

College of Surgeons of East, Central & Southern Africa



Regulations and Syllabus relating to  
Fellowship Examination  
In Neurosurgery

FCSneuro(ECSA)

2016 edition

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# COLLEGE OF SURGEONS OF EAST, CENTRAL AND SOUTHERN AFRICA

## Regulations and Syllabus for Fellowship Examination in Neurosurgery leading to the qualification of FCSneuro(ECSA)

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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 Neurosurgery leads to the qualification of Fellow of the College of Surgeons of East, Central and Southern Africa, FCSneuro(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 recognised, 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. 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 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. Please see the COSECSA website for details of all fees.

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 fellowship examination in neurosurgery, candidates will be required to be registered with the College (see Section 2 above).
- 3.2. Candidates must be registered in the FCS Neurosurgery training programme for at least four years before appearing in the FCSneuro 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.

- 3.3. Candidates for the fellowship examination in neurosurgery should normally have passed the membership examination of this College and possess the qualification MCS(ECSA).
- 3.4. Candidates will have to have spent four years in recognised supervised training posts in addition to completing the requirements for MCS. Of these four years one year has to be spent training in basic neurosciences. The remainder of the time can be spent in units specialising in clinical neurosurgery, provided that these units deal with emergencies on a regular basis.
- 3.5. Of the four years, up to six months may be spent outside the region in a post that has been prospectively agreed with the COSECSA Examinations and Credentials Committee. This post may be in an elective unit.
- 3.6. Candidates are reminded that it is in their interest to experience a wide spectrum of surgical disciplines.
- 3.7. Exemption to the requirement of possessing the MCS(ECSA) qualification may be given to those who have passed an equivalent examination. In order to obtain an exemption, applicants must either:
  - Have completed an MMed(Surgery) qualification in one of the constituent COSECSA countries or in a COSECSA accredited training centre outside the COSECSA region, and provide evidence of four years of specialty training in neurosurgery as described in section 3.4. For applicants completing a four year MMed(Surgery) programme the minimum further requirement is one year in a COSECSA accredited training programme. For candidates completing a four year MMed(Surgery) programme the minimum further requirement is two years in a COSECSA accredited training programme.
  - Have completed FRCS, FCS(SA) or another similar specialist qualification and be working as a specialist in a COSECSA country. The basic surgical training examinations of other colleges and institutions may also be acceptable but each one will have to be reviewed by the Examination and Training Committee of the College before exemption can be given.
  - Candidates who are granted exemptions will be required to register with COSECSA by the end of February in the year in which they intend to sit the examination.

## 4. Logbook

COSECSA is transitioning from the use of a paper-based logbook to an electronic logbook. FCSneuro candidates for the examination in 2018 and in all subsequent

years are required to use the COSECSA electronic logbook. Candidates for the 2017 examination may use the paper based logbook as used in previous years.

#### Paper based Logbook (for candidates for the 2017 FCSneuro 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 2018 FCSneuro 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.

Before the start of the clinical and oral examinations, a print out of the electronic logbook operations list (signed by the trainee's supervisor) and consolidation sheet

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.

## 5. Application to Sit Examinations

- 5.1. Candidates should submit the examination fee by the end of July in the year of their exam. Please see the COSECESA website for details of all fees. Examination fees can be paid online, by bank transfer to the COSECESA Secretariat bank account in Arusha, Tanzania or to the COSECESA 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

- 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 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:

- 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 written FCSneuro (ECSA) 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.
- 6.3. Candidates who pass the written examination will be invited by the Chair of the Examinations and Credentials Committee to the clinical and oral examination. Candidates who do not pass the MCQ section will not be invited to the clinical and oral examination.
- 6.4. Candidates who pass the written examination will be invited by the Chair of the Examinations and Credentials Committee to the clinical and oral examination. Candidates who do not pass the MCQ section will not be invited to the clinical and oral examination.
- 6.5. 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.
- 6.6. Candidates have to pass the written examination and the clinical and oral examination in order to pass overall. 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 recognised examination centre with impartial invigilation. The COSECSA Country Representative shall be the Chief Examiner.
- 6.7. The examination papers will be set by members of the examination committee and independently moderated by an external examiner.
- 6.8. 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.
- 6.9. 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.
- 6.10. The chairman of the examination panel will endeavour to minimise the chance of a candidate being examined by an examiner from their own training institution.

