

College of Surgeons of East, Central & Southern Africa



Regulations and Syllabus relating to Fellowship Examination  
In Upper Gastrointestinal Surgery and Endoscopy

FCS UGS (ECSA)

2021 Edition

COSECSA, PO Box 1009, Arusha, Tanzania Tel (+ 255) 27 2549362;

Email: [info@cosecsa.org](mailto:info@cosecsa.org) Website: [www.cosecsa.org](http://www.cosecsa.org)

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## 1. Introduction

The College of Surgeons of East Central and Southern Africa awards Membership (MCS(ECSA)) and Fellowship (FCS(ECSA)) qualifications. Approved trainee surgeons shall be trained in the hospitals of the region with guidance and support provided by the College.

The Fellowship examination in Upper Gastrointestinal Surgery and Endoscopy Leads to the qualification of Fellow of the College of Surgeons of East, Central and Southern Africa, FCS UGS (ECSA). This fellowship is recognition that the candidate has reached the level of knowledge, understanding and practice of surgery sufficient to practice independently at a consultant or specialist level. It should be recognized, however, that surgery is not a static art and fellows should continue to increase knowledge and skills by means of research, conferences, meetings and reading.

The information given in this document is intended as a guide to persons sitting the College examinations and shall not be deemed to constitute a contract or the terms thereof between the College and a candidate or any third party, or representations concerning same.

The College is not responsible and shall not be bound by errors in, or omissions from these regulations; the College reserves the right to revise, amend alter or delete academic regulations at any time by giving such notice as may be determined by COSECSA Council in relation to such changes.

## 2. Registration as a Trainee

Applications to register as a trainee must be made online on the COSECSA website. To register you will need an electronic copy of your primary medical qualification, your medical council (or equivalent) registration, a passport- style photo, and, if applicable, copies of any other surgical qualifications you may have. Applications will only be accepted online. Applications will be assessed by COSECSA, and if found suitable, applicants will be accepted to the training programme provisional upon payment of the programme entry fee.

The programme entry fee can be paid online, by bank transfer to the COSECSA Secretariat bank account in Arusha, Tanzania or to the COSECSA Country Representative.

On receipt of the registration fee, the Secretariat will send the candidate:

- a. Personal login details, which will allow access to the COSECSA Electronic Logbook and e-learning platform (School for Surgeons)
- b. Assessment forms to be filled in at the end of every training post by the trainee and the supervising consultant.
- c. A registration number, which remains unique to the candidate.

### 3. Training Requirements

All requirements below will need to be fulfilled without exception.

- 3.1. To be admitted to the fellowship in Gastroenterology surgery and endoscopy programme, the candidate must have Fellowship or Master of Medicine in General Surgery Qualifications that is acceptable to the Examination and Training Committee of the College of Surgeons of East, Central and Southern Africa (COSECSA).
- 3.2. Before being eligible to sit for the fellowship examination in Upper Gastrointestinal Surgery And Endoscopy, candidates will be required to be registered with the College (see Section 2 above).
- 3.3. Candidates must be registered in the FCS Upper Gastrointestinal Surgery and Endoscopy training programme for at least two years before appearing in the FCS UGS Examination. Registration by the end of February in a given year allows that year to count as a full year of training and will enable the candidate to sit the Clinical/Oral examination at the end of the following year

#### ***Training Posts:***

Candidates holding FCS or MMed postgraduate qualification in general surgery or equivalent will spend a minimum of four semesters training in upper gastroenterology surgery and endoscopy. The time will be spent in hospitals accredited by COSECSA to train Upper Gastrointestinal Surgery and Endoscopy provided that these units deal with both emergency and elective upper GI surgery and have Upper Endoscopy Services.

Whenever possible, one to three months of the two years may be spent outside the region in a post that has been prospectively agreed on. This post may be in an elective unit.

Candidates are reminded that it is in their interests to experience a wide spectrum of surgical disciplines.

### 4. Logbook

FCS GES candidates are required to use the COSECSA electronic logbook.

During the training period candidates must keep a logbook recording all of their training experience. The book should be available for inspection at any time by the Country Representatives. Consolidation sheets should be filled in every 6 months and a final consolidating sheet filled in to cover the whole training period.

The logbook should also contain details of all courses attended and the trainee and post assessment forms for the whole training period.

More detail on completing logbooks is provided in the logbook itself.

Before submission for the examination the Country Representatives should check the logbook for completion, fill in and sign a checklist, which remains at the front of the logbook.

At the August council meeting of each year, the Country Representatives will hand over to the Panel head appointed by the Examinations and Credentials Committee, a copy of the checklist together with copies of the Training post assessment form, Trainee assessment form and the final consolidation sheet (up to August) of all the candidates taking the examination that year.

The logbook should be submitted to the examination administration secretary before the start of the clinical and oral examinations. Candidates will not be allowed to sit for the examination if this is not done.

Candidates are required to log all operations for the duration of their training period in the electronic logbook.

In advance of the examinations, details from each candidate's electronic logbook will be made available to their Country Representatives and the COSECSA Examinations and Credentials Committee (ECC).

At the examinations, details from each logbook will be provided to the relevant oral examiners.

Only operative experience logged in the electronic logbook will be taken into account and candidates will not be allowed to sit for the examination if operative experience is not adequately recorded.

