

# College of Surgeons of East, Central & Southern Africa



## Regulations and Syllabus relating to Membership Examination

MCS(ECSA)

2016 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)

# COLLEGE OF SURGEONS OF EAST, CENTRAL AND SOUTHERN AFRICA

## Regulations and Syllabus for Membership Examination - MCS(ECSA)

### Table of Contents

1. Introduction.....	2
2. Registration as a trainee .....	3
3. Training requirements .....	3
4. Logbook .....	4
5. Application to sit Examinations .....	5
6. Examination Format and Conduct .....	6
7. Syllabus .....	7
8. List of recommended procedures .....	15

## 1. Introduction

The College of Surgeons of East Central and Southern Africa awards Membership (MCS) and Fellowship (FCS) examinations. Trainee surgeons shall be attached to accredited institutions throughout their period of registration and shall attend approved short courses (see below).

The Membership Examination is designed to assess the basic principles of surgery and a broad knowledge of surgery in general. It is designed to identify surgical trainees who can recognize and deal with the wide variety of problems that may be met by trainees. They should be able to take responsibility for emergency surgical admissions, deal independently with life threatening situations due to trauma or critical illness, and be able to diagnose and plan treatment of a wide variety of surgical complaints.

Membership of the College does not confer specialist status but signifies that the member is ready to pursue higher surgical training in a particular specialty. Higher surgical training in the chosen specialty is examined by the College's Fellowship Examination, which will confer specialist status.

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. In order 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 the 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 of US\$400 can be paid online or 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:

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

## 3. Training requirements

All requirements below will need to be fulfilled without exception.

- 3.1. Before being eligible to sit for the MCS exam candidates will be required to be registered with the College. (see Section 2 above).
- 3.2. Candidates must be registered for at least 2 years before appearing in the MCS 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 exam at the end of the following year.
- 3.3. Candidates will be required to have satisfactorily completed two years of basic surgical training in recognized posts in approved centres in the region.
- 3.4. This training should take place *after full registration* with the medical council of the country in which the candidate is working.
- 3.5. The two years should comprise *at least six months of general surgery* including emergencies and *at least six months of orthopaedics* including trauma. The remainder of the time may be spent in any surgical specialty (including general surgery and orthopaedics). Involvement in research is encouraged but should not detract from time spent in clinical surgery.
- 3.6. In exceptional circumstances candidates who have had equivalent training outside the region may apply to the examination committee, with details of their training and logbooks but will have to show that they have spent at least one year in an accredited institution in the region in a surgical discipline.
- 3.7. All candidates for the MCS Examination will be expected to have successfully completed an approved Basic Surgical Skills course, Basic Surgical Science course and an approved Critical Care or Trauma Course. Proof of such courses should be brought to the oral examination.
- 3.8. Candidates will be required to complete at least 6 (out of a total of 10) MCS cases and at least 6 (out of a total of 10) Surgery in Africa journal club modules in each year of their training. Both of these resources are available on [www.schoolforsurgeons.net](http://www.schoolforsurgeons.net)

## 4. Logbook

COSECSA is transitioning from the use of a paper-based logbook to an electronic logbook. MCS candidates for the exam in 2016 and in all subsequent years are required to use the COSECSA electronic logbook. Candidates for the 2015 examination may use the paper-based logbook as used in previous years.

### Paper based Logbook (for candidates for the 2015 MCS examination)

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 to 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 Examinations and Credentials Committee Panel head, 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.

Before the start of the clinical and oral examinations, the logbook should be handed to the examination administration secretary. Proof of attendance at an approved Basic Surgical Skills course, Basic Surgical Science course and Critical Care or Trauma Course should be brought to the oral examination. Candidates will not be allowed to sit for the examination if this is not done.

### Electronic Logbook (for candidates for the 2016 MCS examination, and all subsequent examinations)

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. 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.