- 6.11. 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.
- 6.12. 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.
- 6.13. 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

The fellowship examination in neurosurgery of the College is an examination aimed at assessing competence in neurosurgery at a consultant of specialist level. The syllabus below is an outline of what the candidate will be expected to know. It is not exhaustive, but provides a guideline to the topics candidates should understand and operative procedures with which they should be familiar. It should be noted that section at the end on “other surgical specialities” includes topics that are not always included in the term ‘neurosurgery’. This section is included because in this region of Africa many surgeons practice in areas where they might be the only surgeon available or might be covering at night for colleagues in other surgical disciplines. The level of competence expected in the topics of section of “other surgical specialities” will not be at a specialist level, but the candidate should have a sufficient understanding and skills necessary to provide adequate emergency care.

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

### Knowledge - based skills

A comprehensive general knowledge of the principles of surgery as noted above under General Objectives as well as specific knowledge of the anatomy of those areas outside the nervous system which involves neurosurgical operations, e.g. the abdominal wall and the contents of the peritoneal cavity.
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An intimate and precise knowledge of the anatomy of the central and peripheral nervous systems, including the spine
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and skull, and a working knowledge of the other basic neuroscientific disciplines including physiology, pathology, embryology, endocrinology and neuropsychology.
A thorough understanding of the general field of neurology, with particular emphasis on those neurological entities which have important differential diagnostic considerations with respect to neurosurgical.
Familiarity with and understanding of clinical electrophysiology (EEG, EMG, ECoG, evoked potentials, and neuro-otology), cerebral vascular physiology including cerebral blood flow, and functional cortical localization as derived from neuropsychological principles.
The ability to interpret neuroradiological examinations (plain x-rays, CT, MR, arteriography and ultrasonography) and radioactive nuclide imaging.
An understanding of the physiology and fundamentals of clinical endocrinology, especially neuroendocrinology.
A sufficient awareness of the scientific method, including the principles of epidemiology, in order to provide the basis for critically analyzing the literature for continuing medical education and investigation.
An awareness of gross and microscopic neuropathology such that the recognition of morphological features allows the formulation of a differential (morphological) diagnosis with respect to the common neurological and neurosurgical disorders.

## Clinical Skills

The thoroughly practised discipline of obtaining a detailed history and carrying out a detailed neurological examination in order to provide a comprehensive differential diagnosis and localization of diseases affecting the central nervous system.
The demonstration of skills in ordering and interpreting appropriate general diagnostic tests (hematology, x-ray, chemistry, etc.) for the satisfactory management of patients.
The demonstrated ability to order and interpret specific diagnostic tests relating to the management of neurosurgical patients.
The provision of ongoing, high quality, post-operative neurological assessment and care, including neuro-intensive care.
The ability to interpret neuroradiological examinations.
The personal deportment of a professional including the demonstration of a sincere, caring attitude in dealing with patients.

## Technical Skills

At the completion of training, the trainee to have demonstrated a thorough understanding of the surgical anatomy, and the technical ability to satisfactorily and safely perform in patients of all ages:

Burr holes and the drainage of chronic subdural hematomas, tapping of the ventricles, and the insertion of drainage catheters (for CSF shunts and ICP recording).
Elective and emergent craniotomies (supratentorial and posterior fossa) and the subsequent:
<ul style="list-style-type: none"> <li>• removal of intracranial hematomata</li> </ul>
<ul style="list-style-type: none"> <li>• repair of cerebral aneurysms</li> </ul>
<ul style="list-style-type: none"> <li>• removal of arteriovenous malformations</li> </ul>
<ul style="list-style-type: none"> <li>• surgical treatment of benign and malignant intracranial tumors</li> </ul>
Stereotactic biopsy of cerebral tumors
The transsphenoidal removal of pituitary tumors.
The treatment of simple and compound depressed skull fractures.
Neck dissection appropriate to:
<ul style="list-style-type: none"> <li>• exposure of the carotid arteries and endarterectomy</li> </ul>
<ul style="list-style-type: none"> <li>• tracheostomy</li> </ul>
<ul style="list-style-type: none"> <li>• anterior cervical discectomy and fusion</li> </ul>
Lumbar and cervical discectomies, including the relevant anterior and posterior approaches.
The treatment of spinal injuries and other spinal disorders, including internal and external spinal stabilization.
The removal of spinal tumours and arteriovenous malformations.
The following treatments of peripheral nerve:
<ul style="list-style-type: none"> <li>• decompression of the median nerve in the carpal tunnel</li> </ul>
<ul style="list-style-type: none"> <li>• transposition of the ulnar nerve</li> </ul>
<ul style="list-style-type: none"> <li>• primary suture of lacerated nerve</li> </ul>
The ability to treat various paediatric neurosurgical conditions including:
<ul style="list-style-type: none"> <li>• Repair of myelomeningocele and encephalocele</li> </ul>
<ul style="list-style-type: none"> <li>• Repair of craniosynostoses. Candidates will endeavour to learn the principles of management of this condition. It is recognized that the condition appears to be quite rare in East, Central and Southern Africa, and the opportunity for experience may be</li> </ul>