Before the start of the clinical and oral examinations, a printout of the electronic logbook operations list (signed by the trainee's supervisor) and consolidation sheet should be handed to the examination administration secretary.

## 5. Application to Sit Examinations

- 5.1. Candidates should submit the examination fee by the end of April in the year of their exam. Examination fees can be paid online, by bank transfer to the COSECSA Secretariat bank account in Arusha, Tanzania or to the COSECSA Country Representative.
- 5.2. On receipt of the examination fee, candidates will be informed of the precise times, dates and places for the exams.
- 5.3. By applying to the examination, a candidate agrees to be bound by the rules and regulations of the College.
- 5.4. If a candidate withdraws from an exam not less than 12 weeks before the exam is due, then the fee can be transferred to the next exam date. Fees will not normally be returned if the candidate withdraws permanently, unless due to special circumstances as determined by the College Council.
- 5.5. Candidates must pass the examination within four years of their first attempt. After this they will not be allowed to re-sit. A total of four attempts only will be allowed.
- 5.6. Candidates who pass the written examination but fail the oral and clinical examinations, may attempt the oral and clinical examinations for a maximum of two more years without having to rewrite the written examination, all within a period of four years in total.

## 6. Examination Format and Conduct

The standards of the examination will be set by the Examinations and Credentials Committee of the College, which will recommend to Council those standards required by both examiners and candidates. A panel of examiners will be chosen by the Examinations and Credentials Committee from amongst Fellows of the College for each examination. A register of examiners will be kept by the chairman of the Examinations and Credentials Committee. An examination board will be constituted for each diet of examinations, comprising the chairman of the examination committee, two members from each examination panel and at least one external examiner who will be appointed by Council on recommendation of ECC. The role of the external examiner(s) is to:

- a. Moderate the written question papers Assist with the examination of candidates
- b. Provide external independent assessment of the examination Report on the conduct of the examination to the College Council
- c. The written FCS UGS examination will be comprised of 2 papers. The first paper will consist of single best answer multiple-choice questions. The second paper will consist of extended matching and/or short answer questions and/or single best answer multiple-choice questions.
- d. Candidates who pass the written examination, will be invited by the Chairman of the Examinations and Credentials Committee to the clinical and oral examination. Candidates who do not pass the written section will not be invited to the clinical and oral examination.

- 6.1. There will be two 30-minute orals. A clinical examination takes place at the same time and at the same site as the oral. This will be comprised of six 20-minute cases.
- 6.2. Candidates have to pass the written examination and the clinical and oral examination in order to pass overall.
- 6.3. The written examination may be held in any of the countries of the region. In exceptional circumstances the examination committee may approve an examination site outside the region. The written examinations are held simultaneously on the first Wednesday of September, at a recognized examination centre with impartial invigilation. The COSECSA Country Representative shall be the Chief Examiner.
- 6.4. The examination papers will be set by members of the examination committee and independently moderated by an external examiner.
- 6.5. No details of marks will be issued to Country Representatives or candidates. Candidates should bring proof of identity. As discussed in Section 4, candidates using paper logbooks should bring these, and candidate using the COSECSA electronic logbook should bring signed printouts of these.
- 6.6. If a candidate fails, their clinical examination then they may attempt the clinical examination for a maximum of 2 more years without having to rewrite the written examination.

- 6.7.** The chairman of the examination panel will endeavor to minimize the chance of a candidate being examined by an examiner from their own training institution.
- 6.8.** The panel of examiners will give the results to the Examination Board who will meet on the day of examination. The Board will then approve the results on behalf of Council and publish them.
- 6.9.** For each candidate who fails the exam, the Board will allocate a Fellow of the College (usually a member of the panel of examiners) who will communicate with the candidate and offer advice as may be indicated. Details of marks will not be given.
- 6.10.** Appeals against results must be made in writing to the Council within 60 days of the completion of the examination. The President of the College will then appoint an impartial Appeals Committee to investigate the appeal and require a written report to be filed by the Chairmen of the panel of examiners and the Examination Board. The Appeals Committee will then take all considerations and its own findings into account and recommend a decision, which will remain final and binding.

## 7. OVERVIEW OF TRAINING PROGRAMME

Topics and practical procedures in italics are not practiced widely in this region so the candidates will not be expected to know about them in detail, or to have practical experience

### 7.1. Importance of the upper Gastroenterology Training programme

In general, Gastroenterology surgery and endoscopy is a sub-specialty of surgery dealing with the management of diseases related to the upper gastrointestinal tract organs namely oesophagus, stomach, small and lower gastrointestinal tract organs namely the large intestine, rectum, and anus. Specialization may be in upper gastrointestinal surgery as is the case in this fellowship programme or lower gastrointestinal or colorectal surgery. It is a well-recognized specialty today. Diseases of the GI system are among the most common disorders in sub-Saharan Africa. COSECSA, recognizing the need and the importance of GI surgery, has recognized the importance of Surgical Gastroenterology. This upper gastrointestinal surgery and endoscopy COSECSA programme will fulfill the 3 objectives of good surgical training, namely, patient care, teaching and research. Upper Gastroenterology specialists will possess a range of attributes, including a wide-ranging knowledge base, the capacity to produce a relevant differential diagnosis based on an accurate history and physical examination, an understanding of the indications and contraindications for diagnostic and therapeutic procedures, skill at performing these procedures, the ability to think critically, and an appreciation of the humanistic and ethical aspects of medicine. Such attributes can emanate only from a clinical training program that provides a firm foundation in pathophysiology as well as abundant exposure to patients under the supervision of experienced, thoughtful educators. This exposure must be long enough for trainees to understand the natural history of disease and the impact of treatment both on the disease and on the patient. Instructors in procedures must impart a thoughtful, cost-conscious approach to the use of technology as an extension of the sub-specialist's dexterity rather than as an end in itself. Facilities must be available for trainees to participate actively in research as a means of nurturing the inquisitive thought processes demanded of skilled consultants, to create new knowledge, and to improve patient care. All of these activities must be accompanied by compassion, humanism and a dedication to the patient as a person.