At the August council meeting of each year, the Country Representatives will hand over to the Examinations and Credentials Committee Panel head, a copy of the Training post assessment form and Trainee assessment form. Proof of attendance at an approved Basic Surgical Skills course, Basic Surgical Science course and Critical Care or Trauma Course should be brought to the oral examination.

## 5. Application to sit Examinations

- 5.1. Candidates who are registered as trainees (see Section 2 above) may sit the examination at the end of their second year of training provided that they have completed 24 months of training by that time. Candidates should submit the examination fee of US\$700 by the end of July 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 2 more years without having to rewrite the written examination, all within a period of four years in total.

## 6. Examination Format and Conduct

- 6.1. 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 Examination and Credentials Committee from amongst Fellows of the College for each examination. A register of examiners will be kept by the chairman of the Examination 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:
- Moderate the written question papers
  - Assist with the examination of candidates
  - Provide external independent assessment of the examination
  - Report on the conduct of the examination to the College Council.
- 6.2. The examination will be comprised of the following: A written section comprising two SINGLE- BEST multiple choice (MCQ or EMQ) papers. The first paper will be predominantly on the principles of surgery in general including basic sciences (sections i-ix of the syllabus) and the second paper will be primarily on systematic surgery (sections x-xx of the syllabus).
- 6.3. Candidates who pass the MCQ section will be invited by the Chair of the Examinations and Credentials Committee to the clinical exam. Candidates who do not pass the MCQ section will not be invited to the clinical section.
- 6.4. The Clinical examination will consist of an Objective Structured Clinical Examination. The OSCE will normally consist of 15 examined stations of 12 minutes each. These stations will examine the following broad content areas;
- Applied knowledge: anatomy, surgical pathology, applied surgical science and critical care
  - Applied skills: – clinical and procedural skills, history taking and communication skills in giving and receiving information
- 6.5. 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.
- 6.6. The examination papers will be set by members of the examination committee and independently moderated by an external examiner.

- 6.7. No details of marks will be issued to Country Representatives or candidates. Candidates should bring proof of identity, and proof of attendance at the mandatory short courses discussed in Section 3. As discussed in Section 4, candidates using paper logbooks should bring these.
- 6.8. 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.
- 6.9. 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.
- 6.10. 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.
- 6.11. 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.
- 6.12. 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. Syllabus

### SURGERY IN GENERAL

#### SYLLABUS INTRODUCTION

The Membership Examination is designed to pass out those surgeons in training who have a broad knowledge of surgical problems in general and who are capable of recognizing and dealing safely and efficiently with the wide range of surgical conditions which may be handled by the trainee surgeon. Candidates should demonstrate the basic surgical skills which are essential in confidently handling emergency surgical admissions, and dealing independently with life-threatening situations from traumatic and other critical diseases.

The trainee surgeon should be able accurately to diagnose and plan management of a wide variety of surgical diseases even in situations where investigative and therapeutic facilities are limited.

Trainees will be expected to have a good understanding of the anatomy, physiology and pathology relevant to clinical examination of the various branches of surgery, and to the understanding of functional disorders in those areas.



Trainees are expected to have sufficient knowledge in those aspects of regional and radiological anatomy that are relevant to clinical and operative surgery. They are expected to have knowledge in some detail of both histological and intracellular anatomy. A detailed knowledge of embryology will not be needed but trainees are expected to know the general principles and should have a more detailed knowledge of those aspects of embryology and genetics which are valuable in the understanding of the pathogenesis of the common correctable congenital anomalies.

The trainees will be expected to have a sound knowledge of human physiology and those deviations that occur in surgery, anaesthesia, shock, haemorrhage, dehydration and other abnormal states in surgical practice.

Candidates will also be expected to have some knowledge of pharmacology in relation to surgical practice and of the action of more important substances in use such as anaesthesia, antibiotics, analgesics, steroids and those acting on the autonomic, vascular and pulmonary systems. Some basic knowledge is expected about the effects of radiation on the body and the use of radioactive isotopes.

