis, surgical management by local excision, chemoradiotherapy and abdominoperineal resection.

Basal cell carcinoma: clinical features, differential diagnosis, management.

Bowen's disease: histology, differential diagnosis, natural history, related cancers, management including anal mapping, wide local excision, reconstruction and observation in patients with HIV. Paget's disease: clinical features, management.

Buschke-Lowenstein tumour: clinical presentation and course, treatment options. Treatment of epidermoid carcinomas based on stage: local excision, chemoradiotherapy, abdominoperineal resection, inguinal node management.

TECHNICAL SKILLS: Anal tumour-excision. Rectum abdominoperineal excision.

2.5.17 PRESACRAL LESIONS

OBJECTIVES: Ability to manage presacral lesions

CLINICAL SKILLS: presentation, differential diagnosis, diagnostic evaluation and treatment of congenital lesions: epidermoid cysts, teratoma, anterior sacral meningocele, rectal duplication, clinical presentation, differential diagnosis, diagnostic evaluation and treatment of neoplastic lesions: osseous (Ewing’s sarcoma, giant-cell tumour), chordoma, neurogenic, miscellaneous.

2.5.18 FAECAL INCONTINENCE

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

Evaluation: Understanding of the causes, clinical findings and physiological findings in faecal incontinence.

Non-operative Management: Ability to manage faecal incontinence by nonoperative means.

Operative management: Competency in the operative treatment of faecal incontinence

KNOWLEDGE: Epidemiology Classification of the various types of incontinence, their incidence and their pathophysiology.

Evaluation Anatomical, neurological, dermatological, and endoscopic findings that differentiate various types of incontinence.

Normal and abnormal findings in imaging studies used in incontinence including MRI. Knowledge of a scoring system for faecal incontinence. Indications, uses and results of biofeedback in incontinence.

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. Understand the concept of antegrade continent enema conduits.

CLINICAL SKILLS: Take a directed history to differentiate types of incontinence. Perform a physical examination to differentiate types of incontinence. Identify and interpret anorectal physiology tests. Outline a non-operative bowel management plan incorporating: dietary measures, medications, enemas, perineal skin care, anal plug. Make a treatment plan for a patient with incontinence, including knowledge of side-effects. Select patients for operation according to the physical and laboratory findings. Select type of operative repair. Select patients for temporary and permanent faecal diversion.

TECHNICAL SKILLS: Anal sphincter repair including postanal repair, anterior sphincter repair. Anal sphincter - artificial sphincter/sacral nerve stimulation.

2.5.19 RECTAL PROLAPSE

OBJECTIVES: Competency in the management of all patients with rectal prolapse

KNOWLEDGE: Incidence, pathophysiology and epidemiology of rectal prolapse. Understanding of internal intussusception, with its radiological findings and treatment options. Understand the perineal and abdominal surgical options for prolapse with the indications for each approach, complications, recurrence rate and functional results.

CLINICAL SKILLS: Identify the associated anatomical findings of rectal prolapse and its clinical presentation including functional disturbances and physical findings. Differentiate between mucosal prolapse (partial rectal prolapse), prolapsing internal haemorrhoids and rectal prolapse. Appropriate management of incarcerated and strangulated rectal prolapse. Manage constipation and incontinence in the context of rectal prolapse.

Perform operation for rectal prolapse - perineal or abdominal; open or laparoscopic. Manage a patient with recurrent rectal prolapse.

TECHNICAL SKILLS: Prolapse-abdominal rectopexy. Prolapse -rectopexy + sigmoid resection. Prolapse-perineal repair. Stapled TransAnal Resection of the *Rectum* (STARR) Procedure). Ventral mesh rectopexy.

2.5.20 SOLITARY RECTAL ULCER

OBJECTIVES: Ability to diagnose and manage solitary ulcer syndrome.

KNOWLEDGE: Understand the associated pelvic floor disorder.

CLINICAL SKILLS: Recognise the clinical presentation, endoscopic and histological findings in a patient with solitary rectal ulcer. Utilise appropriate medica/surgical treatment options.

2.5.21 CONSTIPATION

OBJECTIVE: Investigation of patients with constipation and treatment of patients with non-specific constipation. Competency in the management of outlet obstruction constipation. Motility disorders: Competency in the management of colonic inertia and colonic pseudo-obstruction.

KNOWLEDGE: Normal colonic physiology (including gut hormones and peptides) and the process of defaecation. Definition of constipation and its epidemiology. Classification of types and causes of constipation differential diagnosis in a patient with constipation.

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

Diagnostic criteria for anismus.

Indications, techniques, complications and results of rectocele repair.

Role of colectomy in colonic inertia including indications, complications and expected results. Common causative factors for colonic pseudo-obstruction.

CLINICAL SKILLS: Take a directed history for a patient with constipation and perform a directed physical examination.

Arrange a treatment plan based on endoscopic, radiological and physiology tests: defaecating proctogram, transit studies, anorectal manometry, EMG, balloon expulsion, contrast enema, endoscopy. Identify melanosis coli on endoscopy and discuss its significance.

Plan a treatment programme for a patient with constipation that may include the following: dietary measures, fibre, laxatives, prokinetic medications, enemas, suppositories, psychological support. Management of anismus: medical management, biofeedback, botulinum toxin, surgery.

Manage short segment/adult Hirschsprung's disease. Recognise the clinical presentation of symptomatic rectocele. Diagnosis and both non-operative and operative management of enterocele and sigmoidocele. Evaluation and management of recurrent constipation after colectomy. Evaluate a patient with suspected colonic pseudo-obstruction.

Manage a patient with colonic pseudo-obstruction by medical or surgical means.

TECHNICAL SKILLS: Rectocele repair.

2.5.22 ANAL STENOSIS

OBJECTIVE: Competency in the management of anal stenosis.

KNOWLEDGE: Aetiology

CLINICAL SKILLS: Arrange nonoperative management. Operative management of anal stenosis including division of stricture and flap procedures.

TECHNICAL SKILLS: Anal advancement flap for fissure/stenosis.

2.5.23 IRRITABLE BOWEL SYNDROME

OBJECTIVE: Competency in the management of irritable bowel syndrome.

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

2.5.24 CHRONIC RECTAL PAIN SYNDROME

OBJECTIVE: Competency in the management of chronic rectal pain syndromes.

KNOWLEDGE: Differential diagnosis for rectal pain including levator ani syndrome, proctalgia fugax, chronic idiopathic pelvic pain, coccygodynia.

CLINICAL SKILLS: Manage pelvic pain by means of: bowel management programmes, analgesics, antidepressants, levator massage, electrogalvanic stimulation, nerve blocks, steroid injections, botulinum toxin injections, biofeedback, psychiatric or psychological treatment, surgery.

2.5.25 INFLAMMATORY BOWEL DISEASE

GENERAL OBJECTIVES: History: Knowledge of the history of inflammatory bowel disease (IBD). Knowledge of the aetiology of inflammatory bowel disease.

Knowledge of the epidemiology of inflammatory bowel disease.

Recognition of the clinical manifestations of inflammatory bowel disease and its severity.

Differential diagnosis: Competency in the diagnosis of inflammatory bowel disease including indeterminate colitis.

Reproduction and inflammatory bowel disease: ability to advise on reproduction and IBD and to manage IBD during pregnancy.

KNOWLEDGE: The contribution of genetics and immune function to the development of IBD. The possible influence of infectious agents, psychological issues and environmental factors. Epidemiology - Crohn's and ulcerative colitis. Clinical manifestations. The criteria for severity of disease as defined by Crohn's disease activity index and Truelove classification.

Differential diagnosis: endoscopic, radiographic, and laboratory findings of ulcerative colitis and Crohn's disease. The distinguishing histologic characteristics of ulcerative colitis and Crohn's disease. The differential diagnosis of Inflammatory Bowel Disease. Indeterminate colitis.

Reproduction and Inflammatory Bowel Disease. The interaction of IBD and pregnancy. The impact of IBD on fertility.

Drug therapy, investigations and surgery during pregnancy.

CLINICAL SKILLS: Recognise and compare the clinical pattern, presenting symptoms, physical findings and natural history of ulcerative colitis and Crohn’s disease. The extraintestinal manifestations of IBD. Diagnostic assessment for inflammatory bowel disease to exclude other forms of colitis.

<u>Ulcerative Colitis</u>

OBJECTIVES: Competency in the medical management of ulcerative colitis in consultation with gastroenterology.

Cancer in ulcerative colitis: Understanding of the risk of cancer in ulcerative colitis and its management.

Surgical management of ulcerative colitis: Competency in the surgical treatment of ulcerative colitis.

Postoperative management of ulcerative colitis: Competency in the postoperative care of patients with ulcerative colitis, including ileoanal pouch and its complications.

KNOWLEDGE: Medical management - The mechanism of action, indication, appropriate dosage, side effects, and toxicity of the drugs used for the treatment of ulcerative colitis: aminosalicylates, corticosteroids, antibiotics, immunosuppressive drugs, other drugs.

Understand the role of nutritional support in the management of ulcerative colitis.

The risk of cancer, with the factors increasing risk.

Surgical management: Be able to identify the indications for surgery for ulcerative colitis including: intractability, severe acute colitis, toxic megacolon, haemorrhage, prophylaxis for carcinoma/dysplasia, carcinoma, complications of extraintestinal manifestations, complications of medications.

Understand the operative management of indeterminate colitis.

CLINICAL SKILLS: Recognise the presentation and manage proctitis, left-sided colitis, extensive colitis, severe acute colitis, toxic megacolon. Joint management of a patient unresponsive to initial treatment.

Organise surveillance and interpret biopsy results of dysplasia.

Indications and contraindications, operative technique, postoperative care, functional results, and complications of the operations for ulcerative colitis.

Postoperative management: recognise and manage conditions associated with the ileoanal pouch anal anastomosis (intestinal obstruction, pelvic sepsis, pouchitis, anastomotic/pouch vaginal and perineal fistula, stenosis, sexual dysfunction, retained mucosa). Follow-up for retained rectum after colectomy.

TECHNICAL SKILLS: Colectomy – total + ileostomy. Colectomy – total + ileorectal anastomosis. Rectum-panproctocolectomy + ileostomy. Ileoanal anastomosis + creation of pouch.

<u>Crohn’s disease</u>

OBJECTIVES: Medical management of Crohn's disease: competency in the medical management of Crohn's disease in consultation with gastroenterology.

Cancer in Crohn's disease: Understanding of the risk of cancer in Crohn's disease and its management.

Complications of Crohn's disease: Competency in the management of the complications of Crohn's disease.

Surgical management of Crohn's disease: Competency in the surgical management of Crohn's disease. Anorectal Crohn's Disease: Competency in the management of anorectal Crohn's disease.

KNOWLEDGE: Medical Management. 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).

Understand the role of nutritional support in Crohn's disease.

Risk of large and small bowel carcinoma in Crohn's disease and risk factors.

Awareness of the indications for surgery for Crohn's disease including: intractability, intestinal obstruction, fistula/abscess, complications.

CLINICAL SKILLS: Treatment specific to the site of involvement in a patient with Crohn's disease. Medical management of a patient unresponsive to initial treatment. Organise surveillance and interpret biopsy results of dysplasia.

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. Indications and contraindications, operative technique, postoperative care, functional results, risk of recurrence, and complications of operations for Crohn's disease.

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.

TECHNICAL SKILLS: Rectum: Panproctocolectomy + ileostomy. Colectomy - right. Colectomy -transverse. Colectomy-left. Colectomy-sigmoid. Colectomy – total + ileostomy. Colectomy-total + ileorectal anastomosis. Crohn's-ileocaecectomy. Strictureplasty. Gastroenterostomy. Intestinal fistula operation. Fistula-in-ano-high-advancement flap. Fistula-in-ano-high-cutting seton. Fistula in ano-high-drainage seton. Fistula-in-ano-high-other. Fistula-in-ano-low-lay open. Fistula-operation for rectovaginal fistula.

2.5.26 COLITIS

Ischaemic colitis

OBJECTIVES: Competency in the management of ischaemic colitis.

KNOWLEDGE: Vascular anatomy of the colon. The aetiology of acute colonic ischemia.

CLINICAL SKILLS: Recognise the clinical presentation of ischaemic colitis. Recognise the natural history, diagnosis, and be able to manage ischaemic colitis. Recognise and manage ischaemic colitis after abdominal aortic aneurysm repair.

Radiation colitis

OBJECTIVE: Competency in the management of radiation bowel disease.

KNOWLEDGE: Risk factors for and susceptibility to injury from radiotherapy. Mechanisms of acute and chronic radiation injury. Microscopic findings of radiation injury. Understand surgical options for radiotherapy injuries.

CLINICAL SKILLS: Complications of radiotherapy: fistula, obstruction, malabsorption, necrosis, haemorrhage. Arrange local therapy for radiation proctitis.

Infectious colitis

OBJECTIVES: Diagnosis and management of infectious colitis in consultation with infectious disease physicians

KNOWLEDGE: Epidemiology, aetiology, pathogenesis, laboratory and endoscopic evaluation, medical management and indications for surgery for clostridium difficile colitis. 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. Management of diarrhoea in the immunocompromised patient including HIV.

CLINICAL SKILLS: Diagnosis and management including appropriate referral.

2.5.27 MISCELLANEOUS COLITIDES

OBJECTIVES: Competency in the management of the less common colitides.

CLINICAL SKILLS: Manage the following: diversion colitis, neutropenic enterocolitis, collagen-vascular colitis, microscopic colitis.

2.5.28 STOMAS

OBJECTIVES: Understanding of the indications for stomas and different types of stoma. Preoperative Evaluation for stomas: Competency in the preoperative care of a patient requiring a stoma.

Stoma creation and closure: Competency in the construction and closure of an ileostomy and a colostomy.

Postoperative Care: Competency in the postoperative care of patients after stoma formation. Complications: Competency in the management of early and late complications of stoma formation. Stoma management: Competency in the management of stomas in consultation with stoma care nurses.

Stoma Physiology: Knowledge of the physiology of different stomas. Patient Education and Counselling: Knowledge of the information needed by a patient with a stoma

KNOWLEDGE: Indications for colostomy. Indications for ileostomy.

Types of stomas (loop, end, end loop, double barrel) in relation to indications.

Complications - High-output ileostomy. Stoma management Stoma appliances, and appropriate selection. Indications, contraindications and complications for stoma irrigation. The physiologic changes associated with ileostomy, colostomy, urostomy.

Normal ileostomy function including anticipated daily outputs and changes that occur in output with postoperative adaptation. Causes of high output stomas. Differential diagnosis of high output. Patient Education and Counselling - medication dosage and absorption.

CLINICAL SKILLS: Preoperative evaluation Discuss ostomy expectations with patients regarding function and anticipated output along with precautions for fluid and electrolyte balance, depending upon the type of stoma involved. 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 construction and closure. Organise preparation for stoma closure in the case of temporary faecal diversion including: timing of closure, necessary preoperative evaluation, care of the postoperative stoma site wound.

Postoperative Care: Appreciate the normal postoperative course for colostomy and ileostomy function. Recognise the signs, symptoms and management for the following complications that occur in the immediate postoperative period: ischaemia, mucocutaneous separation.

Complications Recognise and manage high-output ileostomy. Recognise parastomal skin irritation of significance, list a differential diagnosis, and make recommendations for appropriate management. Manage ileostomy and colostomy prolapse. Manage parastomal hernia. Recognise and manage skin conditions associated with stomas. Recognise and manage ileostomy food obstruction. Stoma Manage early postoperative conventional stoma. Advise on various skin barriers and accessory products available for the management of stomas. Manage retracted stoma. Advise on dietary considerations for patients with an ileostomy or a colostomy, including impact of diet on stoma output, flatus, odour, bolus obstruction. Appropriately manage fluid and electrolyte abnormalities. Patient education and counselling. Demonstrate stoma bag emptying, stoma bag changing, management of leakage.

TECHNICAL SKILLS: Ileostomy-construction. Colostomy-construction. Ileostomy-closure. Colostomy-closure. Hartmann's reversal. Colostomy-revision. Ileostomy-revision. Hernia repair-parastomal.

2.6 MORBID OBESITY, BARIATRIC SURGERY

OBJECTIVES: Basic management of the patient who is morbidly obese and an understanding of the surgical treatment of morbid obesity including early and late complications. A knowledge of the different patterns of presentations and complications.

KNOWLEDGE: Indications for surgery in morbid obesity. Therapeutic options for morbid obesity. Types of operations performed. General principles of the management of the obese patient perioperatively. Long term management of the bariatric patient post surgery.

CLINICAL SKILLS: History and Examination of the obese patient. Assessment of the postoperative bariatric patient. Interpretation of Investigations in the obese patient. Management decisions for early and late complications of morbid obesity.

TECHNICAL SKILLS: Laparoscopic access in the morbidly obese. Aspiration of lap band port. Emergency release of lap band for slippage. Insertion of lap band. Repair of internal hernia after gastric bypass. Roux en Y gastric bypass. Revisional gastric surgery for obesity. General Surgery for the super morbidly obese

2.7 VASCULAR MALFORMATIONS of the GI tract

OBJECTIVES: Management of patients with vascular malformations of the lower GI tract.

KNOWLEDGE: Aetiology of angiodysplasia. Classification of haemangiomas, their clinical presentations and predominant GI sites.

CLINICAL SKILLS: Assess clinical presentation and endoscopic findings of angiodysplasia. Manage the patient with regard to indications for intervention and the operative and nonoperative management of angiodysplasia. Arrange radiologic and endoscopic evaluation of patients with haemangiomas. Arrange nonoperative and operative management, based on location.

TECHNICAL SKILLS: Colonoscopy-diagnostic. Colonoscopy-therapeutic.

2.8 LAPAROSCOPIC SURGERY

OBJECTIVE: To understand the principles of laparoscopic surgery including technical aspects and common complications

KNOWLEDGE: Physiology of pneumoperitoneum. Technology of video imaging, cameras and insufflator. Laparoscopic instruments, clips, staplers and port types. Use and dangers of diathermy. Management of equipment failure. Anaesthetic problems in laparoscopic surgery. Informed consent for laparoscopic procedures. Recognition and management of laparoscopic complications.

CLINICAL SKILLS: Pre and postoperative management of laparoscopic cases. Port complications.

TECHNICAL SKILLS: Closed and open techniques for port insertion. Diagnostic laparoscopy. Laparoscopic suturing and knotting. Control of laparoscopic bleeding.

3. TRAUMA SURGERY

3.1 TRAUMA PRINCIPLES (includes abdominal Injuries)

OBJECTIVE: Identify and manage the majority of abdominal injuries.

KNOWLEDGE: Anatomy of abdomen. Aetiology and Epidemiology. Pathophysiology of shock. Recognition of the possibility of non-accidental injury. Differences in children and the elderly. Principles of management of severely injured patients. Importance of mechanism of injury - gun shot, stabbing, seat belt. Indications for uncross matched blood. Coagulopathy. Pathophysiology of peritonitis and sepsis. Trauma Scoring Systems.

CLINICAL SKILLS: Triage. History and examination. Resuscitation. Investigations. Appropriate use of radiographs, CT and ultrasound. Indications for intervention. Recognition of injuries requiring other specialties. Management of hollow organ injury. Understand indications for Damage Control vs Definitive Surgery.

3.2 ABDOMEN AND THORAX TRAUMA

OBJECTIVES: Assessment and management of blunt and penetrating injury. Closed thoracic injury: Assessment and emergency management of blunt injury of the thorax. Penetrating thoracic injury: Assessment and emergency management of penetrating injury of the thorax. Closed and penetrating abdominal injury: Assessment and management of blunt and penetrating abdominal injury.

KNOWLEDGE: Closed and penetrating thoracic injury Anatomy. Concept of low energy, high energy transfer injury. Pathogenesis of shock. Closed and penetrating abdominal injury. Anatomy. Concept of energy, low high energy transfer injury. Pathogenesis of shock.

CLINICAL SKILLS: Indications for and interpretation of CT. Indications for radiological intervention for haemorrhage control.

Closed thoracic injury Assessment and initial management of multiply injured patient. Recognise need for operative intervention and organise. Understand indications for ER thoracotomy. Postoperative management and recognition of complications.

Penetrating thoracic injury. Recognise need for operative intervention and organise. Recognise and treat sucking chest wound. Understand indications for ER thoracotomy. Postoperative management and recognition of complications.

Closed and penetrating abdominal injury Assessment and initial management of multiply injured patient. Recognise need for laparotomy and organise. Arrest haemorrhage by suture/ligation/packing. Indication for pelvic fixator. Drains for biliary / pancreatic injury.

Management of retroperitoneal haematoma. Postoperative management and recognition of complications.

TECHNICAL SKILLS: Closed and penetrating thoracic injury: chest drain insertion. Lateral thoracotomy. Median sternotomy. Clamshell thoracotomy. Hilar control of massive pulmonary haemorrhage. Non-segmental lung resection. Pulmonary tractotomy using staplers. Pericardiotomy. Control and suture of myocardial laceration.

Closed and penetrating abdominal injury: laparotomy – trauma. Packing / debridement of liver trauma. Splenectomy. Splenic repair. Small bowel resection. Distal pancreatectomy. Pancreatic debridement and drainage. Mobilisation and repair of the duodenum. Medial rotation of left hemicolon and colectomy when appropriate. Medial rotation of right hemicolon and colectomy when appropriate. Hartmann's Procedure. Nephrectomy. Bladder repair. Ileostomy – construction. Colostomy – construction. Temporary abdominal closure: Bogota Bag or Topical Negative Pressure Dressing.

3.3 HEAD AND NECK TRAUMA

OBJECTIVE: Identification, assessment and initial management of trauma to the Head and Neck.

KNOWLEDGE: Anatomy of the Head and Neck.

CLINICAL SKILLS: Immobilisation of patients with suspected cervical spine injury. Observation of patients with head injury. Interpretation of plain radiographs and CT scans of cervical spine. Interpretation of CT brain/skull. Decision to refer to neurosurgeon.

TECHNICAL SKILLS: Exposure, control and repair of vascular, airway or GI tract structures in the neck. Cricothyroidotomy. Formal tracheostomy. Burr holes. Craniotomy/Craniectomy. Evacuation of Extradural/subdural haematoma. Debridement of injured brain. Lateral canthotomy for orbital decompression.

3.4 EXTREMITY AND SOFT TISSUE TRAUMA

OBJECTIVE: Assessment and management of blunt and penetrating injury of the soft tissues and skeleton.

KNOWLEDGE: Anatomy of the limbs. Blunt and penetrating soft tissue and skeletal injury Anatomy. Concept of low energy, high energy transfer injury. Pathogenesis of shock. Principles of soft tissue coverage and simple flaps. Principles of Topical Negative Pressure Dressings. Understanding of wound contamination/infection.

CLINICAL SKILLS: Blunt and penetrating soft tissue and skeletal injury Assessment and initial management of multiply injured patient. Arrest haemorrhage by pressure and tourniquet. Appropriate immobilisation during assessment. Recognition of major vascular trauma. Assessment of ischaemic limb. Recognition and treatment of acute compartment syndrome. Postoperative management and recognition of complications.

TECHNICAL SKILLS: Proximal arterial control femoral, brachial, subclavian vessels. Soft Tissue Management Wound debridement and lavage.

Fasciotomy: Lower leg, thigh, upper limb. Application of dressings. Application of Topical Negative Pressure Dressings. Split skin grafting.

3.5 VASCULAR TRAUMA

OBJECTIVE: Identification, assessment and management of injuries to blood vessels

KNOWLEDGE: Surgical anatomy. Relationship of vascular structures to fractures, nerves, associated structures. Mechanisms of vascular injury: traumatic, iatrogenic. Pathophysiology of trauma and muscle ischaemia. Pathophysiology of arteriovenous fistula. Investigations: Indications. Invasive. Non-invasive. Operative approach to specific injuries - Arterial or venous. Open surgery. Endovascular. Combined arterial and venous injury. Orthopaedic / neurological. Technical options for repair. Fasciotomy.