## 8. GENERAL ASPECTS OF TRAINING

### 8.1. Educational Program

Gastrointestinal surgery training programs must provide an intellectual environment for acquiring the knowledge, skills, clinical judgment, attitudes, and values of professionalism that are essential to the practice of gastroenterology. "Professionalism in medicine requires the surgeon to serve the interests of the patient above his or her self-interest. Professionalism aspires to altruism, accountability, excellence, duty, service, honour, integrity, and respect for others. The elements of professionalism encompass a commitment to the highest standards of excellence in the practice of medicine and in the generation of knowledge, a commitment to sustain the interests and welfare of patients, and a commitment to be responsive to the health needs of society."

The program also must stress the role of gastroenterologists as consultants and the need to establish the skills necessary to communicate effectively with referring doctors. The objectives of training can be achieved only when the program leadership, supporting staff, faculty, and administration are fully committed to the educational program and when appropriate resources and facilities are available. While it is recognized that trainees provide substantial service to their teaching hospital, service commitments should never compromise the achievement of educational goals and objectives. Every aspect of training should include the cultivation of an attitude of skepticism and inquiry and a dedication to continuing education that will remain with the trainees throughout their professional careers. A major contributor to the enhancement of a scholarly attitude is active participation in one or more research projects, ideally followed by presentation of the work at a national meeting and publication of a paper in a peer-reviewed journal and to produce well-trained gastrointestinal surgeons capable of competently managing surgical Gastrointestinal conditions and deliver high quality Gastrointestinal services to patients.

### 8.2. Underlying Philosophy of the Programme

Upper Gastroenterology surgery is a sub-specialty dealing with the management of diseases related to the upper gastrointestinal tract involving the organs namely oesophagus, stomach, small intestines. It is a well-recognized specialty. Diseases of the upper GI system are among the most common disorders in Africa.

The national needs for gastrointestinal surgeons are enormous due to huge gastrointestinal disease burden. Every person with a significant gastrointestinal condition deserves to receive proper surgical gastrointestinal care. The philosophy of this Fellowship programme is to produce gastrointestinal surgeons and GI endoscopists to the constituent countries population by providing well-trained practitioners in the specialty of upper Gastroenterology surgery and endoscopy. This will be achieved by training suitable surgeons into knowledgeable, caring and compassionate upper surgical gastrointestinal surgeons and endoscopists who are proficient to provide educational information, diagnostic, therapeutic, counseling and preventive services to the individual and to the

community. The Programme will prepare students to be life-long learners after graduation with affinity for keeping abreast of developments in the field so as to provide the best care available for each patient they encounter and the best services to the community. The graduates from the Programme will, in addition, provide leadership for the health care team they work in, and will be educators for students, junior colleagues, peers, other health care professionals, patients and members of the community.

## 9. PROGRAMME GOAL

The goal of this training programme is to produce a surgeon who can provide tertiary care for patients with complicated problems related to the gastrointestinal tract. At the end of the training, the trainee should be:

- a. A competent and caring compassionate surgeon who follows high standards of ethical practice.
- b. A thinking surgeon who applies his knowledge based on best current evidence, to the problems gastrointestinal surgery.
- c. A competent surgeon who performs complicated major gastrointestinal surgery.
- d. A good teacher who shares his skills and knowledge with his colleagues.
- e. One who constantly updates his knowledge and skill.

### 9.1. Programme Objectives

In order to achieve the above goals, the following objectives are laid down. The objectives may be considered under 3 domains namely Knowledge (cognitive), Skills (psychomotor) and Ethical principles, Communication and Rational thought (affective). At the end of the training programme the trainee should be able to:

#### 9.1.1. Knowledge

- a. Understand etiology, pathophysiology and diagnose gastrointestinal surgical problems based on history and clinical examination.
- b. Interpret laboratory investigations, endoscopic and radiological findings in a logical.
- c. Manner and arrive at a reasonable diagnosis.
- d. Advise the patient appropriate treatment based on (a) and (b) above.
- e. Be proficient in the proper selection of patients for surgery, the timing of surgery and preoperative
- f. Work up and post-operative care.
- g. Manage emergency situations related to the gastrointestinal system, such as
- h. Gastrointestinal bleeding, acute abdomen, abdominal trauma, etc.
- i. Be proficient in monitoring and management of the critically ill patient.
- j. Continuously update knowledge and skills and keep abreast of the latest advances.
- k. Teach undergraduate and postgraduate students.
- l. Carryout medical research i.e., plans clinical trials and laboratory research.