limited.
<ul style="list-style-type: none"> <li>• Insertion of various CSF diversionary shunts</li> <li>• Neuroendoscopic management of hydrocephalus.</li> </ul>
<ul style="list-style-type: none"> <li>• Treatment of occult dysraphic conditions including lipomyelomeningocele, tethered cord, and diastematomyelia</li> <li>• Neoplasms peculiar to children (noting that these may be different in children)</li> </ul>

### Technical Skills in Certain Subspecialized Areas

There are certain subspecialized areas within the specialty which are not necessarily a part of neurosurgical training programs in general. It is recognized that these do not necessarily form part of the "core" of neurosurgical training, but it is just as readily recognized that many of these will gradually, in the future, become part of that core. The minimum expected of the trainee in these areas is a complete awareness of the techniques, an understanding of the relevant surgical anatomy and recognition of the principles of management. They are as follows:

Functional neurosurgery pertaining to:
<ul style="list-style-type: none"> <li>• the treatment of pain including dorsal column/deep brain stimulation, epidural infusion of analgesics, etc.</li> </ul>
<ul style="list-style-type: none"> <li>• the treatment of spasticity</li> </ul>
<ul style="list-style-type: none"> <li>• epilepsy surgery including the use of local anesthesia, functional cortical localization by electrical stimulation and the technique of subpial cortical dissection</li> </ul>
<ul style="list-style-type: none"> <li>• stereotaxic surgery including the treatment of basal ganglia disease (movement disorders) and the treatment of various disorders by focused radiosurgery</li> </ul>
Complicated peripheral nerve surgery, including brachial plexus lesions.
Special neuro-oncology, e.g. interstitial radiation
Specialized pediatrics procedures:
<ul style="list-style-type: none"> <li>• Craniofacial disorders</li> </ul>
<ul style="list-style-type: none"> <li>• Third ventriculostomy</li> </ul>
Spinal instability, including the various methods of spinal instrumentation.

## Attitude and Deportment

Upon completion of training, the trainee will have demonstrated:

An unquestioned sense of honesty and personal integrity and the personal attributes of a professional.
The capacity to relate to, and work effectively with, other medical colleagues and health care professionals.
An exhibition of the ability to develop sincere and effective patient-surgeon relationships, with patients and their relatives.
A sympathetic understanding of human dignity, weaknesses and intolerances as revealed by compassion to patients and their families, particularly in the circumstances of death and dying.
A realization and understanding of the importance of bio-ethical issues in the delivery of health care.
A commitment to continuing medical education and lifelong learning.
A thorough appreciation of the necessity for quality assurance, both objectively and subjectively, in the delivery of health care.

## Other Surgical Specialities

Open and closed reduction of dislocations Manipulation and POP splintage of fractures Skin and skeletal traction Open fracture debridement and external fixation Nerve repair Flexor and extensor tendon repair Surgical approaches to the joints and arthrotomy Limb trauma Open and closed Fractures Dislocation of joints Nerve injuries Flexor and extensor tendon repairs Acute septic arthritis	
Open and closed chest injuries:	Insertion and mangement of chest drains Thoracotomy and post operative management
Obstetric and gynaecological emergencies:	Caesarian section Surgery for ruptured ectopic pregnancy Approaches to the female pelvis Episiotomy
Anaesthesia:	Use of local anaesthesia Digital block Axillary block Spinal anaesthesia

	Use of ketamine Simple general anaesthesia
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