CLINICAL SKILLS: Symptoms and signs of acute arterial / venous injury. Investigation Ankle / brachial pressure index. Duplex, CT angiogram, Digital Subtraction Angiography (DSA). Manage multiply injured patient. Manage systemic effects of arterial trauma – rhabdomyolysis.

TECHNICAL SKILLS: Control with compression. Surgical options. Exposure and control of major vessels: thoracic aorta, abdominal aorta (infra and supra renal), subclavian and axillary arteries, femoral and popliteal arteries, use of shunts. Ligation. Direct suture repair. End to end anastomosis. Interposition vein /

prosthetic graft. Panel / spiral grafts. Fasciotomy. Radiological Intra-operative imaging techniques. Options for control of bleeding.

3.6 ADVANCED TRAUMA: WARFARE, TERRORISM AND CIVIL STRIFE - GENERAL PRINCIPLES

OBJECTIVES: To provide the 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.

KNOWLEDGE: Pathophysiology of trauma: Knowledge of the pathophysiology of different types of trauma. Pathophysiology of trauma.

Pathophysiology of blunt trauma.

Penetrating injury (low and high energy trauma). Blast injury.

Burns.

Safe patient transfer: Understanding of strategic/tactical situation. Trauma Laparotomy. Indications for laparostomy.

Paediatric trauma. Paediatric physiology. Paediatric trauma laparotomy.

Trauma thoracotomy: Indications for thoracotomy. Incisions used in particular circumstances.

Damage control surgery: Damage control vs. definitive laparotomy.

Difficult peripheral haemorrhage: Anatomical approach to major vessels.

Severely traumatised ischaemic limbs: anatomical approach to major vessels.

Pregnant woman with severe abdominal trauma: Indications for Caesarean section.

Burns: Knowledge of fluid replacement regimes for burns patients.

CLINICAL SKILLS: Safe patient transfer: making 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.

Burns: Management of burns in the first 48 hours.

Safe management of the airway in severe head and neck injury. Stabilisation of the jaw after severe facial injury.

TECHNICAL SKILLS: Trauma Laparotomy: Laparotomy for trauma. Trauma thoracotomy: Thoracotomy-trans-sternal. Thoracotomy-lateral. Thoracotomy-clamshell. Severely traumatised ischaemic limbs: Amputation-AK. Amputation-BK. Amputation-upper limb. Surgical airway management in severe head and neck injury: Cricothyroidotomy (percutaneous tracheostomy).

4 EMERGENCY SURGERY

See the various sections of syllabus and curriculum in addition to the following.

4.1 SUPERFICIAL SEPSIS INCLUDING NECROTISING INFECTIONS

OBJECTIVE: Diagnosis and basic management of superficial sepsis, gas gangrene and other necrotising infections.

KNOWLEDGE: Infected sebaceous cyst / carbuncle: Natural history. Bacteriology. Associated medical conditions.

Superficial abscess: aetiology, natural history, bacteriology.

Cellulitis: aetiology.

Associated medical conditions. Immunocompromised patients.

Bacteriology.

Antibiotic therapy.

Infected ingrowing toenail / paronychia: Aetiology. Bacteriology. Atherosclerosis. Diabetes.

Gas gangrene and other necrotising Infections: Natural history. Vulnerable individuals. Associated medical conditions e.g. diabetes, atherosclerosis, steroids and immunocompromise. Bacteriology and toxins. Mechanisms of septic shock. Appropriate antibiotic therapy. Necrotising fasciitis.

CLINICAL SKILLS: Infected sebaceous cyst / carbuncle. History and examination. Medical management of diabetes perioperatively.

Superficial abscess: History and Examination.

Breast abscess - imaging modalities.

Cellulitis: History and examination, therapy.

Infected ingrowing toenail / paronychia.

Warning signs of necrotising fasciitis.

TECHNICAL SKILLS: Infected sebaceous cyst / carbuncle. Abscess drainage. Benign skin or subcutaneous lesion - excision biopsy. Aspiration of breast abscess. Infected ingrowing toenail / paronychia. Nail avulsion / wedge resection / phenolisation. Radical excisional surgery: Fournier's gangrene, necrotising fasciitis, gas gangrene, debridement, diabetic foot.

4.2 PERITONITIS / ACUTE ABDOMEN (combined)

OBJECTIVE: Recognition and management of peritonitis.

KNOWLEDGE: Anatomy of abdomen and pelvis. Aetiology. Differential diagnosis. Pathophysiology of shock. Pathophysiology of peritonitis and sepsis - generalised and intraperitoneal, septic shock, pathophysiology of obstruction / strangulation. Conditions which do not require surgery.

CLINICAL SKILLS: History and examination. Recognition of severity of disease/ Investigation. Resuscitation, antibiotics, invasive monitoring. Treat symptoms. Recognition of success or failure of non-operative treatment. Indication for and timing of intervention. Recognition and management of complications.

TECHNICAL SKILLS: Central line insertion. Laparotomy / laparoscopy. Gastro / duodenal - perforated peptic ulcer closure. Hartmann's procedure. Cholecystectomy. Cholecystostomy.

4.3 ACUTE INTESTINAL OBSTRUCTION

OBJECTIVE: Recognise and manage most cases of intestinal obstruction

KNOWLEDGE: Abdominal anatomy. Aetiology of intestinal obstruction. Pathophysiology of shock / sepsis. Differential diagnosis. Treatment options.

CLINICAL SKILLS: History and examination. Resuscitation. Investigation. Nutritional support. Differentiate between mechanical obstruction and pseudo-obstruction. Ability to perform emergency laparotomy.

TECHNICAL SKILLS: Central line insertion. Laparotomy and division of adhesions. Small bowel resection. Colectomy-left. Colectomy-right. Colectomy-transverse. Colectomy-sigmoid. Colectomy - total + ileostomy. Colostomy-construction. Ileostomy-construction.

4.4 ACUTE APPENDICITIS

OBJECTIVE: Recognition and management of acute appendicitis.

KNOWLEDGE: Anatomy of abdomen and pelvis. Natural history of appendicitis. Pathophysiology of appendicitis. Effects of overwhelming sepsis and management.

CLINICAL SKILLS: History and examination. Investigation. Resuscitation. Postoperative management.

TECHNICAL SKILLS: Appendicectomy: open / laparoscopic.

4.5 STRANGULATED HERNIA

OBJECTIVES: Recognise and treat most common strangulated hernias i.e. Strangulated inguinal hernia. Strangulated femoral hernia. Strangulated incisional hernia. Strangulated internal hernia.

KNOWLEDGE: Anatomy - Inguinal and femoral canal, abdominal wall, retroperitoneum, soft tissues. Pathophysiology. Postoperative complications.

CLINICAL SKILLS: History and examination. Resuscitation. Investigation of possible strangulated inguinal, femoral, incisional, internal hernia. Operative strategy in the case of all these types. Postoperative complications.

TECHNICAL SKILLS: Small bowel resection. Hernia repair: inguinal hernia, femoral hernia, incisional hernia, internal hernia.

4.6 ACUTE GYNAECOLOGICAL DISEASE

OBJECTIVE: To recognise, manage and appropriately refer acute gynaecological disease.

KNOWLEDGE: Pelvic inflammatory disease/endometriosis/salpingitis. Anatomy of pelvis. Physiology of pelvic organs.

Infective intra-abdominal conditions. Appropriate management: antibiotics - referral pathway. Obstruction secondary to ovarian carcinoma.

Anatomy and physiology of pelvis and pelvic organs.

Investigation of obstructed colon.

Management of ovarian carcinoma.

Intra-abdominal haemorrhage from ruptured ovarian cyst / ectopic pregnancy. Management of diagnosed condition. Iatrogenic injury.

CLINICAL SKILLS: Pelvic inflammatory disease/endometriosis/salpingitis. Obstruction secondary to ovarian carcinoma. Intra-abdominal haemorrhage of gynaecological origin. History and examination. Organise pelvic ultrasound / pregnancy test. CT scan / tumour markers.

Ability to perform diagnostic laparoscopy / laparotomy.

Conservative management.

Iatrogenic injury: Recognition of nature and extent of injury.

TECHNICAL SKILLS: Laparotomy / laparoscopy. Hartmann's procedure. Sigmoid colectomy.

4.7 COMPLICATIONS OF ABDOMINAL SURGERY

OBJECTIVE: Recognition and management of septic complications of GI surgery

Recognition and management of obstructive complications of GI surgery Recognition and management of bleeding complications of GI surgery

KNOWLEDGE: Risk factors for major complications and the differential risk of further interventions. Septic complications of GI anastomosis. Abdominal abscesses after GI surgery. Bowel obstruction after GI surgery. Physiological and haematological consequences of post op bleeding. Biliary leakage after cholecystectomy. Intestinal fistula. Surgeon's role in Multiple Organ Failure (MOF).

CLINICAL SKILLS: Logical and prioritised approach to complications. Assessment of the postoperative GI surgical patient with emergency complications. Assessment of the patient with multiple organ failure from a surgical perspective. Interpretation of Investigations.

Management decisions for early and late complications of GI surgery presenting as emergencies. Involve specialists and colleagues appropriately, including referral for embolization.

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

5. VASCULAR SURGERY FOR GENERAL SURGEONS

OBJECTIVES: Assessment and management of varicose veins, including recurrent varicose veins and complications. Assessment and management of patient with deep venous insufficiency (including Deep Vein Thrombosis DVT).
Assessment and management of patient with chronic deep venous insufficiency.
Ability to recognise acute limb ischaemia and institute emergency management.

KNOWLEDGE: Thrombosis. Trauma. Iatrogenic complications. Investigations Doppler. Angiography. CT. Intra-operative angiography.

Management - Conservative. Embolectomy. Thrombolysis. Primary amputation.
Pathophysiology of compartment syndrome. Epidemiology of tobacco smoking.
Detailed knowledge of evidence for role of medical treatment.
Detailed understanding of risk factors for PAD and how to modify them Role of exercise.
Detailed pathology of atherosclerosis/thrombosis and complications.

Cystic adventitial disease, popliteal entrapement, fibromuscular dysplasia
Diabetes, Buerger's disease, autoimmune vasculitis. Recognition of cardiovascular risk and management. Understanding of diabetes and impact on arterial disease.

CLINICAL SKILLS: History. Examination. Investigations - ABPI, Duplex, angiogram, ECHO.

TECHNICAL SKILLS: Surgical approaches to the arterial tree.
Surgical control of upper and lower limb blood vessels. Embolectomy.
On table angiography and thrombolysis. Emergency arterial reconstruction. Fasciotomy.
Emergency venous control and reconstruction.

5.1 SUPERFICIAL VENOUS DISEASE

KNOWLEDGE: Anatomy. Physiology Venous dynamics. Pathology Superficial venous incompetence. Complications Venous hypertension. Oedema, lipodermatosclerosis, ulceration. Recurrent varicose veins. Neovascularisation. Recanalisation. Pelvic venous reflux.

CLINICAL SKILLS: History: Presenting symptoms and complications. Examination:
Varicosities and venous incompetence. Identify complications.

Investigations: Use of venous Duplex. Interpret results of duplex / venograph. Venography. Plethysmography.

Management options. Indications. Conservative - graduated support. Injection sclerotherapy+foam. Endovascular ablation. Surgery. Complications.

TECHNICAL SKILLS: Prescribe support stockings. Injection sclerotherapy. Endovascular ablation. Surgery: multiple phlebectomies. Sapheno-femoral junction ligation. Sapheno-popliteal vein ligation.
Long saphenous vein strip. Endovenous ablation of long saphenous vein.
Endovenous ablation of short saphenous vein.

5.2 DEEP VENOUS DISEASE OBJECTIVE

Deep Vein Thrombosis (DVT)

KNOWLEDGE: Anatomy of deep veins lower limb / pelvis. Pathophysiology of DVT.
Management of uncomplicated DVT. Early / late complications of DVT. Prophylaxis.
Indications for intervention Caval filter. Protected thrombolysis. Surgical Thrombectomy.

CLINICAL SKILLS: History and examination. Investigations Duplex. Venography (MR or standard).

TECHNICAL SKILLS: Endovenous therapy (thrombolysis). Venous thrombectomy.

Chronic deep venous insufficiency

KNOWLEDGE: Pathology of deep venous incompetence. DVT. Valvular dysfunction. Valvular agenesis. Management options: Compression. Valvuloplasty. Valve transplant. Bypass. Amputation.

CLINICAL SKILLS: History. Examination. Diagnose complications. Investigation – Duplex. Venography.

5.3 ACUTE ISCHAEMIA

OBJECTIVE: Ability to recognise acute limb ischaemia and institute emergency management.

KNOWLEDGE: Anatomy of arterial system. Pathophysiology of acute limb ischaemia. Embolism.

5.4 EMERGENCY ANEURYSM DISEASE

OBJECTIVES: Assessment and management of emergency aneurysm disease.

KNOWLEDGE: risk factors for rupture. Presentation. Differential diagnosis. Treatment options: open, endovascular, complications of repair. Emergency presentations of other aneurysms: popliteal, false, dissection.

CLINICAL SKILLS: History, examination. Resuscitation. Assessment of comorbidity. Investigation. Selection for intervention. Recognition of complications. Management of complications.

TECHNICAL SKILLS: Endovascular AAA repair. Open AAA repair.

5.5 MESENTERIC VASCULAR DISEASE

OBJECTIVES: Assessment and management of patients with acute and chronic mesenteric ischaemia

KNOWLEDGE: Anatomy of mesenteric arterial and venous system. Pathophysiology of mesenteric ischaemia. Presentation of mesenteric vascular disease: acute, chronic venous.

Investigation: Duplex, MR, CT, catheter angiography.

Treatment options: endovascular. Operative. Complications of treatment.

CLINICAL SKILLS: History. Examination. Resuscitation. Patient selection for intervention.

TECHNICAL SKILLS: Endovascular intervention. Mesenteric bypass.

5.6 ACUTE LIMB ISCHAEMIA

OBJECTIVE: Ability to recognise acute limb ischaemia and understand emergency management.

KNOWLEDGE: Anatomy of arterial system. Pathophysiology of embolism, thrombosis. Trauma, iatrogenic.

Investigations: Doppler, angiography, CT. Management: Resuscitation. Principles and indications for conservative treatment.

Principles and indications for embolectomy. Principles and indications for angioplasty / stenting. Principles and indications for bypass. Principles and indications for thrombolysis. Principles and indications for primary amputation.

CLINICAL SKILLS: History. Examination. Recognition of acute, acute on chronic and chronic limb ischaemia. Ability to assess the degree of limb ischaemia. Investigations: Doppler, duplex, angiography, CT, echocardiogram, 24-hour ECG.

TECHNICAL SKILLS: Exposure and control of femoral artery bifurcation. Exposure and control of brachial artery bifurcation. Embolectomy. Emergency arterial reconstruction. Fasciotomy.

5.7 CHRONIC ISCHAEMIA

OBJECTIVE: Ability to recognise limb ischaemia and understand emergency management.

KNOWLEDGE: Anatomy. Pathology. Co-existing disorders. Congenital disorders. Management.

CLINICAL SKILLS: History and examination. Investigation. Management. Complications. Rehabilitation. Awareness when to refer to other specialists, e.g. Vascular but also Physical and rehabilitation specialists.

TECHNICAL SKILLS (Within the scope of Objective):
Exposure of aorta, iliac, femoral, popliteal and tibial vessels. Exposure of axillary artery.
Vascular anastomosis (end-to-end, end-to-side).

Aorto-iliac, aorto-femoral, ilio-femoral, axillo-femoral bypass.

Femoral endarterectomy / patch. Ilio-femoro and femoro-femoral cross-over. Above-knee femoro-popliteal bypass. Below-knee femoro-popliteal bypass. Distal bypass (AT, PT & peroneal). Pedal bypass. Vein preparation in-situ/reversed/arm vein/SSV. Vein cuff / patch.

Intra-operative assessment Doppler & angiography.

Amputations level selection - Digital amputation. Transmetatarsal amputation,
transtibial amputation (Posterior flap, skew flap). knee disarticulation, transfemoral amputation.

5.8 UPPER LIMB ISCHAEMIA

KNOWLEDGE: Anatomy - Upper limb vasculature. Thoracic outlet. Aetiology - Acute. Chronic. Pathology. Presentation – Acute. Chronic.

Thoracic outlet syndrome: management: conservative, surgical.
Role of Doppler, Duplex ultrasound, CT, Magnetic Resonance Angiography
(MRA) and conventional angiography. Use of ankle/pressure measurements.

Percutaneous angiography/MRA/ CTA.

Selection for intervention: surgery / angioplasty / amputation.
Management of postoperative wounds, seromas.

Thoracic outlet syndrome.

Investigations - Duplex. Angiogram. MR angiogram. DSA (Rarely used).

Complications.

CLINICAL SKILLS: Ability to recognise and manage acute upper limb ischaemia and chronic upper limb ischaemia. Amputation. Post amputation complications. Graft complications. Graft surveillance.

TECHNICAL SKILLS: Ability to take a relevant history and examine vascular system. Surgery Brachial embolectomy. Surgical bypass. Thoracic outlet decompression.

5.9 CHRONIC LOWER LIMB ISCHAEMIA

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

Pathology - Atherosclerosis (atherothrombosis) and complications, cystic adventitial disease, popliteal entrapment, fibromuscular dysplasia. Co-existing disorders - Diabetes, Buerger's disease, autoimmune vasculitis. Congenital disorders. Recognition of cardiovascular risk and management. Understanding of diabetes and impact on arterial disease. Epidemiology of tobacco smoking. Natural history of lower limb arterial disease. Critical limb ischaemia.

CLINICAL SKILLS: Basic principles of management of hypertension and hyperlipidaemia and diabetes. Antiplatelet drugs. Role of exercise. Indications for intervention. Ability to take a relevant history and examine vascular system. Ability to assess risk factors. Use of ankle pressure measurements. Role of Duplex ultrasound, CT angio, MRA. Interpretation of angiograms

TECHNICAL SKILLS: Dealing with potential complications of vascular surgery.

Technical components of vascular anastomosis and commonly occurring problems.

Amputation: Types of amputation and advantages of each. Potential complications of amputation. Surgical approaches to infra-inguinal vessel. Percutaneous angiography.

Exposure of aorta, iliac, femoral, popliteal and tibial vessels. Exposure of axillary artery. Vascular anastomosis (end-to end, end-to-side).

Be conversant with the various endarterectomies, vein patch and cuffs.

Arterial bypass: Aorto-iliac and aorto-femoral, ilio-femoral, axillo-femoral, ilio-femoro and femoro-femoral cross-over, Above-Knee femoro-popliteal bypass, Below-Knee femoro-popliteal bypass, Distal bypass (AT,

PT & peroneal) Pedal bypass. Vein preparation in situ/ reversed/arm vein/SSV. Intra-operative assessment Doppler & angiography.

5.10 ANEURYSMAL DISEASE

OBJECTIVE: Assessment and management of straightforward aortic aneurysms. Assessment and management of ruptured aortic aneurysm. To know of and treat aneurysms of peripheral and visceral arteries.

KNOWLEDGE: Anatomy of aorta and main branches. Pathology of aneurysm formation.
Risk factors for aneurysm formation. Risk factors for intervention. Investigation - CT.
Screening programmes.

Treatment: Open surgery, endovascular. Treatment complications.

Other aneurysms: Popliteal. False aneurysms. Carotid. Visceral. Thoracoabdominal aneurysms.
Aortic dissection.

CLINICAL SKILLS: History and examination. Assessment of comorbidity Cardiorespiratory / renal.
Treatment selection - Conservative. Open surgery. Endovascular stent. Complications
Ability to recognise and manage complications: bleeding, thrombosis, embolism,
Aneurysm - Aortic endoleak. Aortocaval fistula repair. Aorto-intestinal fistula repair. Reoperation for infected graft.

TECHNICAL SKILLS (within the scope of Objective):

Abdominal Aorta Aneurysm (AAA): tube graft - non-ruptured - part operation eg control / dissection, proximal anastomosis, distal anastomosis. AAA - tube graft - non-ruptured - complete operation.

AAA - bifurcated graft - non-ruptured, part operation eg control / dissection, proximal anastomosis, distal anastomosis. AAA - bifurcated graft - non-ruptured - complete operation.
Aneurysm - Endovascular stent graft. Aneurysm - Supra-renal aortic aneurysm – repair.

5.11 EMERGENCY

KNOWLEDGE: Risk factors for aneurysm rupture.
Appropriate/timely investigation of an emergency aneurysm.
Open and endovascular treatment Endovascular planning.
Surgical methods of immediate aortic control; Supra celiac and infrarenal approaches. Intra-abdominal compartment syndromes and intra-operative management.
Complications of open emergency aortic surgery. Complications of emergency endovascular stent graft.

CLINICAL SKILLS: History and examination. Assessment of comorbidity. Complications -
Recognise and manage complications: bleeding, thrombosis, embolism, organ failure.

TECHNICAL SKILLS:
Selection of patients for conservative management, open operation or endovascular stent. Open Surgery

AAA - tube graft - ruptured - part operation – Control / dissection.
AAA - tube graft - ruptured - part operation - Proximal anastomosis AAA - tube graft - ruptured - part operation - Distal anastomosis. AAA - tube graft - ruptured - complete operation.
AAA - bifurcated graft - ruptured - part operation eg control / dissection, proximal anastomosis, distal anastomosis. AAA - bifurcated graft - ruptured - complete operation.

Aneurysm - Supra-renal aortic aneurysm repair.
Femoral thrombectomy and or additional lower limb revascularisation. Endovascular Aneurysm - Endovascular stent graft.

5.12 PERIPHERAL ARTERY ANEURYSM

OBJECTIVE: To know of and treat aneurysms of peripheral and visceral arteries

KNOWLEDGE: Common types of aneurysms popliteal, renal, mesenteric, carotid.

CLINICAL SKILLS: Investigation. Radiological treatment. Surgical treatment.

5.13 VASCULAR ACCESS (VA)

OBJECTIVE: To describe need for VA. Common methods of VA. Establish VA. Manage complications of VA

KNOWLEDGE: anatomy of upper and lower limb arteries and veins. Indications for VA.
Knowledge of methods of renal support; advantages and disadvantages. Physiology of arterio-venous fistulae. Knowledge of conduit material. Complications of VA.
Knowledge of preoperative investigations including ultrasound.

CLINICAL SKILLS: Pre-operative assessment and choice of VA. Arrange appropriate investigations. Create brachiocephalic fistula. Create basilic vein transposition AV fistula. Create forearm loop graft. Create thigh loop graft. Undertake revision procedures. Arrange surveillance.

5.14 RENAL VASCULAR DISEASE

OBJECTIVE: To be competent to manage a patient with renal artery disease.

KNOWLEDGE: Anatomy of renal arteries. Physiology of renal control of blood pressure. Pathophysiology of renovascular disease. Clinical features of renovascular disease. Investigations Duplex. CT / CT angiography. MRI / MR Angiography. Selective venous sampling. Selection for treatment. Treatment options Radiological interventions. Stenting. Surgery.

CLINICAL SKILLS: History and examination Features of renal failure. Suspected renal artery disease. Investigations.

TECHNICAL SKILLS: Radiological interventions. Surgery for renal artery disease.

5.15 CAROTID ARTERY DISEASE

OBJECTIVE: Management of a patient with carotid artery disease. Assessment and management of patients with cerebrovascular disease. Surgical management of a patient with a TIA/Stroke.

KNOWLEDGE: Anatomy and pathophysiology of stroke. Classification of stroke. Stroke severity score. Definition of TIA and differential diagnosis.