In biochemistry, a detailed knowledge of chemical analysis reactions and synthesis is not expected but knowledge of biochemistry which enables understanding of the effects of common surgical diseases and injuries upon the normal structure and function of the various systems of the body will be expected.

Trainees will be expected to have a very sound knowledge of the pathology of diseases specific to Africa in general and East and Central and Southern Africa in particular. The trainees will be required to understand the basic principles underlying disease processes. They must have an understanding of the general pathology including principles of immunology. Candidates are expected to show that they are able to apply the general principles to the problems met in surgical practice. Trainees should make themselves familiar in particular with the causation, character, and sequence of inflammation, trauma degeneration, regeneration, repair, hypertrophy, atrophy, hyperplasia, thrombosis, embolism, infarction, ischaemia, blood transfusion, and immunology, particularly due to the Human Immunodeficiency Virus.

Trainees are expected to be familiar with the general characteristics and behavior of bacteria and viruses with more detailed knowledge of those that are relevant to surgical practice. They are expected to have an understanding of toxins, allergy and the methods of action the antimicrobial agents and the manner in which the sensitivity to those agents is assayed.

No syllabus can be comprehensive enough to contain all the topics expected to be covered but the list below is just a guide to the topics which may be covered during the course and subsequent examinations for the Membership. A basic, but not detailed, understanding of the following topics will be expected:

## PRINCIPLES OF SURGERY IN GENERAL

### 7.1. SURGICAL TECHNIQUES AND TECHNOLOGY

- The operation theatre and its team
- Skin preparation & sterilization
- Prevention of sharps injuries
- Local and regional anaesthesia

- Incision and incision repair
- Suture and ligature materials, staplers
- Dressings
- Coagulation disorders and homeostasis
- Pathophysiology of wound healing
- Classification of surgical wounds
- Principles of wound management
- Scars and contracture
- Hypertrophic scars and keloid
- Wound dehiscence
- Excision of cysts and tumors of skin and subcutaneous tissues
- Principles of biopsy and cytological sampling
- Drainage of superficial abscesses
- Basic principles of anastomosis
- Use of drains

## 7.2. SURGICAL SEPSIS AND ITS PREVENTION

- Surgically important micro-organisms
- Anaerobic infections
- Pathophysiology of the body's response to infection
- Septic shock
- Sources, prevention and control of surgical infections
- Principles of asepsis and antisepsis; disinfection
- Aseptic techniques
- Antibiotic use in surgery
- Cellulitis, Necrotizing fasciitis, Pyomyositis, Gas Gangrene, Osteomyelitis
- Abscesses, Pus in body cavities/organs
- Surgical aspects of tuberculosis
- Transmission of HIV and hepatitis
- Signs of HIV disease
- Antiretroviral therapy – prophylactic and therapeutic
- Condylomata

## 7.3. TRAUMA AND CRITICAL SURGICAL ILLNESS; GENERAL PRINCIPLES OF MANAGEMENT

- Principles of pre-hospital care; triage
- Clinical assessment of critically ill and severely injured patients
- Scoring systems
- Haemorrhage and shock; acute renal failure; cardiac arrest.
- Resuscitation and haemodynamic support
- Monitoring of vital function in critically ill or severely injured patients
- Respiratory failure: pulmonary oedema, ARDS, pulmonary collapse, pulmonary embolism, fat embolism
- Penetrating injuries
- Gun shot and blast injuries
- Animal injuries
- Burns; emergency treatment & follow-up care

- Polytrauma
- Skin loss; principles of treatment by grafts and flaps
- Pathophysiology of fracture healing
- Principles of management and complications of fractures & tendon injuries
- Traumatic oedema and compartment syndromes
- Maxillofacial trauma
- Management of closed and open head injury
- Spinal injury
- Closed and penetrating chest and neck injuries
- Pneumothorax, haemothorax, cardiac tamponade
- Blunt and penetrating abdominal trauma
- Peritonitis & Common acute abdominal emergencies
- Traumatic haematuria
- Bladder and urethral injuries
- Arterial injuries