#### 9.1.2. Skills:

- a. Perform endoscopic procedures.
- b. Perform elective complex gastrointestinal surgery such as porta-systemic shunts,
- c. Have exposure to laparoscopic and minimally invasive surgery
- d. Proficient and preoperative work up and post-operative care of the surgical patient, including invasive monitoring.

### **9.1.3. Ethical Principles:**

- a. Follow-up high standards of ethical practice.
- b. Respect patient's right and privileges, his/her right to information and right to seek
- c. Second opinion.
- d. Be able to work as member of a team and provide leadership where necessary.

### **9.1.4. Goals of Training**

During the programme, trainees should gain an understanding of the following:

- a. Anatomy, physiology, and pathophysiology of the oesophagus, stomach and small intestine.
- b. Gastric secretion and indications for gastric analysis (i.e., measuring gastric acid output).
- c. The indications for serum gastrin measurement and secretin testing for the diagnosis of gastrinoma and consequences of hypergastrinemia in both hypersecretory and achlorhydric states; trainees should also gain an understanding of the mechanisms involved in the development of secondary hypergastrinemia due to low acid states.
- d. The natural history, epidemiology, and complications of acid-peptic disorders, including recognition of premalignant conditions (e.g., for the treatment of gastroesophageal reflux disease, such as application of radiofrequency, energy injection therapy, and mechanical devices (see Training in Endoscopy)
- e. Familiarity with capsule endoscopy and its applicability to the evaluation of upper gastrointestinal disease.
- f. Trainees should learn to perform, read, and interpret oesophageal pH probe tests, including wireless technology, oesophageal impedance testing, and oesophageal motility studies (see Training in Motility and Functional Illnesses).
- g. Trainees should gain experience in interpreting plain films of the abdomen, barium examinations of the upper gastrointestinal tract, ultrasonography, abdominal computed tomographic scans, magnetic resonance imaging, angiography, and somatostatin receptor scintigraphy (see Training in Radiology).
- h. Understanding invasive and noninvasive techniques for diagnosing H. pylori infection.
- i. Understanding the role of prostaglandins in mucosal protection, the importance of prostaglandin inhibitors (NSAIDs, aspirin) in causing ulcers, and the effects of selective cyclooxygenase-2 (COX-2) inhibitors on mucosal integrity in the upper gastrointestinal tract, on platelet function, and on the pathogenesis of thrombotic events. Other potential effects of COX inhibition, such as possible beneficial benefits in the treatment of dysplasia in Barrett's oesophagus should be discussed.

## 9.2. Training Process

Trainees must acquire a thorough knowledge of appropriate history-taking, which should consist of family, genetic, psycho social, and environmental histories, including a detailed history of prescription and over-the-counter (non-prescription) drug use, particularly NSAIDs and aspirin, and the ability to perform a comprehensive and accurate physical examination in patients with acid-peptic disease. This should include an examination of the whole patient. Trainees should be able to arrive at an appropriate differential diagnosis, be able to outline a logical plan for specific and targeted investigations pertaining to the patient's complaints, and be able to design an appropriate scheme of management and follow-up. Trainees must develop expertise under direct supervision in performing and interpreting all of the procedures and diagnostic tests that are routinely used in the evaluation and treatment of patients with acid-peptic disorders (see Training in Endoscopy). This experience should include the indications, limitations, technical aspects, and complications of the following procedures as well as an understanding of the benefits and dangers of moderate sedation:

- a. Upper intestinal endoscopy, both elective and emergent, including proficiency in the use of the endoscopic treatment modalities for haemorrhage (including injection therapy, cautery, banding, and clipping), biopsy, and polypectomy. It is suggested that trainees become familiar with the placement of radiotelemetry devices and have experience with endoscopy in patients with surgically altered anatomy (fundoplication, ulcer surgeries, gastric bypass)
- b. Dilatation of benign and malignant oesophageal strictures
- c. The performance and interpretation of oesophageal motility studies, 24-hour pH monitoring including wireless technology, and the interpretation of gastric secretory studies. It is suggested that trainees gain familiarity with impedance testing (see Training in Motility and Functional Illnesses).
- d. Trainees should gain experience in the interpretation of radiological studies of the upper gastrointestinal tract, including contrast gastrointestinal examinations, ultrasonography, computed tomographic scans, magnetic resonance imaging, somatostatin receptor scintigraphy, and angiography
- e. Indications and interpretation of studies for specific entities, such as hypersecretory states, H. pylori, and other infections of the upper gastrointestinal tract, particularly acquired immunodeficiency syndrome (AIDS)-related disorders.
- f. It is suggested that trainees gain a working knowledge of upper gastrointestinal tract pathology, such as mucosal biopsies for gastritis, Barrett's oesophagus, and malignant conditions (see Training in Pathology).

## 9.3. Programme Competence Objectives

This Fellowship of Surgical Gastrointestinal surgery program will prepare specialist surgeons who can accomplish the following:

### **9.3.1. Knowledge**

- a. Demonstrate adequate knowledge for patient care with various Gastrointestinal Surgical conditions
- b. Demonstrate understanding of leadership and teamwork principles in addressing various surgical Gastrointestinal diseases
- c. Demonstrate adequate knowledge in conducting research
- d. Demonstrate knowledge of Supervision and feedback to subordinates.
- e. Demonstrate knowledge in prevention of Gastrointestinal conditions.