Aetiology and epidemiology of stroke. Genetic causes. Risk factors for cerebral infarction.
Indications and use of investigations:
CT, MRI/A, carotid Doppler, transcranial Doppler, DSA, Echocardiography.
Indications for conservative or surgical management.
Acute intervention including thrombolysis and surgery. Complications and multidisciplinary management.
Stroke prevention. Selection for carotid endarterectomy and stenting. Techniques of carotid surgery.
Carotid body tumours pathology. Investigation. Surgical treatment.

Carotid dissection pathology. Management.

Carotid Trauma types. Investigation. Radiological treat. Surgical treatment.

CLINICAL SKILLS: History and examination. Appropriate investigations
Carotid duplex, MRA, CT scan and angiogram, carotid arteriography. Selection of patients
Surgery or interventional radiology. Cardiac assessment Synchronous cardiac and carotid surgery.
Postop complications: stroke, bleeding, airway obstruction, acute occlusion, cranial nerve injury.
Medical management: antiplatelet agents, hypertension, hyperlipidaemia.
Communication of risks and benefits of intervention.
Communication of risk and impact. Driving and occupation. Follow-up.

TECHNICAL SKILLS: (within the scope of Objective): Carotid endarterectomy. Endovascular stent.

5.16 HYPERHYDROSIS

OBJECTIVE: Assessment and management of patients with hyperhidrosis

KNOWLEDGE: Anatomy of sympathetic nervous system. Physiology of sympathetic nervous system.
Pathophysiology. Presentation. Treatment options: conservative, medical.
Surgical: cervical and lumbar sympathectomy.

CLINICAL SKILLS: History and examination. Management strategy.

TECHNICAL SKILLS: Axillary Botox therapy. Surgery Thoracoscopic sympathectomy.

5.17 LYMPHOEDEMA

OBJECTIVE: Assessment and management of patients with lymphoedema.

KNOWLEDGE: Anatomy of lymphatic system. Physiology. Pathophysiology. Classification of lymphoedema Primary. Secondary. Clinical features. Complications - Chronic effects. Investigation Lymphoscintigraphy. Lymphangiogram. CT/ MRI. Management Conservative. Surgical options.

CLINICAL SKILLS: History and examination. Investigation, management plan.

6. BREAST SURGERY

6.1 BREAST ASSESSMENT

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

KNOWLEDGE: Normal anatomy breast and nipple, axilla and related drainage, chest wall, abdominal wall.

Breast aesthetics. Embryology / developmental abnormalities: accessory nipples, hypo/hypertrophy, asymmetry.

Breast and endocrine physiology: endogenous hormones, puberty / menarche, pregnancy, lactation, menopause. Exogenous hormones OCP, HRT, SERMS etc.

Triple breast assessment: Understand indications, use, interpretation. Diagnostic grid/concordance.

Imaging: Ultrasound, mammography: standard views. Pathology Cytology - FNAC. Histology, core biopsy. Punch biopsy. Extended assessment Additional mammography views. MRI. Vacuum biopsy, surgical biopsy.

Management - Record findings. Interpret findings, develop plan, communicate findings and plan.

CLINICAL SKILLS: History. Examination Breast, nodal basin, relevant systems. Investigation Triple assessment. Imaging techniques. Ultrasound interpretation. Mammography interpretation.

TECHNICAL SKILLS: Fine needle aspiration – Cytology. Cyst/abscess drainage. Image guided. Core biopsy – Clinical. Image guided. Punch biopsy.

6.2 BENIGN BREAST CONDITIONS

OBJECTIVES: Assess and manage benign breast lumps, breast pain, nodularity and conditions affecting the nipple, congenital, developmental and aesthetic problems of the breast.

KNOWLEDGE: Applied anatomy. Embryology. Pathophysiology. Cysts. Fibroadenoma. Duct disease / ectasia / papilloma. Breast pain. Skin conditions eg eczema. Gynaecomastia. Breast sepsis - Lactational microbiology. Breast sepsis - non lactational. Periductal – microbiology. Other – microbiology.

CLINICAL SKILLS: History and Examination Breast, nodal basin, relevant systems. Investigation.

Triple assessment. Imaging techniques Ultrasound interpretation. Mammography interpretation. MRI - indications and interpretation. Management plan.

TECHNICAL SKILLS: Drainage of breast abscess Open. Image guided. Breast lump excision. Excision image guided lesion. Microdochectomy. Major duct excision. Fistulectomy. Nipple eversion. Breast Aesthetics: Reduction mammoplasty: Mastopexy. Oncoplastic techniques: Therapeutic mammoplasty. Round block. Grisotti: Symetrisation surgery. Augmentation.

6.3 BREAST CANCER

OBJECTIVES: Diagnose, assess, manage breast cancer - symptomatic and screen detected. Assess and manage atypical and precancerous lesions. Diagnose, assess and manage less common and advanced presentations of breast cancer. Assess and select patients for oncoplastic and reconstructive procedures. Perform oncoplastic and plastic surgical breast procedures and manage postoperative care and followup.

KNOWLEDGE: Genetics of breast cancer, family history. NICE Guidelines. Risk lesions - LCIS, ADH. Pathology of in-situ breast cancer. Epidemiology. Invasive breast cancer: taxonomy. Staging. Epidemiology. Cancer biology. Prognostic factors. Relevance to treatment. Risk assessment / genetic testing / counselling Advice, diet, lifestyle, screening, risk reduction surgery.

Screening Evidence, organisation. Delivery, imaging modality, results.

Cancer staging Bone scan, MRI, CT, PET, tumour markers etc.

Management/treatment Risks and benefits of treatment/no treatment. Treatment Indications for breast conservation / mastectomy / reconstruction. Neoadjuvant therapies including primary medical therapy. Indications for radiotherapy. Adjuvant chemotherapy - principles and indications. Endocrine therapies. Herceptin.

Breast Service Delivery and QA MultiDisciplinary Teams. Guidelines and protocols - network, national, etc NICE. ABS. NHSBSP. Others: ASCO, St Gallen.

CLINICAL SKILLS: History and Examination Breast, nodal basin, relevant systems. Investigation Triple assessment. Imaging techniques: Ultrasound interpretation. Mammography interpretation. MRI - indications and interpretation. Management plan Develop and record plan. Communication / informed consent.

TECHNICAL SKILLS: Wide local excision Palpable lesion. Impalpable lesion: localised - wire/skin mark etc. Re-coning. Therapeutic mammoplasty - various pedicles/incisions. Grisotti flap. Round block (Benelli).

Mastectomy: simple, modified, radical, skin sparing - nipple preserving, skin sparing - nipple sacrificed. Skin reducing.

Axillary surgery removal axillary breast tissue/nipple. Lymph node biopsy. Axillary clearance -Primary. Level 1-3. Axillary clearance -completion (delayed). Axillary surgery - repeat (recurrence). SLNB (dual technique). SLNB (blue dye only).

Reconstructive surgery - immediate and delayed implant only – variations: Latissimus dorsi flap + implant. Latissimus dorsi flap – autologous. TRAM flap pedicled. TRAM flap free. DIEP flap. Other flaps. Nipple areolar complex Nipple free graft. Nipple reconstruction local flap. Skin grafting, nipple tattooing. Nipple sharing.

Symetrisation surgery: Reduction mammoplasty. Mastopexy. Augmentation. Gynaecomastia. Developmental corrections – hypoplasia. Lipomodelling. Liposuction - Mammotome/encore system. Vacuum excision. Skin grafting - Chest wall resurfacing. Salvage surgery - VAC dressings. Complex wound management. New techniques.

7. **ENDOCRINE**

7.1 NECK SWELLINGS

OBJECTIVE: Assessment and management of neck swellings.

KNOWLEDGE: Anatomy of triangles of neck: submental, submandibular, anterior, posterior. Causes of enlargement of salivary glands / thyroid gland. Thyroglossal cyst, lymph nodes. Skin and soft tissue including branchial cyst. Cysts resulting from dental infections.

Investigation of neck swellings: diagnostic imaging, ENT assessment, pathology and biochemistry.

CLINICAL SKILLS: History and examination of neck swellings. Investigation. Diagnostic imaging. ENT assessment. Pathology. Biochemistry.

TECHNICAL SKILLS: Biopsy – FNA. Cervical lymph node biopsy.

7.2 THYROID GLAND

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

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

Post operative management: postoperative care after thyroid surgery.

KNOWLEDGE: Anatomy of the neck, in particular the thyroid and parathyroid glands. Pathophysiology of thyroid swellings: generalised/solitary; functioning/non-functioning.

Benign disorders of thyroid growth. Diffuse enlargement, nodular disease. Disorders of thyroid function Causes, Treatment options. Medical treatment of thyrotoxicosis.

Thyroid malignancy Differentiated, medullary, anaplastic, lymphoma.

Genetic implications of thyroid malignancy.

Principles of operation for thyroid swellings and thyrotoxicosis.

Complications of thyroid surgery.

Thyroid replacement therapy in benign disease.

Follow up and non-surgical management / treatment of thyroid malignancy.

CLINICAL SKILLS: History and examination.

Investigations: thyroid function tests, autoantibodies, FNA, Ultrasound, Isotope scan.

Indications for surgery: thyrotoxicosis, benign nodular disease, malignancy. Decisions for operative or non-operative management. Choice of operation.

Postoperative management. Postop bleeding, airway problems, hypercalcaemia.

Diagnosis and management of recurrent thyroid disease benign / malignant, MDT discussions.

TECHNICAL SKILLS: Thyroid lobectomy. Subtotal thyroidectomy. Total thyroidectomy. Thyroidectomy - toxic goitre. Thyroidectomy - total + cervical node dissection - central and lateral compartments. Thyroid surgery – reoperation. Cervical approach to retrosternal goitre. Sternotomy for retrosternal goitre.

7.3 PARATHYROID GLANDS and THYMUS

OBJECTIVE: Assessment and treatment of disorders of parathyroid function Diagnosis /Assessment: Diagnosis and assessment of disorders of parathyroid function.

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

Postoperative management: postoperative management after parathyroid surgery

KNOWLEDGE: Anatomy / embryology / pathophysiology. Genetic implication of parathyroid disease. Hypercalcaemia Causes. Investigation. Medical management. Hypocalcaemia Causes. Investigation. Medical management. Causes of hyperparathyroidism Primary, renal, MEN, persistent or recurrent carcinoma. Diagnosis and assessment. Indications for and types of imaging.

Indications for surgery in renal parathyroid disease. Surgical strategies for hyperparathyroidism. Intraoperative management frozen section, PTH assay.

Complications of parathyroid surgery. Options for and organisation of follow-up.

CLINICAL SKILLS: History and examination. Investigations - biochemical, radiological. Selection for surgery. Options for four-gland exploration, single gland exploration. Subtotal resection, transcervical thymectomy. Focussed approach to parathyroid surgery. Indications for mediastinal exploration.

Postop complications: Bleeding, airway problems, hypocalcaemia.

TECHNICAL SKILLS: Parathyroidectomy. Parathyroid surgery – reoperation. Thymectomy – transcervical.

7.4 ADRENAL GLAND

OBJECTIVE: Assessment and management of enlarged adrenal gland including operation. Diagnosis and assessment of adrenal swellings. Operative management: principles of operative management of adrenal swellings.

Postoperative management: basic postoperative management of patients who have had adrenalectomy.

KNOWLEDGE: Anatomy and physiology of adrenal. Genetic implications of adrenal disease. Causes of adrenal mass. Disorders of adrenal function Hyperadrenalism. Hypoadrenalism. Indications for surgery. Effect of hormone producing tumours in perioperative period. Open or laparoscopic surgery. Different approaches to adrenal: anterior, posterior, laparoscopic. Complications of adrenalectomy.

CLINICAL SKILLS: History and examination. Investigations - Biochemical, radiological. Selection for surgery. Preoperative preparation for hormone secreting tumours Endocrinologist, Anaesthetist consultation. Postop management of acute adrenal insufficiency. Postoperative management of patients with hormone secreting tumours. Management of postop bleeding and infection. Appropriate follow-up.

TECHNICAL SKILLS: Adrenalectomy.

7.5 ENDOCRINE PANCREAS

OBJECTIVE: Diagnosis, assessment and management of pancreatic endocrine tumours (level of involvement in diagnosis and operation may vary between HPB and endocrine units).

Diagnosis: Diagnosis and assessment of possible pancreatic endocrine tumours, often in consultation with other specialists.

Management: Management of pancreatic endocrine tumours, level of operative skill expected dependent on local arrangements.

Post-operative care: Management of both immediate and long-term care after surgery for pancreatic endocrine tumour

KNOWLEDGE: Presentation of neuroendocrine tumours Insulinoma, gastrinoma, MEN1, glucagonoma, VIPoma, non-functioning tumour. Investigation. Treatment options. Complications: bleeding, fistulae, diabetes.

CLINICAL SKILLS: History and examination. Investigations Biochemical, radiological, preop and intra-op, ERCP, EUS. Treatment options (laparoscopic or open) and preop preparation.

Pancreatic resection, enucleation, biliary bypass, hepatic resection, ablation of tumour. Metastatic disease management. Postop complications: indication for re-operation, pancreatic leak / fistula, nutrition.

TECHNICAL SKILLS: Reoperation. Pancreas enucleation. Distal pancreatectomy. Pancreatico-duodenectomy. Biliary bypass. Left hepatectomy. Right hepatectomy. Ablation of hepatic tumour.

7.6 MULTIPLE ENDOCRINE NEOPLASIA (***MEN***)

OBJECTIVE: Management of patients and families with proven or suspected MEN syndromes including MEN1, MEN2 and familial medullary thyroid cancer. A knowledge of the genetics and various presentations of patients with MEN diagnosis and management of MEN Disorders. Ability to diagnose and assess patients with MEN syndromes.

Operative Management. Postoperative management: Postoperative care, follow up.

KNOWLEDGE: MEN1, MEN2, familial medullary thyroid cancer. Genetics and screening. Pathophysiology. Clinical presentation. Subclinical disease. Natural history.

Diagnosis and management of medullary thyroid cancer, hyperparathyroidism, phaeochromocytoma, pancreatic neuroendocrine disease. Indications and timing for surgery Recurrent MTC, parathyroid disease. Complications of organ related operation. Recurrent disease.

CLINICAL SKILLS: History and examination. Investigations Biochemistry, radiology, cytology/histology, genetic.

Management of at-risk patients / families counselling, endocrinologist and genetics consultation. Choice of appropriate operation. Postoperative management relevant to specific operation. Multidisciplinary team attitude.

TECHNICAL SKILLS: Appropriate endocrine operation. Liaison with appropriate specialist eg pancreatic surgeon. Thyroid lobectomy. Total thyroidectomy. Thyroidectomy - retrosternal goitre. Total thyroidectomy + cervical node dissection. Thyroid surgery – reoperation. Transcervical thymectomy. Parathyroidectomy. Parathyroid surgery – reoperation. Adrenalectomy.

8. **HEAD AND NECK FOR GENERAL SURGEONS (excluding endocrine)**

OBJECTIVES: Ability to deal with common regional conditions and emergencies and refer serious problems appropriately.

KNOWLEDGE: Emergency upper airway obstruction.

Mucosal cancers of the oral cavity, pharynx and larynx. Parotid gland inflammation, obstruction, tumours and operative techniques.

Submandibular gland inflammation, obstruction, tumours and operative techniques.

Cervical lymphadenopathy.

Modified radical neck dissection.

Complications of operative techniques and their management

CLINICAL SKILLS: Management of - Emergency upper airway obstruction. Initial management of severe oral and maxillo-facial fractures Assessment of case. Referral to appropriate Specialist where indicated. Liaise with maxillo-facial Surgeon as part of a major trauma multi-disciplinary team.

Mucosal cancers of the oral cavity, pharynx and larynx.

Parotid gland inflammation, obstruction and tumours. Emergency treatment of infections and penetrating wounds liaising with specialist.

Submandibular gland inflammation, obstruction and tumours.

Cervical lymphadenopathy. Related complications and their management.

TECHNICAL SKILLS: Tracheostomy. Cricothyroidotomy. Resection of lip/tongue lesions. Submandibular duct lithotomy. Conversant with Sialo-endoscopy. Resection of Submandibular salivary gland. Lateral Parotidectomy. Dealing with emergency complications. Referral to appropriate Specialist where indicated.

9. UROLOGY for GENERAL SURGEONS

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

KNOWLEDGE: Acute urologic emergencies, including trauma and iatrogenic conditions.

Acute and chronic urinary retention. Voiding dysfunction, haematuria, urolithiasis.

Urologic reconstructive surgery: uro-enteric fistulae.

Pelvic, inguinal, and testicular pain.

Urinary tract neoplasia.

CLINICAL SKILLS: Surgical management of acute urologic emergencies. Acute and chronic retention of urine. Surgical management of urologic trauma and iatrogenic injuries. Diagnosis and management of voiding dysfunction.

Surgical management of female voiding dysfunction.

Surgical management of male Voiding Dysfunction.

Diagnosis and management of haematuria.

Diagnosis and management of nephrolithiasis.

Use of bowel in urologic reconstructive surgery: diagnosis and surgical management of uro-enteric fistulae.

Diagnosis and surgical management of pelvic, inguinal, and testicular pain.

Urinary tract neoplasia.

TECHNICAL SKILLS: Urethral and suprapubic catheterisation. Dealing with complications from urethral and suprapubic catheterisation. Management of urinary retention. Dealing with trauma to the urinary tract. Management of haematuria. Management of uro-enteric fistulae.

10. TRANSPLANT SURGERY for General Surgeons

10.1 ACCESS FOR DIALYSIS

OBJECTIVE: Gain an understanding of access for renal dialysis: principles of pre- and post-operative care, peritoneal access and vascular access ST6: Develop skills for providing access for renal dialysis ST8: Provide access for renal dialysis for most patients with renal failure.

KNOWLEDGE: Renal failure: classification, causes pathophysiology, treatment options. Renal dialysis Indications. Types of dialysis. Access sites. Timing of access. Complications. Vascular anatomy of upper and lower limbs. Preoperative and postoperative management. Cardiac function and venous conduits.

CLINICAL SKILLS: Preop preparation including investigations. Identify access site.

Needling techniques Buttonhole. Rope-ladder. PTFE grafts – indications.

Postop investigations. Fluid management. Drug therapy. Vascular complications diagnosis Steal, Venous hypertension, cardiac failure, aneurysm.

Postop complications Thrombosis. Haemorrhage. Infection. Continuous Ambulatory Peritoneal Dialysis (CAPD) peritonitis including sclerosing peritonitis.

TECHNICAL SKILLS: Insert central venous dialysis catheter (tunnelled). Insert and remove peritoneal catheters. A-V fistula ligation. Construct a-v fistula radio-cephalic, brachio-cephalic, brachio-basilic, basilic vein transposition, Access secondary vascular.

10.2 ORGAN RETRIEVAL

OBJECTIVE: The ability to retrieve abdominal organs for transplantation.

KNOWLEDGE: Contraindications to organ donation: general, organ specific.

Criteria for brain stem death and circulatory death. Pathophysiology of brain stem death and circulatory death. Principles of donor management. Principles of organ preservation.

Surgical anatomy of multi-organ retrieval.

CLINICAL SKILLS: Assess and manage donors, living and deceased. Multiple abdominal organ retrieval from deceased donors.

TECHNICAL SKILLS: Exposure to kidney retrieval - donor: deceased. Kidney retrieval - donor: live. Liver retrieval - donor: deceased hepatectomy. Pancreatic transplant - donor pancreatectomy.

10.3 KIDNEY TRANSPLANT

OBJECTIVE: Gain exposure to kidney transplantation; understand and apply principles of pre- and postoperative care and observe deceased and living donor transplantation. Ability to assess patients for kidney transplantation and manage their care.

KNOWLEDGE: Causes of acute kidney injury (AKI) and chronic kidney disease (CKD). Pathophysiology of AKI & CKD. Treatment options. Complications. Indications for kidney transplantation. Deceased and living kidney donation. Kidney anatomy and anomalies. Implantation site.

Immunology HLA matching, cytotoxic cross match, rejection, immunosuppression. Cytotoxic cross match. Rejection. Immunosuppression. Principles of pre and postop management.

CLINICAL SKILLS: Select appropriate patient from waiting list. Postop care - Fluid balance, drug therapy, renal biopsy. Postop complications Vascular, ureteric complications. Rejection. Infection. Drug side effects.

TECHNICAL SKILLS: (within scope of objective): Transplant - donor operation – deceased. Transplant - donor operation - live donor. Kidney transplant - complete operation - deceased donor. Kidney transplant - complete operation - live donor. Kidney transplant - complete operation – regraft.

10.4 PAEDIATRIC KIDNEY TRANSPLANTATION

OBJECTIVE: Ability to assess patients for kidney transplantation and manage their care.

KNOWLEDGE: Acute and chronic renal failure: causes, pathophysiology, treatment options, complications.

Indications and contraindications for kidney transplantation.

Deceased and living kidney donation. Kidney anatomy and anomalies. Implantation site. Immunology HLA matching, cytotoxic cross match, rejection, immunosuppression. Preop and postop management.

CLINICAL SKILLS: Select appropriate patient. Postop care with paediatric nephrologist. Fluid management, drug therapy, renal biopsy.

Postop complications Vascular, ureteric. Rejection, infection drug side effects.

TECHNICAL SKILLS: Paediatric (within the scope of Objective) - deceased donor kidney transplant. Paediatric live donor nephrectomy. Paediatric live donor transplant.

10.5 PANCREATIC TRANSPLANTATION

OBJECTIVE: Assessment of patients for pancreatic transplantation in consultation with physicians; operative management and postoperative care. Full competency is not expected.

KNOWLEDGE: Diabetes causes. Pathophysiology. Treatment options. Complications. Indications and contraindications for transplant in diabetes Kidney transplant alone. Simultaneous kidney + pancreas transplant. Pancreas transplant alone. Pancreas transplant after kidney transplant.

Indications and contraindications for pancreatic donation. Anatomy of pancreas. Implantation site. Immunology HLA match, cytotoxic cross match, rejection, immunosuppression.

Preop preparation and postop management.

CLINICAL SKILLS: Select appropriate patient. Postop care Fluid management, drug therapy, pancreatic biopsy. Postop complications Vascular, duct leaks, pancreatitis. Rejection, infection, drug side effects.

TECHNICAL SKILLS (Within the scope of Objective): Pancreatic transplant - donor pancreatectomy. Pancreatic transplant implant graft. Convert bladder drainage to enteric drainage.

10.6 LIVER TRANSPLANTATION

OBJECTIVES: Assess and manage patients undergoing liver transplantation with assistance: Assess and manage patients undergoing liver transplantation.

KNOWLEDGE: Acute and chronic liver failure: causes, pathophysiology, complications.

Treatment options. Indications and contraindications. Liver transplant. Deceased and live liver donation. Liver anatomy. Anatomical variants.

Surgical anatomy for splitting, reduction, live donation.

Immunology: rejection, immunosuppression.

Preoperative preparation and postoperative management. Perioperative management. Complications of liver transplantation.

CLINICAL SKILLS: Select appropriate patients. Postoperative care fluid management, drug therapy, liver biopsy.

Diagnose and treat complications: vascular, biliary, rejection, infection, recurrent disease, drug side effects. Liver biopsy.

TECHNICAL SKILLS: (Within the scope of Objective): Liver transplant - donor - deceased hepatectomy. Liver transplant - recipient operation.

11. PAEDIATRIC SURGERY for General Surgeons

11.1 THE CHILD with ABDOMINAL PAIN

OBJECTIVES: The ability to assess and manage a child with abdominal pain including appendicectomy.

KNOWLEDGE: Pattern of symptoms and relation to likely pathology and age of child. Differential diagnosis. Place and value of investigations. Place of operative intervention, and associated outcomes.