#### 7.4. PREOPERATIVE MANAGEMENT

- Assessment of operative risks – selection of patients
- Assessment of fitness for anaesthesia and surgery, and need for ICU care
- Techniques of venous access
- Techniques of nerve blocks
- Ultrasonography and surgical diagnostic methods
- Preoperative investigations
- Preparation for operation - management of associated medical conditions *inc.* diabetes mellitus, respiratory & cardiovascular disease, malnutrition, HIV disease, anaemia, jaundice, bleeding disorder, steroid, anticoagulant, antipsychotic therapy
- Correction of fluid and electrolyte deficiencies
- Antibiotic prophylaxis
- Premedication and sedation
- Prophylaxis of thromboembolic disease

#### 7.5. INTRAOPERATIVE MANAGEMENT

- Principles of anaesthesia
- Care and monitoring of the anaesthetized patient
- Prevention of nerve and other injuries in the anaesthetized patient
- Tourniquets – uses and precautions
- Methods for haemostasis, diathermy
- Blood transfusion – indications, hazards, complications; use of plasma substitutes

#### 7.6. POSTOPERATIVE MANAGEMENT

- Pain control
- Basic nursing care and instructions
- Respiratory complications – prevention, recognition and treatment
- Assessment and maintenance of fluid and electrolyte balance
- Postoperative monitoring

- Nutritional support, mobilization, rehabilitation
- Postoperative complications – prevention, recognition and management
- Abdominal compartment syndrome, burst abdomen, incisional hernia

#### 7.7. PRINCIPLES OF SURGICAL ONCOLOGY

- Principles of molecular biology of cancer; carcinogenesis
- Genetic aspects of oncology
- Screening tests
- Mechanism of invasion and metastasis
- Epidemiology of common cancers; the role of a cancer registry
- Clinico-pathological staging of cancer and premalignant states
- Principles of cancer therapy (surgery, radio/chemo/immuno/hormone therapy)
- Prevention of cancer
- Terminal care of cancer patients – pain and symptom relief

#### 7.8. HAEMOPOIETIC AND LYMPHORETICULAR SYTEMS

- Lymphadenopathy: causes, diagnosis and management
- Lymphoma: presentation, staging, typing and treatment
- Leucopenia and thrombocytopenia in relation to surgery
- Kaposi sarcoma: presentation and treatment
- Pathophysiology of the spleen, hypersplenism
- Indication for splenectomy, splenic preservation
- Chronic primary and secondary lymphoedema; filariasis
- Surgical effects of sickle cell disease
- Leishmaniasis

#### 7.9. THE EVALUATION OF SURGERY AND GENERAL TOPICS

- Decision making
- Clinical audit and Quality Assurance
- Statistics and computing in surgery
- Principles and research methodology
- Health service management and economic aspects of surgical care
- Medico-legal ethics and medico-legal aspects as relating to surgery
- Psychological effects of surgery and bereavement
- Communications with patients, relatives and colleagues
- Rehabilitation of surgical patients

#### 7.10. PAEDIATRIC SURGERY

- Special problems of anaesthesia and surgery in the neonate
- Principles of surgery for correctable life-threatening congenital anomalies: hydrocephalus, oesophageal atresia, intestinal obstruction, exomphalos, gastroschisis, ectopia vesicae, imperforate anus, meningomyelocele

- Principles of surgery for common paediatric disorders: cleft lip and palate, pyloric stenosis, intussusception, hernia; maldescended testis, abnormal genitalia, torsion, Hirschprung's disease, nephroblastoma, neuroblastoma, Burkitt's lymphoma

#### 7.11. BREAST SURGERY

- Benign breast disease *inc.* lumps, nipple discharge, mastalgia, hyperplasia
- Gynaecomastia
- Malignant breast disease *inc.* carcinoma, lymphoma, sarcoma, Paget's disease

