



Curriculum

FNB Fellowship

2025



STROKE MEDICINE

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1. INTRODUCTION

Stroke is one of the leading causes of death and disability worldwide including India. Effective acute and long term management can minimize brain injury and prevent recurrence.

This curriculum is designed for providing integrated training in management of acute stroke, its complications as well as an exposure to surgical and interventional management for prevention and treatment of stroke. It also focuses on secondary stroke prevention and rehabilitation in stroke.

2. OBJECTIVES OF THE PROGRAMME



- a) Fellow to be trained for selecting candidates for thrombolytic therapy/mechanical revascularization based on clinical and interpretation of multimodal imaging findings and monitoring of patients for any complications.
- b) Learn in-patient management and care of stroke patients in wards, Neuro ICU and Stroke Unit by assisting clinicians and working with other allied health professionals.
- c) Learn out-patient management by attending Stroke Prevention Clinic and assisting consultant.
- d) Fellow should also be able to recognize cerebral and cerebellar hemorrhage, malignant hemispheric strokes and cerebellar strokes who may benefit from surgical treatment.
- e) Gain valuable knowledge through educational opportunities including case rounds, academic rounds; in which fellows are regularly scheduled to present stroke and neuro imaging related talks.
- f) Fellow to be trained in managing and evaluating in depth etiology of young stroke, embolic stroke of undetermined source, CVST, peripartum and pediatric stroke
- g) Exposure to and managing of cases like AVM and aneurysms
- h) Fellow gets training in performance and interpretation of transcranial Doppler including long term micro embolic signal detection.
- i) Fellow gets exposure to multidisciplinary rehabilitation of acute and chronic stroke patients.
- j) Work with neuro interventionists to treat a variety of acute stroke cases.
- k) Understand and gain some exposure to academic research and clinical trial management.
- l) Participate in stroke related research projects.



3. TEACHING AND TRAINING ACTIVITIES

Hospitals designated for stroke fellowship get a large turnover of acute and chronic stroke patients every day and conduct all types of acute stroke interventions (intravenous and mechanical), including intervention in wake up period. They house an organized stroke unit, trained faculty, advanced imaging facilities and allied specialties.

- As a clinical fellow, time is spent in clinical situations including acute stroke management, emergency department, out-patient clinics and on-service/call rotation, clinical trial follow-ups, in addition to educational sessions.

TEACHING ACTIVITIES:

1) Journal Club & critical appraisal: This would be a weekly academic exercise.

Candidate will be expected to select articles for presentation from reputed Stroke journals and discuss their suitability for presentation with the moderator.

2) Faculty Lecture

3) Case presentations- of atypical presentations and difficult stroke cases.

4) Seminars

5) Poster/Paper presentation in national/international conference – at least one during the course.

6) Stroke Case Rounds every week and Stroke Academic Lectures

7) Neurology Grand Rounds

8) The fellow will also have an opportunity to work on secondary stroke prevention and participate in various stroke trials.

9) Training in research methodology and techniques

10) The fellowship candidate shall be assigned the job of teaching neurology residents, postgraduate students and also students of paramedical courses.

7) Attendance in one National/ International Stroke Conference per year is mandatory. Representation in more than 1 educational activity will be



encouraged.

The day-to-day work of the trainees will be supervised by the consultant of the Department of Neurology and head of fellowship program.

4. SYLLABUS

I. Basic sciences of cerebrovascular diseases.

- A. Neuroanatomy and vascular anatomy, Pathogenesis of atherosclerosis, dissection, other cerebrovascular diseases like aneurysm, AVM, moyama moyama vasculopathy, intracerebral bleed.
- B. Knowledge of vascular risk Factors-Diabetes, hypertension, dyslipidemia, cardiovascular diseases and arrhythmias and their management.
- C. Pharmacology of drugs, their indications and the rational use.
- D. Principles of neurosonogram -Transcranial Doppler -basic physics, indications, use in microembolic signal detection and during thrombolytic therapy to assess vessel recanalization.
- E. Rationale and mechanism of surgical and endovascular treatment in acute stroke and for prevention of stroke.

II. Clinical sciences

- A. Epidemiology of stroke and other cerebrovascular diseases
- B. Genetics and epigenetics of stroke
- C. Diagnosis of stroke and distinguishing from stroke mimics, recognizing high risk TIA and minor strokes and triaging them in outpatient setting for rapid evaluation.
- D. Selection of patients for acute stroke therapies-intravenous/intraarterial or mechanical thrombolysis based on clinical picture and imaging.
- E. Acute critical care management of stroke, including maintaining perfusion to prevent deterioration, management of raised ICP and selection of patients for decompressive surgery.



- F. Acute management of intracerebral hemorrhage, including BP management, selecting patients for surgical evacuation.
- G. Selection of patients and pre and postoperative management of carotid revascularisation
- H. Initiating and planning multidisciplinary rehabilitation of acute and chronic stroke patients.
- I. Planning secondary prevention strategies and modification of risk factors
- J. Selection of patients for intracranial stenting and Moyamoya revascularization.

III. Neuroimaging

- A. Interpretation of NCCT Head, CT angiogram and CT perfusion studies
- B. Interpretation of MRI, MR angiogram, MR perfusion and plaque imaging
- C. Cerebrovascular reactivity studies
- D. Conventional angiogram techniques and interpretation

IV. Transcranial Doppler and Neurovascular Sonolgy

Principles and physics, indications, utility in microembolic signal detection and assessing vessel recanalisation in acute stroke during reperfusion therapies

V. RESEARCH

Short term prospective study to be conducted during the course period with an aim to publish it in an indexed journal of repute in the field of cerebrovascular diseases/present findings in national/international conferences.

1. Active research work in stroke trials with publishing one's work in Indexed journals.
2. Attending and actively participating in national and international stroke conferences

5. LOG BOOK



A candidate shall maintain a log book of all academic activities like journal clubs, seminar and case presentations during the training period, certified by the concerned Head of the department / senior consultant.

This log book shall be made available to the board of examiners for their perusal at the time of the final examination.

6. RECOMMENDED TEXTBOOKS AND JOURNALS

- Caplan's Stroke- A Clinical Approach, 5th Edition. Louis R. Caplan
- Stroke: Pathophysiology, Diagnosis, and Management, 7th Edition. James C. Grotta, Gregory W Albers MD, Joseph P Broderick MD.
- Oxford Textbook of Stroke and Cerebrovascular Disease. Bo Norrving.
- Stroke Medicine. Hugh Markus, Anthony Pereira, Geoffrey Cloud
- Acute Ischemic Stroke, Imaging and Intervention, Second Edition. R.G. Gonzalez, J. A . Hirsch, M.H. Lev



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