CLINICAL SKILLS: Ability to assess ill child. Ability to form a viable investigation and treatment plan.

TECHNICAL SKILLS: Appendicectomy. Laparotomy/laparoscopy.

11.2 THE CHILD with INTUSSUSCEPTION

OBJECTIVE: The ability to assess and manage a child with intussusception including referral for radiological or surgical reduction

KNOWLEDGE: Pattern of symptoms and relation to likely pathology and age of child. Role of radiology both for diagnosis and interventional management. Differential diagnosis.

CLINICAL SKILLS: Ability to assess child, recognise severity of illness, to take appropriate resuscitative measures and to form a viable investigation and treatment plan. Treatment plan: ability to communicate with all relevant age groups, including referral for specialist treatment. Reduction of intussusception.

11.3 THE CHILD with ACUTE GROIN/SCROTAL PAIN

OBJECTIVES: The ability to assess and manage a child with incarcerated inguinal hernia. The ability to assess and manage a child with an acute scrotal condition.

KNOWLEDGE: Inguinal Hernia: developmental anatomy, natural history, indications for and outcomes of surgery.

Acute scrotal pain. Natural history. Place of conservative management. Indications for and outcomes of surgery.

CLINICAL SKILLS: Inguinal hernia. Ability to assess child and reach appropriate diagnosis. Ability to form a treatment plan and refer on when necessary. Acute scrotum - Ability to access child and reach appropriate diagnosis. Ability to form a treatment plan and refer on when necessary.

TECHNICAL SKILLS: Inguinal hernia - Inguinal hernia (not neonatal) operation. Acute scrotum - Operation for testicular torsion.

11.4 THE CHILD with NON-ACUTE GROIN CONDITION

OBJECTIVE: The ability to assess and manage a child with a common groin condition: child with undescended testis including orchidopexy in straightforward cases, penile inflammation, inguinal hernia, hydrocele.

KNOWLEDGE: Undescended testis: developmental anatomy, natural history of undescended testis and retractile testis. Place of conservative management. Indications for and outcomes of surgery. Penile inflammatory conditions: developmental anatomy, natural history. Place of conservative management. Indications for and outcomes of surgery.

Inguinal hernia: developmental anatomy, natural history. Indications for and outcomes of surgery. Hydrocele: developmental anatomy, natural History. Place of conservative management. Indications for and outcomes of surgery.

CLINICAL SKILLS:

Undescended testis: assessment and diagnosis; ability to form a treatment plan; ability to differentiate true undescended testis from retractile variant.

Penile inflammatory conditions: assessment and diagnosis; ability to form a treatment plan.

Inguinal hernia: assessment and diagnosis; ability to form a treatment plan.

Hydrocele: assessment and diagnosis; ability to form a treatment plan.

TECHNICAL SKILLS: Undescended testis: orchidopexy. Penile inflammatory conditions: circumcision. Inguinal hernia: operation. Hydrocele: operation.

Liaise with Paediatric Surgeon or Paediatric Urologist when indicated

11.5 THE CHILD with VOMITING

OBJECTIVE: The ability to assess a child with vomiting.

KNOWLEDGE: Patterns of symptoms and relation to likely pathology. Significance of bile-stained vomiting. Place and value of investigations. Differential diagnosis. Methods of medical management. Place of operative intervention, and associated outcomes.

CLINICAL SKILLS: Ability to assess ill child including an assessment of severity of dehydration. Ability to form a viable investigation and treatment plan.

TECHNICAL SKILLS: Pyloromyotomy for pyloric stenosis.

11.6 THE CHILD with CONSTIPATION

OBJECTIVE: The ability to assess and manage a child with constipation.

KNOWLEDGE: Pattern of symptoms and relation to likely pathology and age of child. Place and value of investigations. Differential diagnosis to include medical anomalies and sociopsychological aspects of symptom.

CLINICAL SKILLS: Ability to assess child. Ability to form a viable investigation and treatment plan. To include community aspects of further management.

TECHNICAL SKILLS: Manual evacuation.

11.7 THE CHILD with an ABDOMINAL WALL CONDITION

OBJECTIVE: The ability to assess and manage a child with abdominal wall hernia. The ability to assess and manage a child with epigastric hernia. The ability to assess and manage a child with supra-umbilical hernia. The ability to assess and manage a child with umbilical hernia.

KNOWLEDGE: Developmental anatomy, natural history, indications for and outcomes of surgery for epigastric hernia, supra-umbilical hernia, umbilical hernia. Place of conservative management.

CLINICAL SKILLS: Ability to assess child and reach appropriate diagnosis for epigastric hernia, supra-umbilical hernia, umbilical hernia. Ability to form a treatment plan.

TECHNICAL SKILLS: Epigastric hernia: Abdominal wall hernia operation. Supra-umbilical hernia: Abdominal wall hernia operation. Umbilical hernia: Abdominal wall hernia operation.

11.8 THE CHILD with a UROLOGICAL CONDITION

OBJECTIVE: The ability to assess and manage a child with a common urological condition. The ability to assess a child with haematuria. The ability to assess a child with urinary tract infection. The ability to assess whether circumcision is indicated and carry it out.

KNOWLEDGE: Haematuria Pattern of symptoms and relation to likely pathology and age of child. Place and value of investigations. Differential diagnosis. Urinary Tract Infection - Pattern of symptoms and relation to likely pathology and age of child. Place and value of investigations. Differential diagnosis. Circumcision Developmental anatomy of the foreskin. Natural history of the foreskin.

CLINICAL SKILLS: Haematuria: Ability to assess child. Ability to form a viable investigation and treatment plan. Urinary Tract Infection: Ability to assess child. Ability to form a viable investigation and treatment plan. Ability to communicate with all relevant groups. Circumcision: ability to assess indications. Urethral catheter insertion.

TECHNICAL SKILLS: Haematuria: suprapubic catheter insertion. Circumcision.

11.9 THE CHILD with HEAD and NECK SWELLINGS

OBJECTIVE: The ability to assess and manage a child with a head and neck swelling.

KNOWLEDGE: Pattern of symptoms and relation to likely pathology and age of child. Place and value of investigations. Differential diagnosis. Relevance of embryonic development of head and neck structures.

CLINICAL SKILLS: Ability to assess child. Ability to form a viable investigation and treatment plan.

TECHNICAL SKILLS: Lymph node excision-biopsy. Liaise with Head and Neck Surgeons where indicated.

Liaise with Paediatric Surgeon or Head and Neck surgeon when indicated

11.10 TRAUMA in CHILDREN

OBJECTIVE: The ability to assess and manage a child with trauma.

KNOWLEDGE: Algorithms for assessment of trauma victims - primary survey. Algorithms for assessment of trauma victims - secondary survey. Likely effects of different types of trauma and relation to age of child. Investigation protocols and local variations thereof. Awareness of Non Accidental Injuries (NAI) and local procedures for dealing with this category of trauma.

CLINICAL SKILLS: Ability to appropriately assess trauma cases and carry out resuscitative measures. Ability to prioritise interventions. Ability to act as part of a team or lead team as appropriate. PALS course.

TECHNICAL SKILLS: Chest drain insertion. Central venous line insertion. Suprapubic catheter insertion.

Liaise with Paediatric Surgeon when indicated.

11.11 MISCELLANEOUS PAEDIATRIC SURGERY for GENERAL SURGEONS

OBJECTIVE: The ability to assess and manage a child with superficial abscess or with ingrowing toenail.

KNOWLEDGE: Superficial abscess: causes in children. Anatomy of underlying structures. Predisposing conditions. Ingrowing toenail: Causes of ingrowing toenail. Anatomy of nail and nail bed. Treatment options available.

CLINICAL SKILLS: Superficial abscess: history and examination. Recognition of the need for other investigation. Recognition of need for drainage or antibiotics.

Ingrowing toenail: history and examination; recognition of need for operative treatment.

TECHNICAL SKILLS: Superficial abscess: drainage. Ingrowing toenail: ingrowing toenail operation.

12. PLASTIC SURGERY for General Surgeons

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: Pathophysiology of burn injury. Complications of burn injury. Types of skin grafts. Skin grafting (split and full-thickness. Dupuytren's contracture. Peripheral nerves repair.

CLINICAL SKILLS: Assessment and resuscitation of burn victims. Identification of burn victims with potential airway problems and emergency management in conjunction with anaesthetists. Appropriate referral and transfer to regional burns centre. Management of minor burns conservatively.

TECHNICAL SKILLS: Initial assessment and resuscitation of burns cases. Collaboration with burns Centre and immediate transfer.

13. NEUROSURGERY for General Surgeons

OBJECTIVE: Ability to deal with minor head injuries and to refer serious head and spinal injuries. In extreme circumstances, emergency surgical treatment of serious head injuries may be necessary. Principles of safe initial management and referral. (See chapter 3.4).

KNOWLEDGE: Anatomy of skull, brain and meninges. Pathophysiology of head injury. Appropriate emergency investigation of head injuries. Indications for surgical intervention in extreme circumstances after discussion with regional neurosurgical centre.

CLINICAL SKILLS: Assessment and resuscitation of head injuries and spinal injuries. Appropriate referral.

TECHNICAL SKILLS: Burr hole(s)/craniotomy.

14. SURGERY on the MUSCULOSKELETAL SYSTEM

OBJECTIVE: Trauma (e.g. operative osteosynthesis, soft tissue injuries). Infection (e.g. diabetic foot, defects of the skin and soft tissue, compartment syndrome, amputations).

TECHNICAL SKILLS: Management of infections in the various hand compartments, treatment of carpal tunnel disease, trigger finger and Dupuytren's disease.

15. INTERVENTIONAL RADIOLOGY for General Surgeons

OBJECTIVE: Radiation safety, principles and indication for imaging and intervention. Understand basics of peripheral angiography and intervention.

KNOWLEDGE: Principles of physics and safety of ionising radiation (staff and patients).
Different organ sensitivity and cumulative safe dose. Statutory requirements for use of ionising radiation. Risk of skin injuries. Radiation protection and monitoring. Complications of interventional radiation use. Arterial and venous access sites. Measures to improve angiographic image. Risks of radiation contrast. Risks of angiography and intervention. Indications for angioplasty / stenting. Expected results of angioplasty / stenting. Role of endovascular interventions. Medical / surgical therapy. Role of different catheter types. Use of different guidewire types.

CLINICAL SKILLS: Safe use of radiation equipment: use of protective equipment:
Use of minimal dose of radiation: Minimise risk of blood borne pathogens in radiology suite. Complications. Angioplasty: Stenting

TECHNICAL SKILLS: Retrograde femoral artery puncture. Antegrade femoral artery puncture. Other sites for arterial puncture. Ultrasound guided vascular puncture. Venous access.
Secure vascular access with sheath. Flushes catheter and sheath. Position guidewire using fluoroscopy. Place non-selective catheter in aorta. Diagnostic angiograms: peripheral, renal, mesenteric, fistula. Recognises inadequate study.

Angioplasty: safely negotiate stenosis, appropriate balloon, check angiogram.

Stenting: primary and secondary stenting.

16. ONCOLOGY for GENERAL SURGEONS

OBJECTIVE: Basic understanding of the principles of Surgical Oncology. Knowledge of risk factors and presentation of common cancers. Knowledge and practice of the basics of management for common cancers. Understanding of the evaluation of different cancer treatments.

KNOWLEDGE: Cancer epidemiology and presentations. Aetiology and epidemiology of malignant disease, terminology. Environmental and genetic factors in carcinogenesis. Evaluate risk factors for malignant disease. 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: 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: cellular and humoral components of the immune system; regulatory mechanisms of immune system; tumour antigenicity; immune mediated anti-tumour 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 treatment and their evaluation: 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. 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.

CLINICAL SKILLS: Cancer epidemiology and presentations: recognise symptoms and signs of cancer. Initiate appropriate diagnostic and staging investigations for common solid tumours. Staging, prognosis and treatment planning. 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. Elementary principles in biostatistics and commonly used statistical methods (parametric, versus nonparametric etc.). Ethical and legal aspects of research. Present local audits; publication, presentation of case reports.

TECHNICAL SKILLS: Staging, prognosis and treatment planning.

Malignant skin lesion-excision biopsy.

Lymph node biopsy-groin, axilla.

Central venous line insertion.

Laparotomy/laparoscopy.

UEMS EBSQ GENERAL SURGERY CURRICULUM

General aspects of Curriculum

The Curriculum is based on the Syllabus, but goes beyond this in that it introduces the concept of *Entrustable Professional Activity (EPA*). In addition to details about the objectives, academic content, it also refers to the *methodologies* to be adopted and the appropriate bodies that are entrusted with this aspect. Thus, a careful reading of the **Syllabus (refer to the appropriate section),** is essential in order to appreciate the Curriculum with the proper perspective. One should not be alienated by the volume and detail of the Syllabus, which is intrinsic to its nature. This is in contrast to the Syllabus which is essentially descriptive and explicitly describes what areas are required to be covered in General Surgery.

The Curriculum is designed to define training across the entire discipline of General Surgery. Although trainees may develop particular specialty biases, they are required to have acquired core knowledge, skills and attitudes in General Surgery. Detailed instructional methods and integrated feedback mechanisms are within the remit of the respective training programmes and the appropriate Training Programmes and national local bodies employ CEX, Mini-CEX, Mini-PAT, OSATS, PACES, PBA, and RITA (refer to List of Acronyms and Glossary) in their Formative Assessments.

One essential skill is to realise that one should liaise or ask for help when this becomes necessary. Developing good interfaces with other-specialties, disciplines and also professions, is key in such situations.

In general:

a. Knowledge will be assessed by Part 1 and Part 2 of the Examination and by CBD (Case based discussions) in the Formative Assessments.

b. Clinical skills will be assessed by CEX and Part 2 (Clinical) of the EBSQ Exam

c. The use of scenarios within Part 2 (Clinical) allows a wide range of clinical skills to be assessed.

d. Technical skills will be assessed by DOPS and PBA

e. Non-technical skills will be assessed by MSF

The accreditation of a competence is primarily the teaching responsibility of the local supervising Tutor and the learning responsibility of the trainees themselves. **There is an ethical responsibility on both the trainer and the trainee to ensure that the accreditation of any particular competence is valid from the viewpoint of patient safety and that this is adequately documented and certified.** Centralised E- Portfolio with facilities for feedback is in the early planning phase. It is hoped that this will be developed by the UEMS Section and Board of Surgery, through their common Electronic Platform. This will allow access to CEX, Mini-CEX, Mini-PAT, OSATS, PACES, PBA, and RITA, by Training Centres which do not practice this for technical reasons. It would also allow a continuous monitoring, not only of the performance of trainees, but also that of the Training Centre, in an efficient and cost-effective manner.

During their training, doctors will acquire a variety of competencies. The acquisition of these competencies needs to be assessed and documented initially in a formative process and thereafter in a summative and maintenance process. Valid tools for assessing and documenting the successful acquisition of competencies must be available to trainees and trainers during the programme. Although these instruments will vary throughout the European area, it is important that full documentation of competence acquisition occurs. Details of the ***methodologies to be adopted*** during training in order to achieve the aims may be found under: Training requirements for Trainee, Training requirements for Trainers and Requirements for Training Institutions. The UEMS Division of General Surgery provides a Logbook template and an E-Portfolio to facilitate the documentation process.

There are also 5 general competences to assess from the comprehensive review of the competence-based Logbook and the Assessments:

- Providing patient-centred care
- Ability to work in interdisciplinary teams

- Employing evidence-based practice
- Applying quality improvement
- Utilising information and other technologies

Since one is aware of the different contents and emphasis of training programmes in different countries, the methodologies in those training programmes to be followed are considered to be within the remit of the appropriate national or local educational authorities who will be required to certify the consistency of the Surgical Training. This should lead to the attainment of the following *Entrustable Professional Activities (EPAs).* The attainment of the compulsory EPAs (in red **on the Logbook – Appendix 1**) is expected of an applicant for the UEMS EBSQ General Surgery Examination, in addition to the content of the Syllabus. The Curriculum emphasises the required competencies that General Surgeons passing an Exit Examination should have, especially when dealing with emergency surgical situations in on-call practice. In practice our exam requires competencies on a par, (or exceeding) reasonable clinical behaviours / competencies of a Surgeon ready for a Consultancy/ Attending Surgeon autonomous role. This is compatible with an Exit Examination.

Entrustable Professional Activity (EPA) as a competence-based Unit

Introduction

In order to apply a competence-based assessment to the e-Portfolio and Logbook, the concept *of Entrustable Professional Activity (EPA*) is being included in Eligibility evaluation. An EPA is 'a critical part of professional work that can be identified as a unit to be ***entrusted*** to a trainee once sufficient competence has been reached'. An EPA goes a level higher than the traditional 4th level of competence which is the 'independence competency'. The key factor is ***Entrustment.*** The trainee is not only capable of tackling the particular procedures or units independently, but he can be trusted to do this by his tutors. The units listed include the competencies that surround these procedures that are further explained in the Syllabus Clinical Skills sections.

Thus, the EPA is an integral part of the Logbook and is a comprehensive and holistic tool for Competence Based Assessment. It serves as a bridge between the Syllabus/Curriculum and the Eligibility Assessment.

Because the emphasis and attitudes regarding the spectrum of competences and education within General Surgery varies significantly because individual states, one cannot expect all applicants to have attained EPA competency in each and every item listed in the EPA Units. The Eligibility Committee applies the correct degree of flexibility allowing for equivalence of some procedures. The EPAs which are considered as essential and those which are considered as desirable but not essential, are clearly indicated in the Logbook Template.

EPA UNITS applied to Curriculum:

1. GENERAL ASPECTS of SURGERY

1a. LESIONS OF SKIN AND SUBCUTANEOUS TISSUES

TECHNICAL SKILLS: Basal cell carcinoma: Malignant skin lesion-excision biopsy (small). Malignant melanoma: Malignant skin lesion-excision biopsy melanoma (small). Squamous cell carcinoma: Malignant skin lesion-excision biopsy (small).

1b RETICULO-ENDOTHELIAL SYSTEM

TECHNICAL SKILLS: Management of lymphatic conditions: Biopsy -FNA. Liver biopsy. Lymph node biopsy-groin, axilla. Conditions involving the spleen: Splenectomy. Management of trauma to the spleen.

1c. FLUID AND ELECTROLYTE BALANCE

1d. SURGICAL NUTRITION

TECHNICAL SKILLS: Insertion of nasogastric tube and confirmation of position. Insertion of nasojejunal tube, using bedside imager, radiological screening or endoscopy. PEG tube insertion / replacement, including jejunal extensions. Formation of feeding enterostomy (open / lap). Vascular access for parenteral feeding, including peripheral access, PICC and tunnelled or cuffed central lines or implantable ports.

1e. VENOUS THROMBOSIS AND EMBOLISM

CLINICAL SKILLS: Coagulation: Recognition of patients at risk. Diagnosis: Awareness of symptoms and signs associated with pulmonary embolism and DVT. Treatment: Initiate and monitor treatment.
Prophylaxis: Awareness at all times of the importance of prophylaxis.

1f. CLINICAL METHODOLOGY

SKILLS: Working in an uncertain and probabilistic atmosphere. Data collection and elaboration. Making best use of current evidence. Investigating wisely. Deciding on the next step. Application of Scoring systems. Appraisal of research evidence. Involvement in interfaces. Making best use of new technology. Continuous Professional Development (CPD).

1g. DIAGNOSTICS: Indications for, and interpretation of, laboratory and imaging investigation.

1h. OUTPATIENT SKILLS

TECHNICAL SKILLS: Individual patient assessment: Sigmoidoscopy-rigid. Haemorrhoids-OP treatment (injection/banding or infrared coagulation).

1i. GENETIC ASPECTS of SURGICAL DISEASE

Eliciting a Family history, including genetic tests results, referring to Cancer Registries, and the importance of referral to Clinical Genetic Departments

1j. NON-TECHNICAL SKILLS in GENERAL SURGERY

Involves: Professionalism, Situation awareness, clinical reasoning and methodology, decision making, communication & teamwork, and leadership. Competence in these fields is monitored and documented through Multi-source Feedback. In the case of Professionalism, this is directed at:

Responsibilities to patients which include:

1. serving as advocates for patients' needs;
2. complete disclosure of therapeutic options;
3. disclosure of conflict of interest that might influence the medical decision;
4. respecting and understanding patients;
5. full disclosure of adverse events and medical errors;
6. acknowledgment of patients' psychological, social, cultural, and spiritual needs;
7. encompassing special needs of terminally ill patients;
8. supporting the needs of patients' families;
9. respecting other health care professionals.

Responsibilities to society which include which include:

1. providing the highest quality of surgical care;
2. abiding by the values of honesty, confidentiality, and altruism;
3. lifelong learning;
4. maintaining surgical competence;
5. self-regulation through setting, maintaining, and enforcing practice

standards;

6. evaluating treatment outcomes to improve the quality of care;

7. informing public of the expertise;

8. improving public health by communicating with government, healthcare organisation, and industry;

9. establishing an effective and efficient distribution of healthcare resources;

10. providing care without socioeconomic discrimination;

11. participating in educational programs addressing professionalism.

2. ABDOMINAL SURGERY

2.1 ABDOMINAL WALL

CLINICAL SKILLS Ability to determine that a swelling is in the abdominal wall. Initiate appropriate investigation. Management.

2.2 ELECTIVE HERNIA

TECHNICAL SKILLS: Hernia repair-femoral. Hernia repair-incisional. Hernia repair-incisional recurrent. Hernia repair-inguinal. Hernia repair-inguinal recurrent. Hernia repair-umbilical/paraumbilical. Hernia repair-epigastric.

2.3 UPPER GI

ACUTE DYSPHAGIA

TECHNICAL SKILLS: Endoscopy. Endoscopic palliation including stenting.

OESOPHAGEAL VARICES

TECHNICAL SKILLS Endoscopy. Variceal injection. Balloon tamponade.

IATROGENIC OESOPHAGEAL PERFORATION

TECHNICAL SKILLS: Endoscopy. Endoscopic interventions including stents. Thoracotomy + lavage. Oesophagectomy or requesting help.

GASTRO-OESOPHAGEAL REFLUX DISEASE

TECHNICAL SKILLS: Endoscopy. Antireflux surgery.

HIATUS HERNIA

TECHNICAL SKILLS Endoscopy. Open repair. Laparoscopic repair.

PEPTIC STRICTURE

TECHNICAL SKILLS Endoscopy. Oesophageal dilatation.

ACHALASIA

TECHNICAL SKILLS: Endoscopy. Endoscopic dilation.

MOTILITY DISORDERS

TECHNICAL SKILLS: Endoscopy.

CARCINOMA OF THE OESOPHAGUS

TECHNICAL SKILLS: Endoscopy. Endoscopic palliation including stenting.

GASTRIC ULCER

TECHNICAL SKILLS: Endoscopy. Endoscopic therapy. Laparoscopy. Local treatment, ulcer excision. Gastroenterostomy. Partial gastrectomy.

DUODENAL ULCER

TECHNICAL SKILLS: Endoscopy. Endoscopic therapy. Laparoscopy. Local treatment, ulcer underrun/oversew. Gastroenterostomy. Partial gastrectomy. Vagotomy and pyloroplasty.

GASTRIC AND DUODENAL POLYPS

TECHNICAL SKILLS: Endoscopy. Endoscopic excision. EMR. Laparoscopy. Open excision. Partial gastrectomy.

ACUTE PERFORATION

TECHNICAL SKILLS: Laparoscopy. Local treatment, ulcer closure or excision. Partial gastrectomy.

GASTROINTESTINAL BLEEDING (see also acute gastric bleeding)

TECHNICAL SKILLS: Diagnostic gastroduodenoscopy. Flexible sigmoidoscopy/colonoscopy. Referral for appropriate imaging.