### **9.3.2. Skills**

- a. Provide effective and appropriate care to patients with various conditions in Gastrointestinal depending upon resources
- b. Perform relevant diagnostic procedures for the various Gastrointestinal conditions
- c. Perform relevant therapeutic procedures for the various Gastrointestinal conditions
- d. Design, conduct and disseminate research findings in the field of gastrointestinal ethically.
- e. Prepare a presentation in selected topic of Gastrointestinal for MD and MMed Students.
- f. Provide effective teaching during daily ward rounds to learners of various levels
- g. Provide preventive services for upper Gastrointestinal diseases and their complications.

### **9.3.3. Attitudes and Values**

- a. 1. Lead a team to address the various Surgical Gastrointestinal health issues.
- b. Demonstrate effective collaboration with other disciplines including nurses, pharmacist, laboratory personnel and social workers and do various consultancies.
- c. Seek assistance from superiors and colleagues
- d. Work within the prescribed duty hour regulations.

## **9.4. Competency Domains and Core Competencies**

The Fellowship in surgical gastrointestinal program competencies is derived from the eight competency domains. Graduates of this program will have achieved competencies as listed below:

- a. Competency Domain: Relationships with Patients, Clients and Communities
- b. Establish constructive relationships and communicate effectively with surgical patients, and their families/or communities to address their needs and preferences
- c. Provide specialized gastrointestinal surgical services to individuals and groups that is appropriate to their different backgrounds
- d. Demonstrate the ability to communicate specialized gastrointestinal surgical issues and policies effectively to the public.

**9.5. Competence Domain: Relationships with Colleagues**

- a. Listen and take advice from fellow surgical specialist and other health professionals.
- b. Motivate colleagues and subordinates.
- c. Contribute effectively to teamwork.
- d. Work effectively with other health professionals
- e. Demonstrate effective oral and written specialized Gastrointestinal communication skills with colleagues and other health professionals.

**9.6. Competence Domain: Teaching Skills**

- a. Deliver effective upper Gastrointestinal Surgery promotion messages to educate patients and communities.
- b. Prepare a presentation in a topic of upper Gastrointestinal surgery suitable for health professionals and medical students.

**9.7. Competence Domain: Maintaining Good Practice**

- a. Demonstrate the ability to evaluate one's own performance and practice in Gastrointestinal surgery.
- b. Exhibit a capacity to regularly seek information necessary to improve practice in upper gastrointestinal surgery
- c. Demonstrate the ability to apply evidence-based decision making in the field of surgical Gastrointestinal services
- d. Recognize one's abilities and limitations and know when to request assistance.
- e. Demonstrate the capacity to participate in applied surgical Gastrointestinal activities
- f. Demonstrate the ability to use information technology to optimize learning
- g. Demonstrate leadership and managerial skills

**9.8. Competency Domain: Working within the System and Context of Health Care**

- a. Demonstrate knowledge on the current healthcare system functions (structures, policies, regulations, standards, and guidelines).
- b. Work effectively in various specialized health care delivery settings and systems (hospitals, government, ministries, and communities).
- c. Demonstrate ability to coordinate and implement Gastrointestinal surgery service delivery and health interventions within the health care system.
- d. Recognize and incorporate considerations of cost effectiveness into surgical health service delivery.
- e. Recognize and incorporate considerations of Gastrointestinal surgery patients' cost burden into health service delivery
- f. Demonstrate the understanding and promote quality care in health systems through audits, accreditations, and/or evaluations

- g. Demonstrate the ability to identify upper gastrointestinal system challenges, errors and implement potential solutions

#### **9.9. Competency Domain: Professionalism**

- a. Maintain ethical standards (confidentiality, informed consent, avoid practice errors, avoid conflicts of interest)
- b. Apply entrepreneurial skills for advancement of practice in the superspeciality of upper gastrointestinal surgery
- c. Show sensitivity and responsiveness to diversity (culture, age, socioeconomic status, gender, religion, and disability)
- d. Demonstrate awareness of the upper gastrointestinal surgery needs of aging patients with gastroenterological conditions.
- e. Show respect, compassion, and integrity while interacting with patients with gastrointestinal surgery conditions.
- f. Advocate and implement fair national distribution of health care resources
- g. Describe and discuss the implications of basic ethical principles, including confidentiality, informed consent, truth telling, and justice, for the care of patients with gastrointestinal surgery conditions.
- h. Demonstrate professionalism and high ethical standards in gastrointestinal surgery practice, specifically competence, honesty, integrity, compassion, respect for others, professional responsibility, and social responsibility.