#### 7.12. ENDOCRINE SURGERY

- Management of Thyroid disease
- Disorders of calcium metabolism
- Precocious puberty
- Differentiation of intersex states
- Cushing's syndrome
- Hyperaldosteronism (Conn's syndrome)
- Surgical causes of secondary hypertension

#### 7.13. HEAD AND NECK SURGERY

- Diagnosis and management of swellings in the neck
- Acute and chronic inflammatory disorders of the ear, nose, sinuses and throat
- Tonsillectomy
- Foreign bodies in the eye, ear, nose and throat
- Fundoscopy, auroscopy, laryngoscopy
- Epistaxis: causes and management
- Nasal and laryngeal polyps
- Common eye conditions: uveitis, conjunctivitis, corneal ulcer, glaucoma, exophthalmos, ectropion, onchocerciasis
- Salivary gland enlargement
- Ludwig's angina, Cavernous sinus thrombosis, Cancrum oris
- Basic principles of head and neck tumour management
- Indications for tracheostomy

#### 7.14. THORACIC SURGERY

- Bronchoscopy, oesophagoscopy: biopsy techniques, oesophageal dilation, injection of varices
- Use of Sengstaken tube
- Thoracentesis, chest drainage
- Mediastinitis
- Foreign bodies in the oesophagus and bronchus
- Corrosive oesophagitis, rupture of the oesophagus, oesophageal strictures
- Oesophageal varices
- Achalasia, Pharyngeal pouch
- Rupture of the diaphragm, hiatus hernia

- Principles of management of bronchial, oesophageal and lung tumours
- Pericardial effusion, pleural effusion
- Principles of closed mitral valvotomy

#### 7.15. VASCULAR SURGERY

- Peripheral limb ischaemia
- Indications for cervical sympathectomy
- Aneurysms & HIV-vasculopathy
- Principles of reconstructive surgery and amputation
- Varicose veins
- Deep venous thrombosis: causes, diagnosis, treatment and complications
- Chronic leg ulceration and gangrene
- Arterio-venous malformations & shunts

#### 7.16. GASTRO-INTESTINAL SURGERY

- Abdominal wall hernias & dehiscence
- Oesophagogastroduodenoscopy, proctoscopy, sigmoidoscopy, colonoscopy: biopsy techniques, polypectomy, haemostatic injection
- Peptic ulceration, gastritis
- Gastric outlet obstruction
- Upper and lower gastrointestinal haemorrhage – overt and occult
- Typhoid, amoebiasis, enterocolitis, schistosomiasis
- Ulcerative colitis, Crohn's disease
- Intestinal fistulae
- Stomas: gastrostomy, jejunostomy, ileostomy, colostomy
- Investigation of abdominal masses
- Intestinal obstruction, adhesions
- Gastro-intestinal malignancy
- Appendicitis, appendix mass
- Ascaris infestation
- Malignant diseases of the gastrointestinal tract
- Tuberculosis of the gastrointestinal tract
- Sigmoid Volvulus, Intussusception in adults
- Diverticular disease of the colon
- Constipation, irritable bowel syndrome, megacolon, pica
- Anorectal strictures
- Common anal and perianal disorders

#### 7.17. PANCREATIC & HEPATO-BILIARY SURGERY

- Portal hypertension
- Hydatid disease
- Hepatoma, & other liver tumors
- Liver biopsy
- Jaundice – differential diagnosis and management

- Cholecystitis, cholangitis, empyema of the gallbladder, carcinoma of the gallbladder
- Pancreatitis, pancreatic pseudocyst, pancreatic carcinoma