ACUTE UPPER GI HAEMORRHAGE

TECHNICAL SKILLS: Endoscopy. Endoscopic therapy. Gastrotomy + non-resectional treatment – histology. Partial gastrectomy. Total gastrectomy or asking for help.

ACUTE GASTRIC DILATION

TECHNICAL SKILLS: NG tube insertion. Endoscopy. Gastrectomy or asking for help.

ACUTE GASTRIC VOLVULUS

TECHNICAL SKILLS: Endoscopy. Gastropexy. Hiatus hernia repair. Total gastrectomy or asking for help.

GASTRIC CARCINOMA

TECHNICAL SKILLS: Endoscopy. Endoscopic palliation including stenting. EMR. Gastrojejunostomy. Palliative gastrectomy. Subtotal gastrectomy. Referral.

GIST

TECHNICAL SKILLS: Endoscopy. Laparoscopy. Open excision. Small bowel resection. Partial gastrectomy. Referral.

GASTRIC LYMPHOMA

TECHNICAL SKILLS: Endoscopy. Gastrojejunostomy. Total gastrectomy. Referral.

2.4 HEPATOBILIARY and PANCREATIC

GALLSTONE DISEASE

TECHNICAL SKILLS: Cholecystectomy - laparoscopic / open. Cholecystostomy. Exploration CBD.

ACUTE PANCREATITIS

TECHNICAL SKILLS: Cholecystectomy. Exploration CBD. Necrosectomy. Pseudocyst drainage.

CHRONIC PANCREATITIS

TECHNICAL SKILLS: Pseudocyst drainage. Referral.

PANCREATIC CANCER / PERIAMPULLARY CANCER

TECHNICAL SKILLS: Biliary bypass. Gastroenterostomy. Referral.

PANCREATIC TRAUMA

TECHNICAL SKILLS: Cholecystectomy. Debridement & drainage. Pseudocyst drainage. Ask for help.

LIVER METASTASES

TECHNICAL SKILLS: Peripheral wedge. Referral.

PRIMARY LIVER CANCER

TECHNICAL SKILLS: Referral.

CHOLANGIOCARCINOMA AND GALLBLADDER CANCER

TECHNICAL SKILLS: Referral.

BENIGN AND CYSTIC TUMOURS

TECHNICAL SKILLS: Referral.

LIVER TRAUMA

TECHNICAL SKILLS: Salvage surgery eg packing. Debridement & hepatectomy or ask for help.

2.5 COLORECTAL

ACUTE PAINFUL PERI-ANAL CONDITIONS

TECHNICAL SKILLS: EUA, rigid sigmoidoscopy, drain perianal haematoma. Treat perianal abscess, anal fissure. Lateral sphincterotomy. Anal advancement flap for fissure/stenosis.

HAEMORRHOIDS

TECHNICAL SKILLS: Haemorrhoids-OP treatment(injection/banding/infrared). Haemorrhoidectomy-operative. Haemorrhoidectomy-stapled.

ABSCESS AND FISTULA

TECHNICAL SKILLS: Fistula-in-ano-low-lay open. Fistula-in-ano-high-drainage Seton. Fistula-in-ano-high-cutting seton. Fistula-in-ano-high-advancement flap. Fistula-in-ano - placement of fistula plug. Management of anorectal abscess including preoperative and postoperative care and the appropriate procedure based on anatomical spaces.

PILONIDAL DISEASE

TECHNICAL SKILLS: Drainage of pilonidal abscess. Pilonidal sinus-lay open. Pilonidal sinus-excision + suture. Karadakis procedure. Pilonidal sinus-graft or flap.

ANAL STENOSIS

TECHNICAL SKILLS: Anal advancement flap for fissure/stenosis.

SEXUALLY TRANSMITTED DISEASE

TECHNICAL SKILLS: Anal skin tags/warts-excision. Topical treatment.

DIVERTICULAR DISEASE

TECHNICAL SKILLS: Colectomy-left. Colectomy-sigmoid. Colostomy-construction. Hartmann's procedure. Hartmann's reversal.

ACUTE COLONIC DIVERTICULITIS

TECHNICAL SKILLS Perform laparoscopy and washout with drainage for appropriate patients. Colectomy-left. Colectomy-sigmoid. Colostomy-construction. Hartmann's procedure.

COLONIC VOLVULUS

TECHNICAL SKILLS: Sigmoidoscopy-rigid. Sigmoidoscopy-flexible. Colonoscopy-diagnostic. Colonoscopy-therapeutic. Appropriate operative procedures for volvulus depending on site.

MASSIVE LOWER GI BLEEDING

TECHNICAL SKILLS: Colonoscopy-diagnostic. Colonoscopy-therapeutic. Colectomy-total+ileostomy. Colectomy-right. Colectomy-left. Colectomy-sigmoid. Colostomy-construction. Meckel's diverticulectomy. Hartmann's procedure’ Ileostomy-construction.

ACUTE COLITIS

TECHNICAL SKILLS: Colectomy-right. Colectomy-transverse. Colectomy-left. Colectomy-sigmoid. Colectomy-total+ileostomy. Colectomy-total+ileorectal anastomosis. Crohn's-ileocaecectomy. Call for help.

COLON TRAUMA

TECHNICAL SKILLS: Colon-primary repair. Colectomy-right. Colectomy-left. Colectomy-sigmoid. Colectomy-transverse. Colectomy-total+ileostomy. Hartmann's procedure. Colostomy-construction. Ileostomy-construction.

RECTAL TRAUMA

TECHNICAL SKILLS: Colostomy-construction. Hartmann's procedure. Ileostomy construction. Rectum-operation for trauma.

ANAL TRAUMA

TECHNICAL SKILLS: Colostomy construction. Anal sphincter repair including postanal repair, anterior sphincter repair + rectocele repair or refer.

FOREIGN BODIES

CLINICAL SKILLS: Perform various methods of extraction of foreign bodies and assess the indications for surgery.

COLORECTAL NEOPLASIA

TECHNICAL SKILLS: Colonoscopy-diagnostic. Colonoscopy-therapeutic. Colectomy-left. Colectomy-right. Colectomy-transverse. Colectomy-sigmoid. Colectomy-total+ileostomy. Colostomy-construction. Ileostomy-construction.

RECTAL CANCER

TECHNICAL SKILLS: Familiarity with endoscopic diagnosis and CT and MRI imaging approaches. Decision-making for transanal treatment. Peranal excision of rectal lesion. Rectum-posterior approach. Rectum-anterior resection (stapled). Rectum-anterior resection - coloanal anastomosis. Rectum-AP excision (including ELAPE). Referral.

ANAL NEOPLASIA

TECHNICAL SKILLS: Decision on role of Chemo and Radio-therapy. Selection of cases for surgery: Anal tumour-excision. Rectum-AP excision.

RECTAL PROLAPSE

TECHNICAL SKILLS: Prolapse-abdominal rectopexy. Prolapse -rectopexy + sigmoid resection. Prolapse-perineal repair. STARR Procedure. Ventral mesh rectopexy.

ULCERATIVE COLITIS

TECHNICAL SKILLS: Colectomy-total+ileostomy. Colectomy-total+ileorectal anastomosis. Rectum-panproctocolectomy+ileostomy. Ileoanal anastomosis+creation of pouch.

CROHN'S DISEASE

TECHNICAL SKILLS: Rectum-panproctocolectomy+ileostomy. Colectomy-right. Colectomy-transverse. Colectomy-left. Colectomy-sigmoid. Colectomy-total+ileostomy. Colectomy-total+ileorectal anastomosis. Crohn's-ileocaecectomy. Strictureplasty-Crohn's. Gastroenterostomy. Intestinal fistula operation. Fistula-in-ano-high-advancement flap. Fistula-in-ano-high-cutting seton. Fistula in ano-high-drainage seton. Fistula-in-ano-high-other. Fistula-in-ano-low-lay open. Fistula-operation for rectovaginal fistula. Referral.

STOMAS

TECHNICAL SKILLS: Ileostomy-construction. Colostomy-construction. Ileostomy-closure. Colostomy-closure. Hartmann's reversal. Colostomy-revision. Ileostomy-revision. Hernia repair-parastomal.

2.6 MORBID OBESITY, BARIATRIC SURGERY

TECHNICAL SKILLS: Laparoscopic access in the morbidly obese. General Surgery for the super morbidly obese

2.7 VASCULAR MALFORMATIONS

TECHNICAL SKILLS: Colonoscopy-diagnostic. Colonoscopy-therapeutic.

2.8 LAPAROSCOPIC SURGERY

TECHNICAL SKILLS: Closed and open techniques for port insertion. Diagnostic laparoscopy. Laparoscopic suturing and knotting. Control of laparoscopic bleeding.

3. TRAUMA

TRAUMA PRINCIPLES (includes Abdominal Injuries)

CLINICAL SKILLS: Triage. History and examination. Resuscitation. Investigations. Appropriate use of radiographs, CT and ultrasound. Indications for intervention. Recognition of injuries requiring other specialties. Management of hollow organ injury. Understand indications for Damage Control vs Definitive Surgery.

ABDOMEN AND THORAX TRAUMA

TECHNICAL SKILLS: Closed and Penetrating thoracic injury: Chest drain insertion. Lateral thoracotomy. Closed and penetrating abdominal injury Laparotomy – trauma. Packing / debridement of liver trauma. Splenectomy. Splenic repair. Small bowel resection. Pancreatic debridement and drainage. Mobilisation and repair of the duodenum' Medial rotation of left hemicolon and colectomy when appropriate. Medial rotation of right hemi colon and colectomy when appropriate. Hartmann's Procedure. Nephrectomy. Bladder repair. Ileostomy – construction. Colostomy – construction. Temporary abdominal closure: Bogota Bag or Topical Negative Pressure Dressing.

HEAD AND NECK TRAUMA

TECHNICAL SKILLS: Exposure, control and repair of vascular, airway or GI tract structures in the neck. Cricothyroidotomy. Formal tracheostomy.

EXTREMITY AND SOFT TISSUE TRAUMA

TECHNICAL SKILLS: Proximal arterial control Femoral, Brachial, Subclavian vessels. Soft Tissue Management Wound debridement and lavage. Fasciotomy -Lower leg Fasciotomy -Thigh Fasciotomy -Upper limb. Application of dressings. Application of Topical Negative Pressure Dressings. Split skin grafting.

VASCULAR TRAUMA

TECHNICAL SKILLS: Control with compression. Surgical options. Exposure and control of major vessels: thoracic aorta, abdominal aorta (infra and supra renal), subclavian and axillary arteries, femoral and popliteal arteries, use of shunts. Ligation. Direct suture repair. End to end anastomosis. Fasciotomy. Options for control of bleeding.

ADVANCED TRAUMA - WARFARE, TERRORISM AND CIVIL STRIFE - GENERAL PRINCIPLES

TECHNICAL SKILLS: Trauma Laparotomy: Laparotomy for trauma. Trauma thoracotomy. Severely traumatised ischaemic limbs: Amputation-AK. Amputation-BK. Amputation-upper limb.

4. EMERGENCY SURGERY

See under the various Systems in addition to the following.

SUPERFICIAL SEPSIS INCLUDING NECROTISING INFECTIONS

TECHNICAL SKILLS: Infected sebaceous cyst / carbuncle. Abscess drainage. Benign skin or subcutaneous lesion - excision biopsy. Aspiration of breast abscess. Infected ingrowing toenail / paronychia. Nail avulsion / wedge resection / phenolisation. Radical excisional surgery: Fournier's gangrene, necrotising fasciitis, gas gangrene, debridement, diabetic foot.

PERITONITIS / ACUTE ABDOMEN (combined)

TECHNICAL SKILLS: Central line insertion. Laparotomy / laparoscopy. Gastro / duodenal - perforated peptic ulcer closure. Hartmann's procedure. Cholecystectomy. Cholecystostomy.

ACUTE INTESTINAL OBSTRUCTION

TECHNICAL SKILLS: Laparotomy and division of adhesions. Small bowel resection. Colectomy-left. Colectomy-right. Colectomy-transverse. Colectomy-sigmoid. Colectomy-total + ileostomy. Colostomy-construction. Ileostomy-construction.

ACUTE APPENDICITIS

TECHNICAL SKILLS: Appendicectomy - open / laparoscopic.

STRANGULATED HERNIA

TECHNICAL SKILLS: Small bowel resection. Repair - inguinal hernia. Repair - femoral hernia. Repair - incisional hernia. Repair internal hernia.

ACUTE GYNAECOLOGICAL DISEASE

TECHNICAL SKILLS: Laparotomy / laparoscopy. Hartmann's procedure. Sigmoid colectomy.

COMPLICATIONS OF ABDOMINAL SURGERY

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

5. VASCULAR SURGERY for GENERAL SURGEONS

TECHNICAL SKILLS: Surgical approaches to the arterial tree.
Surgical control of upper and lower limb blood vessels. Embolectomy.
On table angiography and thrombolysis. Emergency arterial reconstruction. Fasciotomy.
Emergency venous control and reconstruction.

SUPERFICIAL VENOUS DISEASE

TECHNICAL SKILLS: Prescribe support stockings. Injection sclerotherapy. Endovascular ablation. Surgery Multiple phlebectomies. Where indicated: Sapheno-femoral junction ligation. Sapheno-popliteal vein ligation.

DEEP VENOUS DISEASE OBJECTIVE

Deep Vein Thrombosis

TECHNICAL SKILLS: Endovenous therapy(thrombolysis). Venous thrombectomy. Referral.

Chronic deep venous insufficiency

TECHNICAL SKILLS: Investigation – Duplex.

ACUTE LIMB ISCHAEMIA

TECHNICAL SKILLS: Exposure and control of femoral artery bifurcation. Exposure and control of brachial artery bifurcation. Embolectomy. Emergency arterial reconstruction. Fasciotomy.

CHRONIC ISCHAEMIA

TECHNICAL SKILLS): Exposure of aorta, iliac, femoral, popliteal and tibial vessels. Exposure of axillary artery. Vascular anastomosis (end-to-end, end-to-side). Fem endarterectomy / patch. Vein preparation in-situ/reversed/arm vein/SSV. Vein cuff / patch. Level Selection - Digital amputation. Transmetatarsal amputation. Transtibial amputation (Posterior flap, skew flap). Knee disarticulation. Transfemoral amputation. Referral.

UPPER LIMB ISCHAEMIA

TECHNICAL SKILLS: Ability to take a relevant history and examine vascular system. Surgery - Brachial embolectomy.

CHRONIC LOWER LIMB ISCHAEMIA

TECHNICAL SKILLS: Dealing with potential complications of vascular surgery. Technical components of vascular anastomosis and commonly occurring problems. Amputation: Types of amputation and advantages of each. Potential complications of amputation. Surgical approaches to infra-inguinal vessel. Percutaneous angiography. Exposure of aorta, iliac, femoral, popliteal and tibial vessels. Exposure of axillary artery. Vascular anastomosis (end-to end, end-to-side).

EMERGENCY

TECHNICAL SKILLS:
Selection of patients for conservative management, open operation or endovascular stent. Referral.

VASCULAR ACCESS (VA)

CLINICAL SKILLS: Pre-operative assessment and choice of VA. Arrange appropriate investigations. Arrange surveillance.

HYPERHYDROSIS

TECHNICAL SKILLS: Botox therapy. Referral.

LYMPHOEDEMA

CLINICAL SKILLS: History and examination. Investigation. Management plan.

6. BREAST

BREAST ASSESSMENT

TECHNICAL SKILLS: Fine needle aspiration – Cytology. Cyst/abscess drainage. Image guided. Core biopsy – Clinical. Image guided. Punch biopsy.

BENIGN BREAST CONDITIONS

TECHNICAL SKILLS: Drainage of breast abscess Open. Image guided. Breast lump excision. Excision image guided lesion. Microdochectomy. Major duct excision. Fistulectomy. Nipple eversion.

BREAST CANCER

TECHNICAL SKILLS: Wide local excision Palpable lesion. impalpable - localised - wire/skin mark etc. Re-coning. Mastectomy Simple. Modified radical. skin sparing - nipple preserving; skin sparing - nipple sacrificed. Skin reducing. Axillary surgery removal axillary breast tissue/nipple. Lymph node biopsy. Axillary clearance -Primary. Level 1-3. Axillary clearance -completion (delayed). Axillary surgery - repeat (recurrence). SLNB (dual technique). SLNB (blue dye only). Reconstructive surgery - immediate and delayed Implant only – variations. Skin grafting - Chest wall resurfacing. Salvage surgery - VAC dressings. Complex wound management

7. ENDOCRINE

NECK SWELLINGS

TECHNICAL SKILLS: Biopsy – FNA. Cervical lymph node biopsy. Referral to appropriate Specialist where indicated.

THYROID

TECHNICAL SKILLS: Thyroid lobectomy. Subtotal thyroidectomy. Total Thyroidectomy. Thyroidectomy - toxic goitre. Referral to appropriate Specialist where indicated.

PARATHYROID

TECHNICAL SKILLS: Parathyroidectomy. Referral to appropriate Specialist where indicated.

ADRENAL

TECHNICAL SKILLS: Adrenalectomy Laparoscopic /Open. Referral to appropriate Specialist where indicated.

8. HEAD AND NECK for GENERAL SURGEONS (excluding endocrine)

TECHNICAL SKILLS: Tracheostomy. Cricothyroidotomy. Resection of lip/tongue lesions. Submandibular duct lithotomy. Resection of Submandibular salivary gland. Parotidectomy. Dealing with emergency complications. Referral to appropriate Specialist where indicated. Management of - Emergency upper airway obstruction. Initial management of severe oral and maxillo-facial fractures Assessment of case. Referral to appropriate Specialist where indicated. Liaise with maxillo-facial Surgeon as part of a major trauma multi-disciplinary team.

9. UROLOGY for GENERAL SURGEONS

TECHNICAL SKILLS: Urethral and suprapubic catheterisation. Dealing with complications from urethral and suprapubic catheterisation. Management of urinary retention. Dealing with trauma to the urinary tract. Management of haematuria. Management of uro-enteric fistulae.

10. TRANSPLANT SURGERY for GENERAL SURGEONS

ACCESS FOR DIALYSIS

TECHNICAL SKILLS: Insertion of central venous dialysis catheter (tunnelled). Insertion and removal of peritoneal catheters. A-V fistula ligation. Construction of a-v fistula.

11. PAEDIATRIC SURGERY for GENERAL SURGEONS

ABDOMINAL PAIN in CHILDHOOD

TECHNICAL SKILLS: Appendicectomy. Laparotomy/laparoscopy.

INTUSSUSCEPTION

TECHNICAL SKILLS: Referral for specialist treatment. Reduction of intussusception. Laparotomy.

ACUTE GROIN/SCROTAL CONDITION

TECHNICAL SKILLS: Inguinal hernia - Inguinal hernia (not neonatal) operation. Acute scrotum - Operation for testicular torsion.

CHILD WITH NON-ACUTE GROIN CONDITION

TECHNICAL SKILLS: Undescended testis - Orchidopexy. Penile inflammatory conditions - Circumcision - Inguinal hernia – operation. Hydrocele – operation. Operation for resolved testicular torsion.

CHILD WITH VOMITING

TECHNICAL SKILLS: Pyloromyotomy.

CONSTIPATION

TECHNICAL SKILLS: Manual evacuation.

ABDOMINAL WALL CONDITIONS

TECHNICAL SKILLS: Epigastric hernia, supra-umbilical hernia, umbilical hernia: Abdominal wall hernia operation.

UROLOGICAL CONDITIONS

TECHNICAL SKILLS: Dealing with haematuria. Urethral and suprapubic catheter insertion. Circumcision.

HEAD and NECK SWELLINGS and Trauma

TECHNICAL SKILLS: Lymph node biopsy. Assessment of case. Referral to appropriate Specialist where indicated. Initial emergency management of severe oral and maxillo-facial fractures. Liaise with maxillo-facial Surgeon as part of a major trauma multi-disciplinary team. Dealing with upper airways obstruction as part of a Major Trauma Multidisciplinary Team.

TRAUMA

TECHNICAL SKILLS: Chest drain insertion. Central venous line insertion. Suprapubic catheter insertion.

MISCELLANEOUS

TECHNICAL SKILLS: Superficial Abscess: Abscess drainage. Ingrowing Toenail: Ingrowing toenail operation.

12. PLASTIC SURGERY for GENERAL SURGEONS

TECHNICAL SKILLS: Initial assessment and starting Resuscitation of burns cases. Collaborate with burns centre and immediate transfer.

13. NEUROSURGERY for GENERAL SURGEONS

TECHNICAL SKILLS: Emergency Burr hole(s)/craniotomy. Referral.

14. HAND SURGERY for GENERAL SURGEONS

Surgical aspects of trauma to the hand, including when to refer. Management of infections in the various hand compartments. Treatment of carpal tunnel disease, trigger finger. Referral to appropriate specialist where indicated.

15. INTERVENTIONAL RADIOLOGY for GENERAL SURGEONS

TECHNICAL SKILLS: Retrograde femoral artery puncture. Antegrade femoral artery puncture. Other sites for arterial puncture. Ultrasound guided vascular puncture. Venous access.

16. ONCOLOGY for SURGEONS

TECHNICAL SKILLS: Staging, prognosis and treatment planning. Malignant skin lesion-excision biopsy. Lymph node biopsy-groin, axilla. Central venous line insertion. Laparotomy/laparoscopy.

EBSQ General Surgery Blueprint Percentages

(with reference to the Syllabus)

Purpose of a Blueprint

This Blueprint is a content outline that describes the subset of practice knowledge and skills required, and the eventual content sub-domains with the relative percentage content of these, that is testable. It provides a concise summary of the test content that could be included on the assessment. It enables one to verify that the exam is assessing particular topics with reasonable emphasis, expressed in terms of percentages, in the context of the objectives of the UEMS EBSQ General Surgery Examination

1. General Aspects of Surgery: 25%

2. Upper Gastrointestinal/ HepatoBiliary and Pancreatic Surgery: 20%

3. Colorectal Surgery: 20%

4. Endocrine and Breast Surgery: 10%

5. Trauma Surgery: 10% inclusive of Trauma, Emergency surgery, Neurosurgery, Surgery on the Musculoskeletal system

6. Vascular Surgery: 5%

7. General Surgery in subspecialty interests: 10%, inclusive of:
    a. Morbid obesity and bariatric surgery
    b. Laparoscopic surgery
    c. Thoracic surgery
    d. Head and Neck surgery
    e. Urology for General Surgeons
    f. Transplant Surgery for General Surgeons
    g. Paediatric Surgery for General Surgeons
    h. Plastic Surgery for General Surgeons
    i. Interventional Radiology for General Surgeons

j. Oncology for General Surgeons

The following <u>Grades of Competence in the Specialty of General Surgery</u> are listed as a tool for the certifying authority and Eligibility Committee:

The key competence levels/grades in the Clinical Domain of General Surgery, that trainees will be expected to have obtained at each level are as follows:

A. KNOWLEDGE

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

B. CLINICAL SKILLS

1. Has observed – the trainee acts as an 'Assistant'. From complete novice through to being a competent assistant. At end of level 1 the trainee:

a Has adequate knowledge of the steps through direct observation.

b. Demonstrates that he/she can handle instruments relevant to the procedure appropriately and safely.

c. Can perform some parts of the procedure with reasonable fluency

2. Can do with assistance - a trainee is able to carry out the procedure 'Directly Supervised'. From being able to carry out parts of the procedure under direct supervision

(trainer scrubbed) through to being able to complete the whole procedure under lesser degrees of direct supervision (e.g. trainer immediately available in theatre or in suite). At the end of level 2 the trainee

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

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

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

3. Can do whole but may need assistance – a trainee is able to do the procedure 'Indirectly Supervised'. From being able to carry out the whole procedure under direct supervision (trainer immediately available in theatre) through to being able to carry out the whole procedure without direct supervision i.e. trainer available but not in direct contact with the trainee. At the end of level 3 the trainee

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

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

c. Is able to deal with most of the common problems.

d. Knows and demonstrates when he/she needs help.

e. Requires advice rather than help that requires the trainer to scrub.