#### **9.10. Competency Domain: Professional Knowledge**

- a. Apply knowledge of anatomy, physiology, and pathophysiology of upper gastrointestinal system in preventing, diagnosing, and managing various Gastrointestinal system conditions.
- b. Apply the pharmacodynamics and pharmacokinetics knowledge to render effective and cost-conscious therapeutic agents and interventions specific to patients with gastrointestinal system conditions
- c. Develop management plans for patients with gastrointestinal conditions.
- d. Justify the decision to specific management plans of patients with various gastrointestinal system surgical conditions
- e. Summarize the various advantages and disadvantages of various upper gastrointestinal system surgical interventions.
- f. Use knowledge of clinical reasoning to solve problems in gastrointestinal system.
- g. Judge when to use invasive versus non-invasive gastrointestinal system interventions in managing patients with upper gastrointestinal system conditions

### **9.11. Competency Domain: Practical/ Clinical Skills**

- a. Employ appropriate technique for conducting complete and relevant physical examination in a systematic manner for patients with upper gastrointestinal system conditions.
- b. Perform invasive gastroenterological interventions in making a diagnosis and managing patients with gastrointestinal system conditions.
- c. Evaluate patients with Gastrointestinal system conditions to formulate accurate hypotheses to serve as the basis for making diagnostic and treatment decisions
- d. Demonstrate the ability to organize, record, research, present, critique, and manage information of patients with Gastrointestinal system
- e. Employ a comprehensive, multidisciplinary approach to the care of patients with Gastrointestinal system conditions that integrates biomedical and psychosocial considerations
- f. Demonstrate the ability to formulate and prioritize correct and appropriate plans for management of patients with Gastrointestinal system conditions
- g. Demonstrate the ability to gather focused information, in an organized manner, appropriate to the clinical situation and patient ability to understand
- h. Demonstrate confidence and comfort with the primary provider role and the provision of longitudinal care

### **9.12. Programme Learning Outcomes**

The Surgical gastrointestinal system Fellowship program will contribute to the following upon graduation of the trainee:

- a. Improved quality of life of individuals with Gastrointestinal system surgical diseases and community at large
- b. Reduced Gastrointestinal system surgical disease burden in the community.
- c. Reduced morbidity and mortality resulting from Gastrointestinal system surgical illnesses.
- d. Influence general health policies Gastrointestinal system surgery.
- e. Conduct research on Gastrointestinal system surgical conditions and disseminate the results in reputable scientific periodicals

## 10.TEACHING AND LEARNING METHODS

Will include:

- a. Ward and outpatient management.
- b. Learning correct surgical technique. Assisting and performing operations.
- c. Gastrointestinal surgery teaching rounds.
- d. Combined surgical gastroenterology and medical gastroenterology teaching rounds.
- e. Formal case presentations and discussions.
- f. Topic discussion in which a topic relating to a problem in management is \ discussed.
- g. Journal club (weekly)
- h. Research Review. Thesis and research projects in unit are discussed.
- i. Guest and in-house lectures.
- j. Participation in conferences, workshops, CMEs (conducted by NBE, other institutions etc.), seminars.
- k. Surgical Audit (morbidity and mortality meeting)

## **11.COMPETENCE DOMAIN: PROFESSIONAL KNOWLEDGE**

### **11.1. Broad competence statement:**

The trainee will demonstrate understanding of basic sciences and their application to GIT conditions. The trainee will demonstrate knowledge of the manifestations and diagnosis of GIT systems as well as knowledge for managing various conditions of these systems.

### **11.2. Competencies (learning objectives)**

- a. Demonstrate knowledge of applied basic sciences in the management of gastroenterological diseases.
- b. Describe surgical Gastrointestinal diseases
- c. Describe relevant diagnostic modalities in managing surgical Gastrointestinal diseases.

### **11.3. Methods of Instruction**

Seminars, small groups discussions using real patients,

### **11.4. Methods of assessment**

Written examinations consisting of Two 3 hours theory papers comprising of MCQs, EMQs and Structured short answer essay questions, Clinical examination as OSCE and viva.

## 12. COMPETENCY DOMAIN: CLINICAL/PRACTICAL SKILLS

### 12.1. Broad competence statement

The trainee will perform advanced clinical examination, interpret clinical manifestations and diagnose surgical Gastrointestinal diseases as well as interpret the various laboratory test results and use them for the management of patients with Gastrointestinal surgical diseases. Learners will develop differential diagnosis and carry out management of patients with Gastrointestinal surgical diseases under minima supervision.

### 12.2. Competency Learning objectives

- a. Perform comprehensive clinical surgical of patients with Gastrointestinal diseases
- b. Perform relevant diagnostic and therapeutic procedures for the various surgical Gastrointestinal diseases
- c. Interpret investigation results appropriately
  - Lead a team to address the various surgical Gastrointestinal diseases
  - Provide effective teaching in applied basic sciences, manifestations, and diagnostic evaluation of patients with surgical Gastrointestinal diseases

### 12.3. Competence Domain: Relationship with Patients, Clients and Communities.

#### 12.3.1. Broad competence statement:

The learner will engage and communicate with patients, clients and communities and to build relationship for the purposes of information gathering, guidance, education, and support; interact with patients with surgical Gastrointestinal diseases. Interact with families and clients under a broad range of clinical and practical circumstances

#### 12.3.2. Competencies (Learning objectives)

- a. Establish constructive relationships with patients, clients and/or communities to address their needs.
- b. Provide service to individuals and groups that is appropriate to the different background
- c. Demonstrate the ability to communicate health issues and policies effectively to the public

## **12.4. Competency domain: Relationships with Colleagues**

### **12.4.1. Broad competence statement:**

The trainee will engage with peers, teachers, and other healthcare professionals. The trainee will be able to engage and communicate with colleagues and to build relationships for the purposes of information gathering, guidance, mentoring, education, and support; interact and work with colleagues, and build teams working under a broad range of personal and practical/clinical circumstances.