#### 7.18. GENITO-URINARY SURGERY

- Congenital abnormalities,
- Hydronephrosis, hydroureter
- Renal, ureteric and bladder calculi
- Renal tumours
- Cysto-urethroscopy
- Schistosomiasis, bladder tumours
- Retention of urine, urinary incontinence
- Urinary diversion, ileal conduit
- Urethral & suprapubic catheterization
- Urethral stricture
- Benign prostatic hypertrophy, carcinoma of the prostate.
- Scrotal swellings, epididymitis, testicular torsion, testicular tumors
- Fournier's gangrene
- Vasectomy: pre- and post-operative advice
- Phimosis, paraphimosis
- Balanitis, priapism, Peyronie's disease, penile carcinoma Genito-urinary tuberculosis
- Gynaecology for the general surgeon: gynaecological causes of acute abdominal pain, ectopic pregnancy, pelvic inflammatory diseases, endometriosis, ovarian tumors, principles of Caesarean section & symphysiotomy

#### 7.19. NEUROSURGERY

- Intervertebral disc problems – spinal compression
- Spinal tuberculosis
- Tumors of the central nervous system
- Neurofibromatosis
- Sciatica
- Paraplegia and quadriplegia – principles of management
- Prevention & management of pressure sores
- Principles of craniotomy
- Peripheral nerve lesions and nerve repair
- Nerve entrapment syndromes

#### 7.20. ORTHOPAEDIC SURGERY

- Contractures *inc.* burns, polio, Dupuytren's
- Club foot
- Congenital dislocation of the hip, Perthe's disease
- Kyphoscoliosis
- Metabolic, endocrine and degenerative disorders of bones
- Fractures and principles of fracture management

- Principles of internal fixation of fractures, osteotomy, bone grafting
- Principles of tendon repair
- Ganglions
- Rheumatic disorders
- Gout and degenerative arthritis, joint disorders
- Bone dysplasia
- Neuromuscular disorders
- Principles of arthrotomy, tendon repair, amputation
- Arthroscopy
- Hand deformities - congenital and acquired
- Surgical complications of leprosy
- Common disorders of the foot, ainhum
- Mycetoma, phycomycoses
- Malignant disease of bone and soft tissue

## 8. List of recommended procedures

80% of the following procedures are recommended to have been done as first assistant or independently by a trainee, having been previously supervised in these same procedures:

Excision of skin lesion  
 Incision & drainage of abscess  
 Removal of superficial & deep foreign  
 body Debridement/desloughing wound  
 Suturing complex  
 laceration  
 Fasciotomy/escharotom  
 y Insertion central  
 venous line  
 External cardiac massage &  
 defibrillation Insertion of intercostal  
 drain  
 Arterial  
 sampling  
 Lumbar  
 puncture  
 Intercostal & brachial nerve  
 blocks Tarsorrhaphy  
 Skin grafting  
 Excision of breast lump  
 Trucut needle biopsy of solid  
 tumour Fine needle aspiration  
 Simple mastectomy  
 Subcutaneous mastectomy for  
 gynaecomastia Rib resection  
 Dental extraction  
 Tracheostomy  
 Endotracheal  
 intubation  
 Long saphenous ligation & stripping of varicose  
 vein Lymph node biopsy  
 Orchidopexy &



orchidectomy  
Vasectomy  
Urethral  
catheterization  
Suprapubic  
cystotomy  
Circumcision  
Lower segment Caesarean  
section Tendon repair  
Carpal tunnel release  
Insertion of Steinmann pin  
Manipulation of fractures  
Application of POP  
Application of external  
fixator Below-knee  
amputation Above-knee  
amputation Proctoscopy &  
Sigmoidoscopy Rectal  
biopsy  
Insertion of seton for perianal  
fistula Lateral anal  
sphincterotomy Injection of  
haemorrhoids  
Inguinal herniotomy in a  
child Inguinal  
herniorrhaphy Epigastric  
herniorrhaphy Umbilical  
herniorrhaphy  
Laparotomy  
Appendectomy  
Closure perforated duodenal  
ulcer Salpingectomy  
Upper GI endoscopy