4. Competent to do without assistance, including complications. The trainee can deal with the majority of operative problems and complications, but may need occasional help or advice.

5. Can be *trusted* to carry out the procedure, independently, without assistance or need for advice. This concept would constitute one Entrustable Professional Activity (EPA). An EPA is 'a critical part of professional work that can be identified as a unit to be entrusted to a trainee once sufficient competence has been reached'. This would indicate whether one could *trust* the individual to perform the job and not whether he is just competent to do it. At the end of level 5 the trainee:

a. Can deal with straightforward and difficult cases to a satisfactory level and without the requirement for external input to the level at which one would expect a consultant surgeon to function.

b. Is capable of instructing and supervising trainees.

C. TECHNICAL SKILLS

1. Has observed.

2. Can do with assistance.

3. Can do whole but may need assistance.

4. Competent to do without assistance, including complications, but may need advice or help.

5. **Can be *trusted* to carry out the procedure, independently, without assistance or need for advice (EPA)**

D. Professional & Behavioural skills include:

i. Decision making

ii. Assessment of risk

iii. Appraisal of research evidence.

iv. Situation awareness

v. Leadership

vi. Teamwork

vii. Communication

viii. Issues of Professionalism are discussed in detail in the Syllabus

These will be an integral part of both the Formative and Summative Assessment for this Exit Examination.

Eligibility Requirements to sit the UEMS EBSQ General Surgery Examination

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1. Application form: filled and signed.

It is the responsibility of the candidate to make sure his/her referee's contact details (email address and/or mobile telephone number) are accurate. The email addresses of the Head of Department and/or Medical Director and/or Coordinator of training have to be current and belong to an official domain. If said contact details cannot be checked by the committee, the candidate may be deemed ineligible.

2. Curriculum Vitae: A curriculum Vitae must be provided (see template).

3. Qualification: Scanned evidence of **Primary Medical Qualification** such as a certificate of successful completion of an undergraduate medical course, a pass at final medical school examinations, or a University medical graduation diploma, must be provided. They must clearly show the country of qualification, the date and the issuing body.

4. Training: Scanned evidence of a minimum of six post-graduate years in surgical training and/or surgical practice, in a Medical Centre where the applicant has been supervised. These years are counted from the date of the primary degree to the closing date of application for the Examination, if there is a continuum, or in total if there were gaps.

5. Registration: A scanned copy of a current National Authority registration certificate i.e. a document certifying that the candidate is registered as a practicing medical doctor with his/her National Authority needs to be submitted. Specialist registration is not necessary.

6. Identification: A scanned copy of the photograph page of the passport or EU national identity card is necessary. The name as spelled on this document will be used by the UEMS for all matters pertaining to the examination.

7. Logbook: The logbook is a very important part of your application. You must provide evidence of competence on the template provided (please see 'Evidence of competence Logbook' on website).

An endorsed logbook of comparable layout and consolidation, such as an eLogbook, may be acceptable; in this case, endorsed Entrustable Professional Activities (EPAs) should appear as well (see website).

Whatever the format, each page must show your name and the name of the hospital and be endorsed by your Training Tutor, Head of Department, Clinical Director or equivalent.

8. Credit points: The candidate must have a total of 25 credit points based on the following criteria:

- Participation at recognized international congress (4 points)
- Participation at recognized international congress with presentation (8 points)
- Participation national congress (2 points)
- Participation at national congress with presentation (4 points)
- Participation at relevant International Postgraduate Course (6 points)
- Publication (first authorship) in peer reviewed national surgical journal (8 points)
- Publication (first authorship) in peer reviewed international surgical journal (12 points)

A consolidation of documents submitted with the number of credit points claimed must be included.

9. Recommendations: Candidates have to be recommended by two Referees. The referees must be surgeons of Consultant Grade or equivalent, who have had direct knowledge of the applicant during the training or work period. Referees need not be Fellows of the European Board. One of those Referees must be the current Training tutor, Head of Department or Clinical Director. These referees are also required to counter-sign the application form.

The recommendation letter should be given on the template provided and must show clearly the name and position of the referee. A reference letter written for a different purpose than this particular exam may be accepted as long as it is less than two years old and addresses most of the points mentioned on the template, on the Eligibility Committee decision.

11. Payment of Eligibility process fee

ELIGIBILITY GUIDANCE

Language: The candidate must be able to communicate in the English language. Examinations in the local national language(s) may be additionally organized, at the discretion of the Division and Board.

Certification: Diplomas and registration certificates must be submitted as scanned originals or scanned certified copies. Scanned simple copies of recommendation letters and course attendance certificates may be accepted. It is the responsibility of the candidate to make sure his/her referee's contact details (email address and phone number) are accurate. The email addresses and/or contact numbers of the Head of Department or Medical Director or Coordinator of training have to be current and belong to an official domain. If said contacts cannot be checked by the committee, the candidate may be deemed ineligible.

Translations: Documents which are not in English must be submitted with an attached certified English translation (translation by a sworn translator or certified as correct by an official Institution: Notary, Ministry for Foreign Affairs).

Verification: The Eligibility Committee reserves the right to verify the documents submitted and to contact referees directly if considered necessary.

Number of attempts at the exam: A candidate is not allowed to sit the UEMS EBSQ General Surgery examination for more than four times**.**

Probity: Issues of fitness to practice such as past or present investigations or suspensions must be disclosed to the Eligibility Committee at the time of application. Should such issues occur after the eligibility decision has been made, the candidate must inform the Chairperson of the Examination as soon as possible. Failure to do so could end in the result of the Examination being declared null and void.

Fee: The Eligibility process doesn't start unless the current fee has been paid. This fee is not refundable and applications will not be considered without this first payment. Should the candidate be subsequently found eligible to sit the examination, a second payment will be necessary before sitting the examination.

Please refer to the 'Payment' section.

OTHER IMPORTANT POINTS about ELIGIBILITY

Places are limited and early, early applications are strongly encouraged.

A checklist is provided at the end of the application form; its use is strongly recommended.

Because the emphasis and attitudes regarding the spectrum of competences and education within General Surgery vary significantly between individual states, applicants are not expected to have attained Entrustable Professional Activity (EPA) competency in each and every item listed. The Eligibility Committee will apply the correct degree of flexibility in its assessment of applications, allowing for equivalence and compensation of some procedures registered in the Logbook. In the Logbook Template, those EPA's considered essential are listed as such. Other desirable, but not essential, EPAs are also clearly indicated.

Should the application be accepted as eligible, the Eligibility Committee is committed to let the candidate know of its decision, as soon as possible.

The UEMS EBSQ General Surgery EXAMINATION PROCESS

The EBSQ General Surgery Examination delivered by the UEMS and leading to the conferment of **Fellow of the European Board of Surgery in General Surgery (FEBS General Surgery)**, is a quality mark for training in General Surgery.

There are two aspects to the UEMS EBSQ General Surgery Assessment:

- A **Formative Assessments** are carried out, documented and certified during the candidate's postgraduate training programme. This is evaluated by the Eligibility Committee, on the basis of the CV and especially the detailed Logbook complete with certified Grading of Competence for the various items of clinical, technical and non-technical skills. The five grades of Competence have been described and discussed elsewhere on in this document. A robust and thorough evaluation is performed by the Eligibility Committee for each applicant, weighing his/her experience and expertise.
- A **Summative Assessment** on the basis of an 'Exit Examination", in two parts: Part 1 mainly assessing knowledge; Part 2 mainly assessing clinical reasoning, decision-making, risk assessment, clinical skills, technical skills and non-technical skills. More details will follow under different headings.

It is an 'Exit Examination', which constitutes the final rite of passage for Specialist Trainees in General Surgery who have satisfied the requirements of the UEMS EBSQ General Surgery Syllabus and Curriculum.

Successful candidates are awarded the Qualification and may add the title "**Fellow of the European Board of Surgery in General Surgery** (F.E.B.S. General Surgery) to their name.

A candidate is allowed a limited number of attempts to sit the Examination. At present, for the UEMS EBSQ General Surgery Examination, the maximum number of possible attempts is limited to four, with no re-entry and no time limit. A candidate who has undergone broad training and possesses the required experience, should have no difficulty in passing this Examination. In case of failure, however, the candidate will get feedback on his/her weaknesses and these should be addressed before embarking on another attempt.

Like other specialties within the European Union (EU), General Surgery is regulated by the EU Professional Qualifications Directive 2005/36/EC, which provides for automatic mutual recognition in the European Community for European nationals whose name appear on their national Specialist register. The UEMS EBSQ - General Surgery Qualification **does not** lead to automatic recognition for specialist registration within the EU. Neither does it give the right to

practice in any UEMS member country either *(Glasgow Declaration: Appendix 1; point 3);* such a right is only granted by the relevant National Authority.

(1b) Assessment Standards

Since the UEMS EBSQ General Surgery Examination is considered as an 'Exit Exam' which assesses candidates after they finish the required period of postgraduate training (a minimum of six years), the successful candidate must have reached the **nodal point of the year pre-autonomous (junior consultant) practice, to the first few years of consultancy. More simply this is the competence level one would expect a newly appointed Consultant (Day 1 Consultant) in General Surgery to possess.**

The Assessments include:

a) The Eligibility Process. The judgment is based on the certified CV, the endorsed Logbook and Grading of Competence. This also includes a list of essential items on the Logbook where it is mandatory for an applicant to be certified as having attained the highest Grading of Competence, i.e. Entrustable Professional Activity (EPA). These are sometimes referred to as Essential EPAs or Red star EPAs. Thus, assessment in surgical training involves formal workplace-based judgements.
b) Part 1 – A written examination with 150 MCQs of the best answer out of five (Type A+). This mainly tests knowledge and is weighted at 40% of the maximum total marks. This part of the Examination lasts 150 minutes and is delivered in a hybrid format, i.e. on-site but with electronic input, marking, statistical and psychometric analysis. The candidate needs a pass in Part 1 to progress to Part 2.
c) Part 2 -A Clinical Examination with 6 – 9 Stations, lasting nine minutes each, which include electronic case scenarios, live patients/actors and simulation. This is intended to mainly test clinical reasoning, decision making, risk assessment, technical and non-technical skills. It is weighted at 60% of the maximum total marks. Though the examination material is designed by experts to cover the whole syllabus and curriculum, it mainly concentrates on scenarios which are commonly encountered in everyday clinical practice. It is meant to assess whether the candidate can assess and manage these patients in a safe, logical and practical manner. This is delivered on site, either face-to-face or in a hybrid fashion with the use of on site and online examiners working in cohesion.

Standard Setting

For both Part 1 and Part 2, Modified Cohen Standard Setting is applied, more specifically 75% of the 95th percentile. To be successful in passing the Exit Examination, the candidate has to obtain a mark which is equal or more than the computed Standard setting in Part 1, Part 2 and the comprehensive mark. Additionally, the marking system for the Part 2 (Clinical Examination), involves the possible use of 'Red Flags'. If an examiner is convinced that a particular candidate's performance indicates that he/she may make dangerous decisions when working independently, then he/she will raise a 'Red Flag'. Two 'Red Flags' for the same candidate in the Part 2, translates to a failure in the Examination as a whole, independently of the marks obtained in Part 1 and Part 2.

This competence-based assessment relies on 5 Grades (Levels) of Competence, which are applied to knowledge, clinical skills, technical skills and non-technical skills. What is assessed needs to be synchronized with what has been taught and learnt; i.e. the Syllabus and Curriculum. The curriculum should comprise knowledge, skills, attitudes and professionalism. The trend is to use curriculum outcomes as the framework for planning the curriculum content and assessment.

Quality Assurance

Internal Quality Assurance of the Examination is carried out by a very experienced examiner from the Division of General Surgery. This Officer is relieved of any examiner duties and acts with total independence. Tis is carried out in every Examination Session. A detailed report is made available to the Examination Board and the Executive of the Division of general Surgery. It usually contains suggestions for Quality Improvement.

External Quality Assurance lies within the competence of UEMS-CESMA. Two CESMA appraisers attend the Examination in person and appraise all aspects of the Examination, including feedback from Examiners, Board members, candidates and staff. A very detailed report, which may contain advice for quality improvement, is handed to the CESMA Appraisal Committee, and forms the basis for possible accreditation of the Examination. The report is eventually forwarded to the Division Executive and the Examination Board. A repeat appraisal within one or two years may be requested. At present it is only possible to carry out the main Appraisals, every five years, because of manpower constraints.

Review and Appeals procedures

Candidates have the right to appeal from the decision of the Eligibility Committee or of the Examination Board. The appeal should be lodged with the Chairperson of the Examination Committee, within a week of the examination result, (in the case of the Examination). The Credentials Committee will be invested with the investigation. This involves a thorough investigation of the facts, which will include evidence from all persons involved and includes that of Internal and, where relevant, External, QA Officers. This is the competence of the **Credentials Committee** There is a fee attached to such appeals if not upheld.

Governance arrangements for Examinations

The UEMS Division of General Surgery Executive is the 'Governing Body' is responsible for all aspects of the examination. The Examinations Committee / Board is responsible for the organisation and delivery of the examination.

The Division of General Surgery Executive, including the President of the Division, remains jointly responsible for the oversight of Governance of the examination, together with the Chairperson of the General Surgery Board.

Examinations Committee: The Examination Committee should have a majority of members who are not members of the Division Executive. They report to the Division Executive in an explicit manner about developments and procedure. The arrangements for appointment to and term of office of members of the Examination Committee must be approved by the Governing Body and described explicitly. Ideally, before such appointments are made, there should be a job description for each role within the Examinations Committee, including the likely time

commitment required for each role. Every effort should be made to include members from across full members of UEMS in the Examination Committee

Indemnity arrangements

The UEMS Division of General Surgery does not have indemnity arrangements in place within its examination structure and procedure. It is realised that this might constitute a risk, even though there have never been incidents in the past which could have called for the use of Indemnity Insurance. This subject is being explored by the UEMS Section and Board of Surgery. The Division of General Surgery intends to join any a collective indemnity arrangement when this is concluded by the Surgery Section and Board.

Psychometric analysis

The UEMS EBSQ General Surgery Examination benefits from the collaboration of a Medical Educationalist. . The examination has an ingrained robust Standard Setting, which has been qualified and quantified earlier. A robust process for quality control of questions is performed by three expert reviewers and by the Chairperson of the Examination Board, some time prior to the examination session. Questions which are considered too easy, unclear or excessively specialised, are eliminated from the Examination and from the Data bank. The examination results are subjected to robust quality review. The process used is determined in advance of the examination. The analysis process results from the combination of data and statistical analysis provided by the Electronic Platform, which si elaborated by the Medical Educationalist. The Psychometric analysis report is submitted by the Medical Educationalist to the Examination Board and the Division of General Surgery Executive, sometime after the Examination.

Assessment misconduct

It is the first responsibility of the examination applicant or candidate to assure that there is no Assessment misconduct on his/her part. This term is used in preference to 'Examination misconduct' so that it formally includes the Eligibility Process. The UEMS Division of General Surgery regards Assessment misconduct by an applicant/candidate, with the utmost seriousness, because of clear implications of Professionalism and Probity. If proved beyond doubt, this would be punishable by measures ranging from exclusion from the Examination without reimbursement, to being barred from applying for the examination for a time to be determined, to the matter being reported to the applicant/candidate's Regulatory Authority.

To note that an effort is made to avoid using the term 'Fraud'. This has very serious legal connotations and implications and in most countries it is punishable by prison terms (not a fine). That is best avoided. The same applies to the term 'cheating' because it is a difficult concept to prove in a Court of Law, if one come to that. If we cannot prove our accusation, the case will turn against us. The term to use is **Assessment misconduct.**

ORGANISATION OF TRAINING

Schedule of training

The minimum duration of postgraduate training indicated for Eligibility to sit the UEMS EBSQ General

Surgery Examination is 6 years of full-time training. This is not considered to be an optimum, since an adequate training period is governed by several factors. It is dictated by the need of harmonisation. The National Regulatory Bodies, e.g., Medical Councils and the National Health Authorities in each European country, know their local needs and specificities, and therefore plan their schedule of training accordingly. Extraneous factors, e.g. an expanding field, the EWTD, catchment population, service delivery, social and gender considerations, part time training, interrupted careers, etc. may influence the length of the training period. Harmonisation of training across Europe facilitates recognition of progress and achievements across EU member states and assure the public that the training has been of an appropriate European standard, but strict standardisation may be detrimental. It should be considered for what it is, i.e. the minimum threshold. Furthermore, progression from one year and one level of training to the next should be competence-based, not time-based. Having a Competence-based Assessment and minimum duration of postgraduate training, is not contradictory. Competence-based assessment is preferred to a number based one, because different persons assimilate training at different rates. There is however a critical threshold period of training in any specialty, including General Surgery, below which, no trainee, however brilliant, cannot possibly attain competence. This threshold or cut-off is what constitutes the minimum duration of postgraduate training indicated for Eligibility to sit the UEMS EBSQ General Surgery Examination.

Proposed plan of postgraduate training period

The following is an **outline** of the content of a Training Programme in General Surgery. The essential elements would be expected of any Training Programme for General Surgery, though the relative length of each period would be at the discretion of the National Authority. In view of the varying lengths of different programmes. It is clear, however that Phase C (Higher Surgical Training), would be distinctly the longest of the three phases.

A. Foundation period with rotational training in various specialties and introduction to audit.
B. Basic (Core) surgical training with rotation through sub-specialties.
C. Higher surgical training: Developing a high level of competence in general and emergency surgery, an interest in a particular specialty, academic achievement, possibly a period of training in a foreign surgical institution, sitting an Exit Examination (or more than one) and finally applying for CCST/CCT.

Curriculum of training

The details of the Curriculum have been illustrated previously. The teaching programme is expected to include:

- a programme of lectures including visiting speakers
- clinical case presentations
- conferences
- journal clubs
- mortality and morbidity meetings
- research meetings
- teaching in ethics, administration, management and economics
- radiation protection courses.
- Simulator training

- wet labs
- research activities

Assessment and evaluation

Continuous competence-based assessment is essential for progress in training. This should be properly documented and certified. General Surgery trainees need this continuous structured feedback to check their performance, to reflect their attitude and to improve skills and knowledge. Their tutors need it to monitor progress and take remedial measures where necessary. The five Grades (levels) of Competence, especially Entrustable Professional Activities (EPAs) when it comes to the final evaluation, are essential to achieve these aims. These have been described earlier in this document. The trainee's clinical work is assessed by different tutors, checking and documenting competences not only of knowledge and skills but also of attitudes and problem-solving abilities in an atmosphere of uncertainty.

Definition of assessment: Identifying the trainee's competence level in a particular area, comparing it to a benchmark.

The goal of formative assessment is to monitor the progress of the trainee's competences, providing feedback for tutors to improve their methods and for trainees to improve their learning. It is part of the rite of passage through to the next stage of the trainee's professional formation pathway.

The goal of summative assessments is to evaluate the trainee's competence at the end of an instructional unit, by comparing against a benchmark. When the passage is one of enablement, it involves some form of assessment of competence.

Evaluation: Inherent in the idea of evaluation is "value." It is a process designed to provide information that will help us make a judgment about a given situation, e.g., a candidate's competence.

Documentation of training

Trainees must document their training on an ongoing basis throughout their training period by means of a Logbook. The Logbook Template, which carries indications about Essential (Core) Competencies and non-essential competencies (See Appendix.1) can be downloaded from the UEMS General Surgery Examination Website https://www.uemssurg.org/divisions/general-surgery/ebsq-examination . Trainees should be encouraged to constructively reflect on training experiences. Opportunities for feedback should be provided throughout the duration of their training.

Tutors and Educational Supervisors should have an induction session with their trainees soon after enrolment, during which the training programme and curriculum are explained and the means by which the various clinical aspects of training can be completed. In addition, each trainee should, on a yearly basis, discuss and document a detailed training plan for the forthcoming year with their Educational Supervisor. The trainee will require frequent formal feedback from their Clinical and/or Educational Supervisor up to 2-3 times in that year. Established assessment tools for appraisal of clinical knowledge, skills and professional attributes should be used on an ongoing basis during training, and documentation of these appraisals should be maintained in association with the trainee's logbook.

Governance

The governance of a training program is the responsibility of the Program Director and the institution(s) in which the training program is being delivered. A trainer will be responsible to the Program Director for delivering the required training in this/her area of practice.

The EBSQ General Surgery Exit Examination: Details have been provided earlier in this document.

B. TRAINING REQUIREMENTS FOR TRAINERS

The trainee needs both Clinical Supervision and Educational Supervision. One supervisor may undertake both roles or the roles may be undertaken by separate individuals depending on local arrangements. A Clinical Supervisor may be responsible for one trainee and the Educational Supervisor ideally should supervise no more than three trainees.

Trainers are responsible for engaging positively with training, support and appraisal relating to their role, and are accountable for the resources they receive to support education and training. They must act in line with professional guidance for all doctors. They must be positive role models demonstrating good medical practice. They are expected to maintain and continue to develop knowledge and skills on an ongoing basis through continuing professional development. Educators are involved in and contribute to the learning environment and culture.

1. Process for recognition as trainer

a. **Requested qualification and experience**

Trainers will be expected to have achieved the appropriate nationally recognized qualification to allow them to practice as a specialist/consultant in General Surgery. A Program Director would be someone who has been or still is a trainer and who has considerable knowledge and experience in training doctors. Trainers must be selected against suitable criteria and receive an appropriate induction to their role (Training the Trainers programmes), access to appropriately funded professional

development and training for their role, and an appraisal against their educational responsibilities. Developing educational competencies is an ongoing process linked to both conceptual learning and behavioural practice. Trainers must have enough time in job plans to meet their educational responsibilities so that they can carry out their role in a way that promotes safe and effective care and a positive learning experience.

b. **Core competencies for trainers**

1) Know all aspects of the overall General Surgery curriculum and the problems related to its clinical implementation.

2) Have experience in teaching theoretical aspects of GI diseases and acquisition of skills in endoscopic procedures.

3) Be familiar with modern medical education principles and receive regular updates in leadership and mentorship.

4) Understand the needs of the trainee to achieve the goals of the training programme and helps him/her to progress throughout the training period.

5) Be able to promote in his/her mentee scientific curiosity as well as professionalism, ethical behaviours and humanistic values.

c. Quality management for trainers

Trainers should be committed to specialist Surgical education. The Training Centre should provide appropriate time, space, facilities and funding to protect the needs of education from the demands of service. The members of the faculty should be experienced both as surgeons and as teachers / mentors, committing time, effort and enthusiasm to the training programme. They should regularly attend interdisciplinary and even interprofessional meetings. The faculty should be large enough to supervise the clinical and practical work of the trainees. The competence of the trainers should be assessed at 5-year intervals by the national Accreditation body and by the UEMS Division of General Surgery as part of the re-accreditation of the Training Centre.

C. TRAINING REQUIREMENTS FOR TRAINING INSTITUTIONS

1. **Process for Accreditation of Training Programmes and Centres**

The UEMS put a lot of weight on the accreditation of training centres across Europe. **In very simplifying terms, important as it is to accredit the "product" (trainee) it is equally or even more important to accredit the system producing this "product" (training centre).** The process is similar to the one for appraisal of the UEMS ETRs/ assessments, with an accreditation committee with most experienced members from and beyond the UEMS. An initial report and review of the documents is followed by an onsite visit and inspection of all the activities of the applying centre along with interviews of all stake holders. The most important criterion for this appraisal for accreditation of the Training Centre and its Programme, is the activity of the applying centre (clinical and academic) and the trainees and how this translates finally into professional development. For centres that have been UEMS accredited, the UEMS serves as a springboard of collaboration to allow them to develop and offer European training fellowships. This offers excellent opportunities for trainees across Europe for exchanges, top class training, mentoring and professional development.