### **12.4.2. Competencies (Learning objectives)**

- a. Interacts with colleagues, and other health professionals in a respectful manner including appropriate dress, verbal and non-verbal behavior
- b. Demonstrate good professional conduct to colleagues.

## **12.5. Competence domain: Maintaining Good Practice**

### **12.5.1. Broad Competency Statement**

The trainee will be able to investigate and evaluate patient care practices, appraise and assimilate scientific evidence to improve surgical patient care practice using a systematic methodology, appraise and assimilate evidence from scientific studies related to GIT surgical condition, Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness, use information technology to manage information and access online health profession information in support of their own education and the learning of others and participate and be able to organize continuing professional development programmes in GIT surgery.

### **12.5.2. Competencies (Learning objective)**

- a. Demonstrate the ability to evaluate one's own performance and practice
- b. Exhibit a capacity to regularly seek information necessary to improve professional practice (life-long learning)
- c. Demonstrate the ability to apply evidence-based decision making
- d. Recognize one's abilities and limitations and know when to request assistance.
- e. Demonstrate the ability to use information technology to optimize learning

## 13. COURSE CONTENT

### 13.1. Applied Basic Science in Gastrointestinal system

- a. Applied physiology of Gastrointestinal system
- b. Gastrointestinal system pathology

### 13.2. Manifestations of surgical gastroenterological diseases

- a. Dysphagia
- b. Odynophagia
- c. Chest pain of oesophageal origin
- d. Abdominal pain
- e. Nausea and Vomiting
- f. Constipation
- g. Diarrhea
- h. Anorexia
- i. Weight loss
- j. Upper GIT bleeding
- k. Jaundice

### 13.3. Diagnostic evaluation of a patient with upper gastroenterological diseases

- a. History and physical examination
- b. Radiographic techniques
- c. Nuclear medicine techniques and their application in Gastrointestinal system
- d. Endoscopy, abdominal ultrasound, and other diagnostic procedures
- e. Principles of ERCP

### 13.4. Pre-operative evaluation

- a. History and physical examination
- b. Microbiologic diagnosis of upper GI tract infection
- c. Radiographic techniques
- d. Nuclear medicine techniques and their application in Gastrointestinal system
- e. Endoscopy, abdominal ultrasound, and other diagnostic procedures
- f. Principles of ERCP
- g. Pre-operative evaluation

### 13.5. Clinical skills

- a. Ward work Participation in the management of admitted patients
- b. Outpatient clinic attendance and participation in the management of outpatients
- c. Participation in diagnostic and therapeutic procedures

## **13.6. Procedures**

### **13.6.1. Non-Invasive Procedures**

- a. Doing and interpreting abdominal ultrasound
- b. Participating in imaging procedures in Upper gastrointestinal system
- c. Interpreting X-rays, CT/MRI scans and radionuclide scans
- d. Participating in imaging procedures in upper gastrointestinal system

### **13.6.2. Invasive Procedures**

- a. Performing and interpreting Upper GI endoscopy
- b. Performing upper endoscopic interventional procedures e.g., sclerotherapy and variceal rubber banding of oesophageal varices and stenting,
- c. Paracentesis

## 14. SYLLABUS

### Syllabus Outline

The achievement of the FCS UGS (ECSA) by examination denotes that the successful candidate is capable of holding the position of a consultant in upper gastrointestinal and endoscopy surgeon in the region, and of being accorded specialist status.

#### 14.1. Oesophagus

- a. Anatomical detail, physiology of swallowing,
- b. Oesophageal manometry, pH monitoring
- c. endoscopic ultrasound and other diagnostic techniques,
- d. brush cytology,
- e. vital staining,
- f. contrast imaging and CT scan,
- g. congenital lesions (TOF), Zenker's diverticulum, epiphrenic diverticulum,
- h. esophageal trauma, rupture-spontaneous or iatrogenic,
- i. corrosive burns- detection, evaluation and management,
- j. esophageal motility disorders,
- k. Gastro-esophageal reflux disease (GERD),
- l. Achalasia.
- m. Barrett's esophagus,
- n. Oesophageal malignancy: adenocarcinoma and squamous carcinoma
- o. Various esophageal operations-
  - Diverticulectomy,
  - Excision of leiomyoma,
  - Oesophagostomy, myotomy,
  - Fundoplication procedures
  - Oesophageal resection (Ivor Lewis, McKeown, Transhiatal),
  - Oesophagogastrostomy,
  - Gastric pull-up,
  - Gastric and colonic bypass,
  - Complications of oesophagectomy,

#### 14.2. Stomach and Duodenum

- a. Anatomical details,
- b. physiology of gastric secretions,
- c. Gastroduodenal motility,
- d. Diaphragmatic hernia (congenital and acquired),
- e. Gastric volvulus,
- f. Pyloric stenosis in adults,
- g. Foreign bodies (bezoars),
- h. Stomach trauma,
- i. H.pylori in gastric diseases,

- j. Peptic ulcers
- k. Zollinger-Ellison syndrome,
- l. NUD,
- m. Gastric tumours: Benign and malignant
- n. Gastric surgery:
  - Vagotomy and pyloric drainage,
  - Gastrojejunostomy,
  - Bariatric gastric tube creation,
  - R-en-Y oesophagojejunal anastomosis,
  - Gastrectomy
  - Postgastrectomy syndromes and complications.