The purpose of the visits is improvement, assurance and assessment of the quality of training in the training canter. To achieve this, the level of training is compared with criteria that are adopted by the national professional Authority, in charge of the assurance of quality of training in the particular EU Member State. The outcome of the visitation can be used in a national certification and recertification program of training centres, dependent on existing rules.

In the case of a UEMS Division of General Surgery, (or any other Specialty Division) visitation, the visiting committee reports and advises the European Board in the specialty concerned. This body has the final responsibility. The European Board awards a European Quality Mark according to its rules.

Despite the fact that the Division of General Surgery had formalised plans for accreditation of Training Centres for several years, , visitations never became concrete for two reasons:

- One depends on the Training Centres to apply for Accreditation (and this never happened)
- There were always more pressing problems to tackle, even though these were more not so grandiose as Visitation and Accreditation of Training Centres.

For these reasons, when tackling this aspect of the ETR, one had to adopt an **aspirational mode**.

UEMS policy on Visitation and Certification of Training Centres – Main points:

1. There is no UEMS central Body that governs Visitation and Certification of Training Centres, but only a Charter that sets out the rules
2. It is standard practice for each Division or Working Group to organise Certification, particular to Training in that specific specialty, as long as they follow the rules of the Charter, which really reflects the requirements for ETRs.

UEMS Charter for Visitation of Training Centres (Reviewed a few years ago)

- 12 Articles (1 – 12)
- 5 Annexes (A – E0

Perceived advantages of certification for the Training Centre

- Proof of excellence
- Higher visibility
- Measure for self-assessment
- Quality label
- Increased credibility with controlling institutions and employer
- Implications on funding
- Increased attractiveness for trainees
- Cross-fertilization of ideas
- Incentive for Quality Assurance and Improvement

Thus, there are two different and distinct processes:

1. Accreditation of training centres – Assessing the mechanism (Training Centre and Programme)
2. Examinations assess the product, i.e. The Candidate's competence.

The Division of General Surgery has progressed admirably on the 2nd point, but Accreditation of Training Centres is still in the planning phase. The original plans were set in 2013, but no requests for visitation and accreditation were received from Training Centres. A distinct amount of preparatory work has been done, but practical difficulties and lack of political will impeded the transition from the realm of good intentions to that practical application. It is the firm intention of the UEMS Division of General Surgery, that these plans will assume a concrete form once other objectives are consolidated and Training Centres are convinced of the utility of the procedure.

The Division of General Surgery is totally convinced of and totally supports UEMS efforts:

i. To develop homogeneous requisites for European Training Requirements (ETRs)
ii. To manage the quality control process of the ETRs, Assessments and Examinations through the Council of European Specialist Medial Assessments (CESMA),
iii. To accredit Training Centres in all of Europe.
iv. To facilitate the accreditation and cooperation of Skills and Simulation Training Centres in Europe through the Network of Accredited Skills Centres of Europe (UEMS-NASCE)
v. To Continuing Medical Education (CME) and Continuous Professional Development (CPD) for the accreditation of educational events, through the European Accreditation Council for Continuous Medical Education (EACCME).

Requirement for staff and clinical activities

Training institutions offering postgraduate education in General Surgery should be recognised and accredited by the competent National Authority. Training should generally be carried out in University hospitals or affiliated teaching hospitals, while part of the training rotation may take place in district general hospitals if/where accepted by the National Authority.

The teaching institution should have a Director of Training with at least 10 years of clinical experience after specialist accreditation and with specific pedagogic training. Further, the institution must possess all the

necessary infrastructure to provide structured training in General Surgery. This must include a diverse and sufficiently large inpatient and outpatient service, adequate teaching staff, operating theatres, intensive care and high dependency units, simulation centres and other learning facilities

The training of a trainee will be led and managed by a specialist/consultant General Surgery or in an allied specialty, when on rotational training. This specialist will be actively providing a service in General Surgery or allied specialties on a rotation, with personal responsibility for the management of patients with a wide range of surgical conditions. The time required for providing training, supervision and teaching should be included as responsibilities in the work schedules of trainers. Together with program director the trainers/tutors will be able to ensure that the clinical experience of the trainee will prepare them for clinical work as a specialist. A Clinical Supervisor may be responsible for one trainee and the Educational Supervisor ideally should supervise no more than three trainees. The main goals and outcomes should be clearly outlined and there should be feedback on performance, in both directions.

The teaching institution should be able to provide the trainee with the possibility to meet patients in the out- patients' clinic, and in theatre thus providing a learning experience and an opportunity to practice continuity of care of clinical problems. Ward rounds should be led by a consultant and include feed-back on clinical and decision-making skills. Trainees should have the opportunity to assess both new and follow-up patients and discuss each case with the supervisor in order to allow feedback on diagnostic skills and gain the ability to plan management. Further, it is essential that trainees have the possibility to manage both emergency and cold cases.

The volume of clinical material and the case-mix should be sufficient for the trainee to gain the required experience in General Surgery, in a tutor-supervised and safe manner. This needs to be planned carefully and efficiently to counter the effects on training of the European working Time Directive and reduced hours. Technology, in the form of Simulation Centres, has facilitated this compensation. The increased application of Simulation Centres to Surgical Training is the result of many factors, which include safety concerns, efficient utilisation of training material and time. They are also associated with steeper learning curves for real life procedures.

Facilities for Minimal Access Surgery training, Endoscopy and Ultrasound technology (FAST, Colour Doppler), simple interventional radiology is part of surgical training in many centres. The General Surgery trainee should be aided in order to retain his generalist medical knowledge and skills, since many surgical situations do not have anatomical or physiological boundaries. "A Surgeon is a Physician who can operate". Clinical learning opportunities should include regular multi-disciplinary meetings to determine optimal care for patients and such meetings will involve both medical and other healthcare staff. Formal (theoretical) teaching and learning possibilities would include at least the following: lectures, case presentations and small group discussions including (scientific) presentations at clinical and academic meetings. A trainee must have progressively increasing personal responsibility, with increasing confidence, in the care of patients.

The number of training positions must be in accordance with the resources of the training centre, the volume of work, the population catchment and the manpower planning projection of each Training institution and EU member state. The work delivered by trainees must comply with the European Working Time Directive. Part-time training should be allowed, in order to encourage gender balance, but in these instances duration of training would need to be extended proportionately.

Service provision undertaken by a Trainee should be planned in a tailor-made fashion so that it forms an integral part of his/her training. These two aspects should have a mutually multiplying and synergistic

effect, not just complementary and much less, in direct competition. There should be no tension between service provision and training.

A training activity has to fulfil the following criteria:

i. takes place at the right place (accredited training centre) supervised by the right person (accredited trainer)
ii. is linked to outcome
iii. translates into actual competency
iv. is assessed specifically and overall
v. is put into the overall context of professional development

Training institutions should appoint a coordinator responsible for the composition, implementation and supervision of a specialty training program. Roles of trainer and trainee need to be clearly defined.

The Training Institution

Training in General Surgery should be based in a University department, a University affiliated institution or in those with an equivalent educational, and/or research programme, with the full complement of Medical, Surgical and diagnostic services commensurate with a University Hospital. The Training Centre should be housed in quality buildings which are well maintained. The Training Institution must have facilities for inpatient and outpatient services, ITU, High Dependency Unit, as well as a set-up for Infectious Diseases and Infection control. It must possess all Medical and technical equipment expected in a Teaching Institution, IT Services, high level laboratory investigation and imaging departments and professional managerial staff. Satisfactory premises for education are needed with teaching space, library, and contemporary information technology and audio-visual teaching aids. The Hospital/Institution should also have a broad array of Surgical Subspecialties and medical subspecialty services such as cardiology, pulmonary, endocrinology/diabetes, haematology, nephrology, infectious disease and oncology.

The Training Centre must provide the necessary educational opportunities for trainees. Trainees should have suitable and comfortable accommodation for their work as well as adequate time for theoretical study through information technology together with classic library resources must be available. All trainees must be instructed in and engage in clinical audit and have the opportunity to engage in research. Some emphasis should be dedicated to training in ***appraisal of research evidence,*** which would be much more useful and cost effective than enforcing original research on all trainees, whether they have the aptitude or not. It would help avoid the already exponentially increasing volume of research information and probable churning out of forcibly produced research of little clinical consequence. The physical facilities and equipment for training should be evaluated regularly for their appropriateness and quality

Manpower planning

Manpower planning is under the jurisdiction of each member state according to their needs. However, the UEMS Division of General Surgery, through its accreditation process, will assure adequate staffing

and manpower planning in the interest of standards and eventually patient safety. Composition and availability of faculty needs to be assured.

Regular Audit

This consists of:

Internal Audit of the performance of the Training Centre, as part of the requirements for continuing accreditation. Any national evaluation of a Training Centre's performance should include the demonstration that it is:

- providing care for patients with a wide range and volume of surgical conditions.
- providing educational and training support for trainees and staff
- being part of a healthcare system that provides immediate access to relevant investigations as well as providing when necessary immediate access to other clinical specialties that may be required.

Training centres should keep records of the progress of their trainees, including any matters relating to Fitness to Practice or other aspects that might affect a trainee's registration with the relevant National body. The Program Director has specific responsibilities in this regard. Annual reports on various aspects of an institution's specialty training program should be made publicly available. Such reports should include the results of the internal audits described above.

External audit: Training centres and institutions shall be recognised and accredited by their relevant National authority or International body. This accreditation shall be subject to regular review and shall be subject to reassessment and renewal at not more than five yearly intervals. Renewal audits shall include a site visit similar to the initial accreditation visit and will also review the internal audit results since the previous visitation.

The Training Programme

Training programmes in General Surgery in Europe vary in their length. The majority organise a minimum duration of General Surgery training over 6 years post-graduation. There are, however, peaks of 10 years of minimum duration of training, e.g. UK, Republic of Ireland, Malta). The Division of General Surgery considers a minimum duration of Post-graduate Training of 6 years as acceptable, though not ideal. One notes that most candidates sitting the UEMS EBSQ General Surgery Examination are considerably more experienced than the stated minimum duration of training.

What saves the situation regarding this issue, is the Competence-based nature of the Assessment. It is important that the assessed training programme contains the following periods, formally or informally and with flexibility of relative timing. What is essential is that the Training Programme facilitates the acquisition by trainees, of the required Grades of competence, including EPAs, through a phased process of training:

A. Foundation period with rotational training in various specialties.
B. Basic surgical training (Core) with rotation through sub-specialties.
C. Higher surgical training: Developing a high level of competence in general and emergency surgery, an interest in a particular specialty, academic achievement, possibly a period of training in a foreign surgical institution, sitting an Exit Examination (or more than one) and finally applying for CCST/CCT. Whether the CCST/CCT is conferred before or after passing the Exit Examination, and which regulatory Authority confers the CCST/CCT, depends on National legislation and regulations.

Minimal scientific activity

Reference has already been made to the emphasis on the importance of a high level of expertise in appraisal of research evidence, which should be prioritised instead of actually enforcing pure research on trainees. However, one does expect a minimum academic and scientific activity, e.g:

- Participation at recognized international congress with or without presentation
- Participation at national congresses with or without presentation
- Participation at relevant International Postgraduate Courses
- Publication (first authorship) in peer reviewed national surgical journal
- Publication (first authorship) in peer reviewed international surgical journal

The cumulative such activity within the Training Centre over a period, should be assessed.

Transparency of training programmes

The training centre should publish details of the Training Programme it provides including details of the clinical service and the specialist and other staff. Such information should include the clinical exposure of the trainee would be engaged in, as well as the support and interaction with the academic and clinical tutors, mentor, and Director of the Training Program.

Structure for coordination of training

There should be a national (or equivalent) program for training leading to recognition as a Specialist / Consultant with specific knowledge and skills in General Surgery. The trainee's job plan should allow sufficient time for developmental activities separate from their involvement with clinical service provision. The job plans of trainers and of chiefs of training programs should include sufficient time for them to fulfil their educational and training responsibilities.

Training centres should be recognised and approved by the relevant national authority. To assist in the free movement of a Specialist / Consultant with specific knowledge and skills in general Surgery moving from one EU country to another, a recognised Exit exam, such as the UEMS EBSQ General Surgery Examination, combined with accreditation and recognition of the Training Programme and Training Centre, would be an asset. It should assure that he/she has the required knowledge, clinical skills and competences, as well as having demonstrated appropriate professional behaviours and has

been exposed to sufficient volume of clinical work which has been adequately assessed and documented. The CV and more emphatically, the Competence-based Logbook which includes Entrustable professional Activities, are very valuable tools for this purpose. This should reassure and encourage the selection board for his/her new employment in the post they are seeking. This represents pan-European experience, expertise and approval and covers the whole spectrum of training-education-assessment-accreditation-professional development clinically, academically and professionally.

Framework for visitation and accreditation

Onsite visitations are conducted, following communicated guidelines, by two external assessors, nominated by the UEMS Division of General Surgery. Training Centres granted accreditation are re-evaluated every five years (more frequent accreditation could encounter manpower issues). Major changes in the institution should be reported to the National Regulatory Authority, the UEMS Division of General Surgery and the UEMS Surgery Section and Board. An Accreditation Certificate will be issued to a Training Centre following approval. A certificate of visitation with a letter of commendation may be issued to a visited training centre, fulfilling most but not all ESBGH requirements, together with recommendations for quality improvement and a projected date for another visitation. This process is intended to encourage the establishment of high-quality national training programmes and to assure pan-European standards of patient care.

CONCLUSION FOR THE ETR GENERAL SURGERY

The ETR for the specialty of General Surgery intends to provide specialty-based recommendations involving the expected competencies that a specialist trainee, a specialist, specialist training institutions and programmes, are expected to possess through formalised training and organisation. They underline the need for common language-bridging and criteria for medical training and work, through wide participation in standard setting.

This entails harmonisation and a degree of standardisation because:

- Interdependency of the National Healthcare systems
- Free movement of professionals in Europe: The Professional Qualifications Directive; 2005/36/EC
- Patient mobility Directive
- Workforce crises: Europe was about 1 million healthcare professionals short in 2020 – No National healthcare System is able to solve this individually.
- Movement of health professionals from outside the EU, render standard setting criteria for eligibility and assessment, through a pan-European exit examination even more urgent.

The authors are conscious of the length of the document, but are convinced that all that is written is relevant to the objectives this ETR intends to reach, namely:

- To complement and support EU and National legislation and directives

- To provide robust training guidelines
- To help averting possible negative effects of free movement of professionals
- Assuring consistency of approach within the specialty of General Surgery in different states
- Assuring standards and consistency of Training Programmes in affiliated institutions
- Eventually leading to accrediting Training Centres, which would be acceptable to the UEMS Division of General Surgery Examination Eligibility Committee
- Maintenance of standards
- Ultimately it is patient safety.

SEE APPENICES 1 – 7 which follow:

1. **Competence-based Logbook including Essential EPAs**
2. **Commitment to abide by the examination rules**
3. **EBSQ General Surgery Examination Application Form**
4. **Curriculum Vitae**
5. **Reference form for candidates**
6. **Eligibility Criteria and guidance**
7. **Frequently Asked Questions**

Appendix 1

Competence-based Logbook including Essential EPAs

(Please access by clicking on corresponding File below)

Competence-based Logbook for ETR.xlsx

Appendix 2

Commitment to abide by the examination rules

As a candidate for the EBSQ/UEMS General Surgery examination, I agree to abide by the rules of the examinations; I am aware that any behaviour listed below will be interpreted as misconduct and will lead to penalties:

1. Gaining information about the exam questions in advance of the exam date

2. Bringing materials other than those specifically permitted into the exam

3. Impersonating a candidate

4. Behaving disruptively during an exam

5. Sharing exam content in any way, including on social media and other online forums

6. Not complying with the reasonable instructions of an invigilator or other examination official

7. Viewing the work of another candidate, or attempting to do so

8. Accessing material, whatever the format, that may assist in answering questions during the examination

9. Bribing, or attempting to bribe another candidate, an exam official, a simulated patient or other relevant person

10. Communicating or attempting to communicate, through whatever means, with another individual who is not an invigilator or other examination official whilst under exam conditions

11. Leaving the room without permission

12. Writing after the end of the examination has been announced

13. Removing materials or content (including copying exam questions and using recording devices) from an examination other than those specifically permitted

14. Releasing exam content to a third party/commercial organisation

15. Aiding or abetting any of the above.

In such circumstances, the incident will be formally documented and reported to the UEMS Executive.

Penalties for undoubted misconduct during the Exam include:

- Being stopped from completing the Exam and not being allowed to apply to sit the EBSQ/UEMS Exam again

- The information may be passed on to the Regulatory Authority where I am registered.

NAME Signature Date

Appendix 3

EBSQ GENERAL SURGERY EXAMINATION - APPLICATION FORM

FAMILY NAME (as on passport) ……

FIRST NAMES (as on passport) ……..

NATIONALITY ……..

DATE/PLACE OF BIRTH ……..

ADDRESS FOR CORRESPONDENCE:

……

……

……

……

TELEPHONE …….. FAX ……..

Email address ……..

PRESENT APPOINTMENT:

TITLE

……

DEPARTMENT

……..

ADDRESS

……

……

……

DECLARATION BY REFEREE 1 (Current training tutor, Head of Department or Clinical Director)

I have had direct knowledge of the applicant during the training or work period. I declare that to the best of my knowledge the information provided by the candidate concerning his/her training experience is correct.

SIGNATURE ……..

PRINT NAME ……

DATE……

POST HELD and HOSPITAL ADDRESS

……

PROFESSIONAL EMAIL ADDRESS ……

MOBILE TELEPHONE NUMBER ……

DECLARATION BY REFEREE 2 (Consultant surgeon of the applicant's choice)

I have direct knowledge of the applicant and I declare that to the best of my knowledge the information provided by the candidate is correct.

SIGNATURE ……..

PRINT NAME ……

DATE……

POST HELD and HOSPITAL ADDRESS

……

……

PROFESSIONAL EMAIL ADDRESS ……

MOBILE TELEPHONE NUMBER ……

DOCUMENTS check-list for application

See Guidance under the Eligibility section.

	Requirements	**Tick if provided**
1	Present application form signed by candidate and two referees	
2	Curriculum Vitae (template provided)	
3	Certificate of Primary Medical Qualification	
4	Evidence of 6 years of surgical training	
5	Medical Registration Certificate	
6	Proof of identity	
7	Surgical logbook (template provided)	
8	Evidence of 25 credit points in CME and/or publications	
9	2 recommendation forms (template provided)	
10	Payment of eligibility process fee	

DECLARATION BY APPLICANT

I wish to apply for Eligibility to sit the UEMS European Board of Surgery Qualification (EBSQ) General Surgery Examination, based upon assessment of my surgical experience. I declare that all information provided in support of my application is correct.

SIGNATURE …… DATE……

Appendix 4

Curriculum Vitae

for EBSQ General Surgery Examination application

PERSONAL DETAILS

Family Name (Surname) Written as on passport		
Given Names Written as on passport		
Date of Birth (DD/MM/YYYY)		
Gender	Male ☐ Female ☐	
Nationality		
Current work address with country		
Current home address with country		
Phone	(Home)	(Mobile)
	(Work)	(Fax)
Contact email address		
Work email address		

QUALIFICATIONS

Primary Medical Qualification *(required for application)*

Qualification title:	
Year Qualified:	
Country of Training:	
Medical School or University	

Specialist Qualification if any *(not required for application)*

Qualification title:	
Year Qualified:	
Country of Training:	
Institution Awarding qualification	

Additional Qualifications if any *(not required for application)*

Qualification title:	
Year Qualified:	
Country of Training:	
Institution Awarding qualification	

Qualification title:	
Year Qualified:	
Country of Training:	
Institution Awarding qualification	
Qualification title:	
Year Qualified:	
Country of Training:	
Institution Awarding qualification	

Medical Registration *(required for application)*

Type of registration **(general or specialist)**	**Date (from/to)**	**Registering authority**	**Any restrictions/conditions?**

SURGICAL TRAINING

Must show a minimum of six post-graduate years in formal surgical training, counting from the date of the primary degree to the closing date of application for the examination if there is a continuum, or in total if there were gaps. You should mention the duration of each rotation. Clearly identify your first postgraduate year.

Hospital/country of training	From (date) to (date)	Level of training

Certificates & Courses (please list relevant courses and certificates gained)

Date	Course

Specialist Examinations passed if any *(not required for application)*

Date	Institution and country

EMPLOYMENT HISTORY (required, copy table as necessary)

List all employment starting with current/most recent position with dates commenced and ended in month year format (MM/YYYY)

Start/end dates	
Institution/Hospital	

Country	
Position title	

Start/end dates	
Institution/Hospital	
Country	
Position title	

Start/end dates	
Institution/Hospital	
Country	
Position title	

Start/end dates	
Institution/Hospital	
Country	
Position title	

Start/end dates	
Institution/Hospital	
Country	
Position title	

Start/end dates	
Institution/Hospital	
Country	
Position title	

Start/end dates	

Institution/Hospital	
Country	
Position title	

Start/end dates	
Institution/Hospital	
Country	
Position title	

Appendix 5

EUROPEAN BOARD OF SURGERY Reference form for candidates

Name of candidate: …… Hospital: ……

Applicant's current Training Tutor, Head of Department or Clinical Director (referee 1) □

Consultant surgeon or equivalent (referee 2) □

In what capacity is the candidate known to you?

……

CLINICAL SKILLS (please tick)

History/Examinations	Incomplete or inaccurate	Usually complete, orderly and systematic	Precise and thorough
Decision-making	Fails to grasp significance of findings or respond accordingly.	Competent under pressure. Asks for advice appropriately.	Outstanding clinicians, aware of limits.
Post-operative Care	Poor follow up and awareness and	Good follow up and awareness	Excellent care, notices problems early.

	response to complications		

TECHNICAL SKILLS (please tick)

Laparoscopy / Endoscopy	Poor hand / eye coordination.	Good hand / eye coordination, sound skills	Excellent ability
Open Surgery	Rough, hesitant	Mastered basic skills, gentle with tissues	Outstanding technician

ATTITUDE (please tick)

Communication	Bad listener and communicator	Listens well, respectful	Excellent rapport, inspires confidence
Cooperation with staff	Poor relationship with peers	Good rapport, willing to help.	Always willing to help even if personally inconvenient.
Self motivation	Lacking in work enthusiasm	Hard-working, keen to learn	Full of energy, goes beyond the "call of duty"
Stress Response	Copes poorly	Seeks help when needed, copes well	Thinks ahead, efficient even when under pressure
Confidentiality	Has had issues	No issues	No issues
Treatment without discrimination	Has had issues	Treats patients and colleagues fairly	Treats patients and colleagues fairly
Probity	Has had issues	No issues	No issues

Do you believe that the applicant has reached a sufficient standard as a General Surgeon to sit the EBSQ Examination in General Surgery (*)? Yes No

Referees' signature and stamp …….

(*) Please refer to the Eligibility criteria on the UEMS Division of General Surgery Website link: https://www.uemssurg.org/divisions/general-surgery/ebsq-examination

Appendix 6

EBSQ GENERAL SURGERY

ELIGIBILITY CRITERIA and GUIDANCE

The requirements below apply to Qualification (Fellowship) through examination.

Conferment of the Honorary FEBS General Surgery is now restricted to colleagues not already in possession of the FEBS, who are called to be examiners at the UEMS EBSQ General Surgery Examination. It will not any longer be conferred in response to a proposal or an application.

ELIGIBILITY REQUIREMENTS

General requirements:

The UEMS EBSQ General Surgery Examination is open to any general surgeon, provided that the Division is satisfied and that the training, skills and qualifications meet its standards. As a minimum, the applicant must be medically qualified, have completed six years of post-graduate surgical training **and be a surgeon**

able to perform independently most basic general procedures. A Certificate of Completion of Surgical Training or a specialist registration are not prerequisites.

1. Application form: filled and signed.

It is the responsibility of the candidate to make sure his/her referee's contact details (email address and/or mobile telephone number) are accurate. The email addresses of the Head of Department and/or Medical Director and/or Coordinator of training have to be current and belong to an official domain. If said contact details cannot be checked by the committee, the candidate may be deemed ineligible.

2. Curriculum Vitae: A curriculum Vitae must be provided (see template).

3. Qualification: Scanned evidence of **Primary Medical Qualification** such as a certificate of successful completion of an undergraduate medical course, a pass at final medical school examinations, or a University medical graduation diploma, must be provided. They must clearly show the country of qualification, the date and the issuing body.

4. Training: Scanned evidence of a minimum of six post-graduate years in surgical training and/or surgical practice, in a Medical Centre where the applicant has been supervised. These years are counted from the date of the primary degree to the closing date of application for the Examination, if there is a continuum, or in total if there were gaps.

5. Registration: A scanned copy of a current National Authority registration certificate i.e. a document certifying that the candidate is registered as a practicing medical doctor with his/her National Authority needs to be submitted. Specialist registration is not necessary.

6. Identification: A scanned copy of the photograph page of the passport or EU national identity card is necessary. The name as spelled on this document will be used by the UEMS for all matters pertaining to the examination.

7. Logbook: The logbook is a very important part of your application. You must provide evidence of competence on the template provided (please see 'Evidence of competence Logbook' on website).

An endorsed logbook of comparable layout and consolidation, such as an eLogbook, may be acceptable; in this case, endorsed Entrustable Professional Activities (EPAs) should appear as well (see website).

Whatever the format, each page must show your name and the name of the hospital and be endorsed by your Training Tutor, Head of Department, Clinical Director or equivalent.

8. Credit points: The candidate must have a total of 25 credit points based on the following criteria:

- Participation at recognized international congress (4 points)
- Participation at recognized international congress with presentation (8 points)
- Participation national congress (2 points)
- Participation at national congress with presentation (4 points)
- Participation at relevant International Postgraduate Course (6 points)

- Publication (first authorship) in peer reviewed national surgical journal (8 points)
- Publication (first authorship) in peer reviewed international surgical journal (12 points)

A consolidation of documents submitted with the number of credit points claimed must be included.

9. Recommendations: Candidates have to be recommended by two Referees. The referees must be surgeons of Consultant Grade or equivalent, who have had direct knowledge of the applicant during the training or work period. Referees need not be Fellows of the European Board. One of those Referees must be the current Training tutor, Head of Department or Clinical Director. These referees are also required to counter-sign the application form.

The recommendation letter should be given on the template provided and must show clearly the name and position of the referee. A reference letter written for a different purpose than this particular exam may be accepted as long as it is less than two years old and addresses most of the points mentioned on the template, on the Eligibility Committee decision.

10. Payment of Eligibility process fee

ELIGIBILITY GUIDANCE

Language: The candidate must be able to communicate in the English language. Examinations in the local national language(s) may be additionally organized, at the discretion of the Division and Board.

Certification: Diplomas and registration certificates must be submitted as scanned originals or scanned certified copies. Scanned simple copies of recommendation letters and course attendance certificates may be accepted. It is the responsibility of the candidate to make sure his/her referee's contact details (email address and phone number) are accurate. The email addresses and/or contact numbers of the Head of Department or Medical Director or Coordinator of training have to be current and belong to an official domain. If said contacts cannot be checked by the committee, the candidate may be deemed ineligible.

Translations: Documents which are not in English must be submitted with an attached certified English translation (translation by a sworn translator or certified as correct by an official Institution: Notary, Ministry for Foreign Affairs).

Verification: The Eligibility Committee reserves the right to verify the documents submitted and to contact referees directly if considered necessary.

Number of attempts at the exam: A candidate is not allowed to sit the UEMS EBSQ General Surgery examination for more than four times**.**

Probity: Issues of fitness to practice such as past or present investigations or suspensions must be disclosed to the Eligibility Committee at the time of application. Should such issues occur after the eligibility decision has been made, the candidate must inform the Chairperson of the Examination as soon as possible. Failure to do so could end in the result of the Examination being declared null and void.

Fee: The Eligibility process doesn't start unless the current fee has been paid. This fee is not refundable and applications will not be considered without this first payment. Should the candidate be subsequently found eligible to sit the examination, a second payment will be necessary before sitting the examination.

Please refer to the 'Payment' section.

OTHER IMPORTANT POINTS about ELIGIBILITY

Places are limited and early, early applications are strongly encouraged.

A checklist is provided at the end of the application form; its use is strongly recommended.

Because the emphasis and attitudes regarding the spectrum of competences and education within General Surgery varies significantly between individual states, applicants are not expected to have attained Entrustable Professional Activity (EPA) competency in each and every item listed. The Eligibility Committee will apply the correct degree of flexibility in its assessment of applications, allowing for equivalence and compensation of some procedures.

Should your application be complete, the Eligibility Committee is committed to let you know as soon as possible of its decision.

The UEMS Office is available for informal enquiries if points relating to how to prepare your application remain unclear. However, a definite answer as to your eligibility cannot be provided until the due eligibility process has taken place.

Appendix 7

EBSQ General Surgery Examination and Qualification

Frequently Asked Questions

Accommodation

Q: Do you provide a list of suitable accommodation for the examination?

A: No, we do not provide a list of accommodations.

Appeal (eligibility decision)

Q: I have been declared ineligible, can I appeal?

A: Yes, the eligibility decision is open to appeal within a week of the decision notification; appeals can be lodged with the Credentials Committee through the Office.

Appeal (examination result)

Q: Can I appeal my exam result?

A: Yes, you have the right to appeal. The appeal should be lodged within a week of the examination results with the Chairperson of the Examination Committee who will notify the Credentials Committee. There is a fee attached to such appeals if not upheld.

Award

Q: Is there an award?

A: First placed candidate in the examination will receive an examination prize of €1,000.

Cancellation of participation

Q: If I cancel participation at the UEMS EBSQ General Surgery Examination, can I get a refund?

A: No fees will be refunded if a candidate cancels his/her participation or does not show up on the day of examination. It is however possible to postpone participation: see 'Postponement' below.

Certificate

Q: When will I receive my certificate?

A: Certificates are issued to successful candidates shortly after results have been announced.

Authentication of documents

Q: How can I get my documents authenticated for the eligibility process?

A: In order for a UEMS diploma to be officially authenticated in countries requiring such procedure, it must be signed by the legal representative of a Belgian legal entity, whose signature can be authenticated by a Belgian Civil Officer. In this regard, we liaised with the notary of the UEMS, who has accepted to validate the signature of a legal representative of the UEMS.

If applicants are interested, **here is the procedure to follow**:

1. The applicant sends the following documents to the UEMS Office, Rue de l'Industrie 24, 1040 Brussels, BELGIUM):

   - The original UEMS diploma (please note that only diplomas issued by UEMS can be authenticated)

   - A copy of the UEMS diploma

   - A copy of a valid ID or passport

2. The applicant sends a scanned copy of his diploma and ID by email to coordination@uems.eu with details of postal address to which we will return the signed document. Please put as subject of the email "Authentication of UEMS Diplomas – supporting documents". Provide details on the date you passed the exam and the medical specialty.
3. The UEMS Office will then contact the organizers of the examination to confirm that the applicant has indeed passed the exam.
4. The UEMS Office will organize a meeting with the Notary to have the confirmed Diplomas signed.
5. The UEMS Office will then send back the original diplomas to the applicants or to someone duly mandated.

Continuing Professional Development (CPD)

Q: How do you take CPD into account?

A: CPD, attendance to courses, congresses and publications are all taken into account towards the Credit points (See 'Eligibility Criteria and Guidance).

Courses (preparation)

Q: Do you organize preparation courses for the exam?

A: No, not at the moment.

Deadline for Applications

Q: Am I guaranteed a place if I apply before the deadline?

A: Examination candidacy slots may be limited and it is much safer to apply early. If you apply late, or the limiting number of candidates is reached, or your application is incomplete, you may not get a place for the examination.

Documents submission/uploading

Q: How will I submit my supporting evidence?

A: All the documents submitted as supporting evidence must be uploaded on the application page. Supplementary documents submitted on request may be sent by email.

ligibility notification

EQ: How will I know if I am Eligible?

A: If you have paid your eligibility process fee and the review of your application shows that you are eligible, you will be notified in due course.

Entrustable Professional Activities (EPAs)

Q: I am not familiar with this concept, what are EPAs?

A: An EPA is a unit that can be entrusted to a trainee once sufficient competence has been reached. An EPA goes a level higher than the traditional 4th level of competence which is the 'independence competency'. The trainee is not only capable of tackling the particular procedures or units independently, but he can be trusted to do this by his tutors.

Examination (format and schedule)

Q. What is the format of the examination?

A. After the Eligibility process, which is the first stage of the examination, candidates will be assessed over two days. There are two components: Part 1 is a written component consisting of 150 Best answer-out-of-five (Type A) MCQs, lasting 3 hours. Part 2 is an oral component consisting of a clinical exam with six stations, each lasting 9 minutes (including change over time).

Examination (frequency)

Q: How often are the exams offered?

A: At present, the exam is offered once a year, but this is subject to adjustment.

Examination (clinical exam)

Q: How is the Clinical Exam organized?

A: In the Clinical exam you will be faced with cases and/or clinical pathways representing the breadth of general surgery. You will visit each of the six stations where you will be assessed by (a pair of) examiners from an international panel and will be asked to give an oral answer. The circuit may include a clinical case, laboratory investigations, X-rays, CT, MRI and ultrasonography scans and pictures from typical clinical situations to interpret. One station will assess your ability to critically appraise (Evidence Based Medicine appraisal) a journal paper. A selected journal paper will be given to you 45 minutes before Part 2 (Clinical exam) circuit. Non-technical skills such as obtaining consent and communication will also be assessed in stations. You should be able to answer not only what you would do and how, but why.
The individual time schedule for the OSCE circuit is established after the MCQ-test.

Examination (notification)

Q: When and how will I be notified about taking the exam?
A: All eligible candidates will be notified in due time soon after the closing date.

Examination (scoring)

Q. How is the exam scored and what comprises a "passing" score?
A. To attain the FEBS, the candidate much achieve a passing grade in both Part 1 and Part 2

The Standard Setting for Part 1 is 75% of the 95th percentile. It represents 40% of an overall mark for purposes of ranking.

The Clinical exam (Part 2) is examined against the candidate demonstrating competencies on a par, (or exceeding) reasonable clinical behaviours/ competencies of a Surgeon ready for a Consultancy/ Attending

Surgeon autonomous role. This standard is reaffirmed in an exercise before each exam by our experienced examiners. It reflects a broad appreciation of a commensurate standard across Europe.

Part 2 examination, as any high stakes Clinical examination requires to be passed in its own right, there is a limited ability to be compensated from the MCQ marks (margin less than 1.5%).

In addition, qualitative feedback on professionalism is undertaken by the examiners in each station. These are reported using a colour card system. Two yellow boxes or 1 red box renders mandatory discussion and individual evaluation of the candidate by the examination committee at the examiners meeting, prior to issuing final marks. In exceptional circumstances, upholding 2 yellow box or 1 red box concerns may be grounds for withholding awarding FEBS as the clinical standard would be considered not been met.

Examination (upcoming)

Q: How can I find out about upcoming examinations?

A: Information about upcoming exams is posted on the UEMS General Surgery Website.

Examination (what to bring/what not to bring)

Q: What do I need to bring with me to the Exam? What can I not bring?

A: You will be required to present your identification document and your own laptop even if the Part 1 is held in an IT laboratory. You may **not** bring any study aids, mobile phone or similar items into the examination room.

Examination misconduct

Q. What is the penalty for examination misconduct?

A. When taking part in the UEMS/EBSQ examination, you agree to abide by its code of conduct. You will be asked to sign a statement that will read:

"I agree to abide by the rules of the examinations; I am aware that any behaviour listed below will be interpreted as misconduct and will lead to penalties:

Submitting forged documents in order to gain eligibility.

Gaining information about the exam questions in advance of the exam date

Bringing materials other than those specifically permitted into the exam

Impersonating a candidate

Behaviour disruptively during an exam

Sharing exam content in any way, including on social media and other online forums

Not complying with the reasonable instructions of an invigilator or other examination official

Viewing the work of another candidate, or attempting to do so

Accessing material, whatever the format, that may assist in answering questions during the examination

Using bribery, or attempted bribery of another candidate, exam official, simulated patient or other relevant person

Communicating with or attempting to communicate, through whatever means, with another individual who is not an invigilator or other examination official whilst under exam conditions

Leaving the room without permission

Writing after the end of the examination has been announced

Removing materials or content (including copying exam questions and the use of recording devices) from an examination other than those specifically permitted

Releasing exam content to a third party/commercial organisation

Aiding or abetting any of the above.

In such circumstances, the incident will be formally documented and reported to the UEMS Executive.

Penalties for undoubted misconduct during the Exam include:

- Being stopped from completing the Exam and not being allowed to apply to sit the EBSQ/UEMS Exam again.

- The information may be passed on to the Regulatory Authority where the candidate is registered.

Examiners (who are they)

Q: Who are your examiners?

A: The examiners are an international panel of senior surgeons.

Examiners (becoming one)

Q: I am a senior surgeon, I would like to become an examiner, how can I apply?

A: Senior surgeons who wish to be considered as examiners for the General Surgery Division (UEMS) should first contact the UEMS Office. The subsequent preliminary step in the process for being entered in the waiting list for Examiners, is to be requested to serve as an Observer, in at least one Session of the UEMS EBSQ General Surgery Examination.

Exemption

Q: I am a Fellow or a Member of a College of Surgeons or a Professional Surgical Society, can I be exempted from part of the exam?

A: No qualification in itself leads to an exemption to any part of the exam. Surgical qualifications are taken into account in the review of your application for eligibility.

Fees

Q: Why do I need to pay two separate fees?
A: The first fee is for the Eligibility process, the second one is for the Examination itself for candidates declared eligible.

Flight

Q. What is the earliest time that I can book my return flight?
A. Do not make any travel arrangements until you have received confirmation from the Office. You are advised to arrive the day before Part 1 and to plan your return flight not before the morning after Part 2.

Honorary Fellowship

Q: I am a senior surgeon, can I apply for the Honorary Diploma?

A: No. Conferment of the Honorary FEBS General Surgery is now restricted to surgeons selected to be examiners if they do not already hold it. it is no longer be conferred in response to a proposal or an application.

Identification

Q: How can I prove my identity?

A: Both during the eligibility process and on the day of the examination, you will be asked to prove your identity with your passport or EU national identity card. The name as spelled on this identity document is the name that we will use for all matters pertaining to the examination.

Language (examination)

Q: Do you organize examinations in languages other than English?

A: No, at the moment, examinations in General Surgery and only offered in English.

Logbook

Q: Do you provide a template for the logbook?

A: Yes, a template is provided for downloading.

MCQ sample questions

Q: Where could I find examples of the types of MCQ that will be used?

A: Sample MCQs are provided on the UEMS/EBSQ General Surgery website for downloading.

Postponement

Q: What if I want to postpone my participation at the UEMS EBSQ General Surgery Examination?

A: There are two possible situations:

You have been declared eligible and have paid all the fees, and you want to postpone the examination to a different date than the one originally planned for a valid reason: an extra administration fee of 10% will be charged to cover the administrative costs; the rest of the Examination Fee is not charged.
You have been declared eligible but have not yet made the second payment, and want to sit a different examination than the upcoming one for a valid reason: you will be charged the Examination fee plus 10% of the total fee (Eligibility plus Examination fee).

In any case, the Eligibility fee and the Examination Fee are not refundable. See also above under ‘Cancellation’.

Preparation for the examination

Q: How can I prepare for the examination?

A: The best preparation is daily surgical practice, practice of MCQ tests of the type already indicated and all aspects of the oral examinations. You must be familiar with the Syllabus and the format of the exam. Not only should you practice the content of your answers, but also the presentation of your decision-making process and the demonstration of problem-solving ability.

Procedures (flexible endoscopy skills)

Q: In the country where I trained, General Surgeons do not practice endoscopies. Will my application for eligibility be accepted?

A: The Board is aware that in some countries surgeons do not have the opportunity to practice endoscopy. The Eligibility Committee will apply the correct degree of **flexibility** in its assessment of applications, allowing for equivalence and compensation.

Procedures (technical surgical skills)

Q: I do not have the required percentage of EPAs, will I be found ineligible?

A: Because the emphasis and attitudes regarding the spectrum of competences and education within General Surgery vary significantly between individual states, applicants are not expected to have attained Entrustable Professional Activity competency in each and every item listed. The Eligibility Committee will apply the correct degree of **flexibility** in its assessment of applications, allowing for equivalence and compensation of some procedures. EPAs related to basic procedures, which every General Surgeon should master, are emphasized during the Eligibility Process.

Qualification (Primary, acceptable for eligibility)

Q: What is a Primary Qualification acceptable for eligibility?

A: You need to submit evidence of successful completion of an undergraduate medical course, or a pass at final medical school examinations, or a University medical graduation diploma.

Qualification (EBSQ)

Q: What benefits does the Qualification confer?

A: The EBSQ is essentially a quality mark. In some countries, the Qualification may be an important factor in the eligibility process for a Certificate of Completion of Training. In countries where such a decision was adopted, the UEMS EBSQ General Surgery Examination has substituted the National Examination as a pre-requisite for Specialist Registration. In some countries, the EBSQ General Surgery may facilitate eligibility for independent practice. This is however entirely subject to authorization by the national relevant regulatory body. In some countries, the EBSQ General Surgery is taken into consideration for surgical appointments. If in any doubt, you must seek clarification from the regulatory authority of the country where you are planning to practice.

Quality improvement

Q. What is the process of quality improvement?

A. The Examination Committee (General Surgery) reviews:

- Feedback from candidates
- Feedback from examiners
- Feedback from the Chairperson of the Eligibility Committee

- Analysis and recommendations by the Head of Medical Assessment based on the course and results of the Examination
- Report by the Internal Quality Assurance Officer
- External Quality Assurance and recommendations by the Council for European Specialists Medical Assessment (UEMS-CESMA). UEMS-CESMA is an advisory body of the UEMS providing recommendation and advice on the organisation of European examinations for medical specialists.
- The Chairperson of the Examination then makes a synthesis from all the above data and submits his conclusions to the Executive.

Re-applying for eligibility

Q: Can I re-apply for eligibility? Will I have to pay again?

A: Yes, if you fail the Eligibility process, you can re-apply; re-applying entails paying the Eligibility fee again.

Referees, recommendations:

Q: Whom can I ask to be my referees?

A: The referees must be surgeons of Consultant Grade or equivalent, who have had direct knowledge of you during your training or work period. They need not be Fellows of the European Board. One of those Referees must be the current Training tutor, Head of Department or Clinical Director. A form for recommendation is provided for downloading.

Registration (country of, specialist)

Q: Do I have to be registered as a medical doctor in a European or UEMS country to be eligible?

A: No, you need to be registered as a practicing doctor with a National Authority, but not necessarily in a UEMS or European country. Specialist registration is not a necessity**.**

Resitting

Q: Can I resit the UEMS EBSQ General Surgery examination? Is there a fee for a resit examination?

A: Yes, but you cannot sit the EBSQ General Surgery examination for more than four times in all**.** To resit, you do not need to go through the Eligibility process and so you do not need to pay the Eligibility Fee again. You will be required to make your intentions clear and pay the rest of the Examination Fee.

Results

Q: When will I hear about the results?

A: The results of the Part 1 are given shortly after the MCQ session. The final comprehensive results are given shortly after the Part 2 (OSCE Circuit), on the same day. The agreed quantified marks are not given; you will only be told whether you have passed or failed.

Surgery (General)

Q: The scope of general surgery varies amongst countries. How do you take this into account?

A: In its assessment of applications, the Eligibility Committee will look at the entire application and apply the correct degree of flexibility, allowing for those variations and individual situations.

Syllabus

Q: Is there a Syllabus?

A: The Syllabus is to be found in the EBSQ Examinations in General Surgery section of our website.

Textbooks

Q: Do you recommend any textbooks for preparation?

A: We don’t have a list of recommended texts. Please refer to the syllabus for content of knowledge.

Timing after application

Q: When will I hear from you after submitting my application?

A: After submitting your application, you will receive an automatic acknowledgement. Within a few days, we will then let you know whether your application is complete or not. Should your application be complete, it will be passed on to the Eligibility Committee for assessment. The Eligibility Committee is committed to letting you know of its decision as soon as possible. Should your application be incomplete, we will let you know what is missing.

Training (minimum number of years)

Q: What is the minimum numbers of years of training to be eligible?

A: You need a minimum of six post-graduate years in surgical training and/or surgical practice in total, in a Medical Centre where you can be supervised. These years are counted from the date of the primary degree to the closing date of application for the Examination, if there is a continuum, or in total if there were gaps.

Translations

Q: Do I need to have my documents translated? Who can translate my documents?

A: You must provide a certified translation (translation by a sworn translator or certified as correct by an official Institution: Notary, Ministry for Foreign Affairs) for any documents not in English.

If you have not found an answer to your questions, please contact the UEMS Office.

European Board of Surgery Qualification (EBSQ) EBSQ General Surgery
Rue de l'Industrie, 24
1040 Brussels
BELGIUM Tel: +32 (0)2 649 51 64 | Fax: +32 (0)2 640 37 30
E-mail: office@uemssurg.org

Appendix 8

POLICIES ON SAFEGUARDING CHILDREN, ADOLESCENTS AND VULNERABLE ADULTS

All General Surgery departments must have policies in place to safeguard all children, adolescents and vulnerable adults. These policies should include provisions, where appropriate, for implementing reasonable adjustments to accommodate vulnerable patients.

COMPETENCIES

Children, adolescents and vulnerable adults

Children and adolescents are considered vulnerable by virtue of their age and stage of development.

Vulnerable patients can also include adults who – due to any number of reasons - may be unable to take care of themselves, or unable to protect themselves against significant harm or exploitation.

The reasons for this vulnerability could include, but are not limited to, any one or a combination of the following factors: learning disabilities, dementia, other psychiatric or physical disorders, adverse financial or social circumstances, a previous history of abuse and/or neglect.

Whilst it is clear that any patient who lacks capacity will by definition be vulnerable, many patients with capacity may still be unable to take care of themselves, or unable to protect themselves from significant harm or exploitation; often due to the infirmity that led them to become patients in the first place. An acute surgical illness or injury resulting in hospital admission or attendance can heighten these vulnerabilities.

The healthcare professional is expected to represent the best interests of the patient. A collaborative working relationship with the patient and/or their carers is most likely to support this goal. The design and delivery of services should also consider the views of, and the specific needs of, the most vulnerable patients as well as those known to have low levels of access to healthcare and poor clinical outcomes. Patient safety, dignity and the delivery of patient-focused care in a safe environment should always be primary objectives of the doctor.

All General Surgeons and Trainees should be familiar with departmental policies for obtaining informed consent for procedures for children, adolescents, and vulnerable adults, and any guidelines relating to the implementation of “reasonable adjustments” for vulnerable patients. All doctors should also have the ability to contribute to multidisciplinary assessments relevant to capacity and, where a person is deemed to lack capacity, ability to sensitively inform the 'Best Interests' procedures.