#### **14.3. Peritoneum, Omentum, Retroperitoneum**

- a. Recesses, reflections,
  - Subdiaphragmatic spaces,
  - peritonitis primary secondary and tertiary,
- b. Tuberculosis,
- c. Mesenteric cyst,
- d. Pseudomyxomaperitonei, ascites (diagnosis, investigation and management),
- e. Retroperitoneal tumors,
- f. Inguinal hernia,
- g. ventral hernias,
- h. peritoneoscopy.

#### **14.4. Small Intestine**

- a. Mesenteric vascular anatomy,
- b. Intestinal physiology,
- c. Ladd's band in adults
- d. Malrotation in adults
- e. Volvulus,
- f. Hernia,
- g. Intestinal obstruction,
- h. Ileocaecal TB,
- i. lymphoma,
- j. Tumors of small intestine,
- k. Meckel's diverticulum,
- l. Adult Intussusception,
- m. Small bowel gangrene,
- n. Intestinal resections,
- o. lengthening and transplantation,
- p. Mesenteric ischaemia,
- q. Short gut syndrome,
- r. Small bowel fistulae,

- s. Crohn's and other inflammatory bowel diseases
- t. Enteral feeding, home/parenteral nutrition.

#### **14.5. General Topics**

- a. Tumor genetics-oncogenes,
- b. Tumor markers,
- c. Systemic Inflammatory Response Syndrome (SIRS),
- d. Multiple organ dysfunction syndrome (MODS),
- e. Immunology in relation to transplantation and rejection,
- f. Intensive care and respiratory support,
- g. Surgical nutrition- parenteral and enteral,
- h. Iatrogenic complications of surgery like enterocutaneous fistulae,
- i. Intrabdominal sepsis/collections,
- j. Research methodology and Surgical audit.

#### **14.6. Operative Procedures**

Surgical procedures, candidates are expected to perform or assist:

##### **14.6.1. Oesophagus**

- a. Heller's Operation
- b. Fundoplication
- c. Transhiatal Esophagectomy THE + GPU
- d. Transthoracic Esophagectomy TTE + GPU
- e. Colonic pull up
- f. Endoscopic and laparoscopic anti-reflux surgery

##### **14.6.2. Stomach and Duodenum**

- a. TV + G.I./Pyloroplasty
- b. Billroth I & II gastrectomy
- c. Radical gastrectomy
- d. Excision of GIST tumours

##### **14.6.3. Small Intestine: Jejunum and Ileum**

- a. Feeding jejunostomy
- b. Typhoid ileal perforation
- c. Resection and anastomosis
- d. Ileostomy closure

## APPENDIX 1.

### Recommended Reading

#### Latest edition of the following Books

1. David Sabiston; Textbook of Surgery. WB Saunders Company, Philadelphia, London, Toronto
2. Schwartz, Shires, Spencer; Principles of Surgery. McGraw – Hill Book Co. New York, San Francisco, London.
3. O. James Garden, Andrew W. Bradbury and John Forsythe; Principles and Practice of Surgery, Publisher: Churchill Livingstone.
4. Hugh Dudley, David Carter; Rob and Smith's Operative Surgery. Butterworths London, Boston, Durban, Sydney, Toronto
5. M.A Glasby and C.L.H Huang; Applied Physiology for Surgery and Critical Care (1997). Butterworth-Heinemann, A division of Reed Educational and Professional Publishing Ltd
6. M.A Glasby and C.L.H Huang; Physiological Pathological. Butterworth-Heinemann, A division of Reed Educational and Professional Publishing Ltd
7. Walter F Boron, Emile L. Boulpaep; Medical Physiology, A cellular and Molecular Approach, Second Edition. Saunders Elsevier Science.
8. Bailey and Love's Short Practice of Surgery" by William and Bullstrode. Publ. Oxford University Press N.Y.
9. Oxford Textbook of surgery
10. G. Keen and Farndon; Operative Surgery and Management: Butterworth and Heinmann.
11. American College of Surgeons-Surgery Principles and Management-Webmed
12. Jameson L. Chassin; Chassin Operative Strategy in General Surgery by.
13. Michael M. Henry; Clinical Surgery: Elsevier – Saunder

#### Reference Journals

1. BMC Physiology Open Access Journal Online ISSN: 1472-6793.
2. Journal of Endocrinology published by BioScientifica Print ISSN: 0022-0795, Online ISSN: 1479-6805.
3. American Journal of Physiology
4. Surgical Clinics of North America.
5. British Journal of Surgery
6. East and Central African Journal of Surgery
7. Annals of Surgery
8. Journal of Endocrinology.
9. Surgical Clinics of North America.

10. British Journal of Surgery
11. Annals of Surgery
12. American Journal of Gastroenterology
13. Journal of Endoscopy
14. Gastroenterology
15. GI Surgery Annual
16. Tropical Gastroenterology
17. Gut
18. Digestive Surgery
19. World Journal of Surgery
20. Recent Advances in Surgery
21. Current Problems in Surgery