

SANJAY GANDHI POST GRADUATE INSTITUTE OF MEDICAL SCIENCES, LUCKNOW

DEPARTMENT OF NEUROSURGERY

**Curriculum PDCCC in NEURO-OTOLOGY**

Introduction of the Department and course:

Sanjay Gandhi Post Graduate Institute of Medical sciences has been established by the State of Uttar Pradesh to provide excellent tertiary health care, education and research. The department of Neurosurgery with its inception has a dedicated Neuro-otology unit and has been actively involved in management of Neuro-otological diseases.

Neuro-otology is a subspeciality of Otolaryngology with Otology problems that are closely related to nervous system. There are very few Neur-otologist in India and this a need of hour to creat Post Doctoral Certificate Course (PDCC) in Neuro-otolgy in our Department where the candidate will be trained in close co-operation with Neurosurgeon, Neurologist and Neuroradiologist  
Neuro-otology unit of the department perform approx. 360 Major surgery every year and runs OPD 3 days every week and has a monthly OPD of approx. 1700 cases. Neuro Otology has 2 faculty member (1Associate professor and 1Assistant professor) along with 2 Senior Residents.  
The institute has all the infrastructure required to run a modern Neuro-otology unit, including medical and surgical neuro-otological diseases, with the existing facility .

Purpose:

The purpose of this program is to prepare a fully trained person in NEURO-OTOLOGY so that he can establish a proper Centre somewhere else or do address Neuro-otological diseases in a scientific and academic way.  
Neuro Otology unit is only functional unit of Neuro Otology in entire country and the PDCC will be an unique opportunity to create a sub speciality in India which is well established in USA and Europe having fellowship courses in all major Otolaryngology Department in collaboration with Neurosurgery.



**Lt Col Varun Bajpai VSM**  
Executive Registrar  
SCPGIMS, Lucknow

Needs: Local : Pink, National : Orange, Regional: light blue, International : green

**Colour Coding**  
Global  
Regional  
National  
Local (State)

GREEN  
BLUE  
ORANGE  
PINK

Eligibility Criteria:

MS OTOLARYNGOLOGY (ENT)  
Diplomat National Board of OTOLARYNGOLOGY(ENT)

Course Curriculum:

- I. **Neuro-anatomy and Neur-physiology**
  - **Anatomy of Temporal bone**
  - Anatomy of External Ear, Middle ear and Inner Ear.
  - Anatomy of the Internal Auditory canal, Jugular Foramen and Petrous Apex
  - Central Auditory and Vestibular Pathways**
  - Physiology of the Auditory System
  - Physiology of the EXTERNAL, MIDDLE AND INNER EAR
  - Central Auditory Pathway
  - Physiology of Vestibular System-
  - Balance Physiology of the Inner Ear
  - Central Vestibular Processing
  - peripheral Nerves, CNS/CSF**
  
- II. **Otological and Neuro-otologic Diagnostics and Test**
  - General Otologic/Neuro-otologic Examination**
  - The Neuro-otologic Cranial Nerve Examination
  - Evaluation of Hearing, Clinical and Behavioral Testing
  - Objective Audiometry**
  - Assessment of Middle Ear Function, OAE, ABR, ASSR, Ecocochlear Cortical Potentials**
  - Evaluation of Balance System**
  - Clinical Evaluation, Basic Principles
  - Dix-Hallpike Test
  - ENG, VEMP, Posturography
  - Evaluation of Facial nerve**, Clinical Evaluation and Objective testing
  - Imaging of Temporal Bone**
  - Conventional Radiography, CT, MRI, MRA, MRV, DSA, Bone Scan**
  
- III. Disease Specific Diagnostics and Medical Management
  - External Ear**



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Congenital malformations, Acute Infection, Chronic Infections, Benign Tumors, Malignant Neoplasm, Trauma

**-Middle Ear**

- Congenital Malformations, AOM, CSOM, Complications of CSOM
- Temporal Bone Encephalocele
- Neoplasm of Middle Ear

**-Inner Ear**

- Congenital SNHL
- Early Acquired Hearing loss and Auditory Neuropathy
- Occupational and Noise Induced Hearing loss
- Sudden SNHL, Presbycusis, Autoimmune Hearing Loss and Perilymphatic fistula

**-Tinnitus and Hyperacusis**

- Disorders of Vestibular System
- Vestibular Neuronitis, BPPV, Meniere Disease

**-Medial Temporal Bone**

- Internal Auditory Canal and C P Angle
- Overview of Vestibular Schwannoma
- Neurofibromatosis Type 2
- Radiation Therapy
- Miscellaneous Disorders of the IAC and CPA
- Benign Neoplasm of other Cranial Nerves
- Meningiomas of CPA
- Rare diseases of CPA and IAC
- DISORDERS OF PETROUS apex
- Lesions of Jugular Foramen

**-Disorders of Facial Nerve**

- General Principles, Bells Palsy, Ramsey Hunt Syndrome, Iatrogenic Facial Nerve palsy

**-Central Neuro-otological Disorders**

- Migraine Vestibulopathy
- Multiple Sclerosis
- OTOLOGIC and Neuro-otologic symptoms of Meningitis, Stroke, Raised ICP, Seizure Disorder, Vascular Compression Syndrome

**-Fractures of Temporal Bone**

**-Audiological Management of Hearing Loss**

- Application of Hearing
- Cochlear Implants
- Brain Stem Implants
- Implantation Otology

**V Surgical Therapy of the Temporal Bone**

**-Otologic/Neuro-otologic Instrumentation**



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- Intra-operative Monitoring
- Surgical access to the Mastoid and Middle ear and Grafting Material
- Considerations of Pediatric Ear Surgery
- Canaloplasty of the EAC
- Temporal Bone Resection
- Surgical management of Aural Atresia
- Management of Middle Ear Trauma
- Surgical management of AOM, CSOM
- Mastoidectomy and Surgery of CSOM Including Tympanoplasty, Ossiculoplasty TORP, PORP and Tympano-Mastoid procedures
- Surgery of Otosclerosis
- Surgical Management of Facial Nerve Neoplasm, Trauma and Bells Palsy
- Surgery of Implantable Auditory Devices
- Cochlear Implants, BAHA, Hearing Aids, Implantable Hearing Aids
- Neuro-otologic Approaches to the Medial Temporal Bone
- Middle Fossa, Retrolabyrinthine - Translabyrinthine, TransCochlear, RMSO, Combined Approaches to CPA.

- Surgical Management of Chronic Vestibular Disorders
- General Consideration, Chemical Labyrinthectomy, Translab and Middle fossa avestibular Neurectomy
  - Labyrinthectomy, Endolymphatic Sa Surgery
  - Surgery of Vestibular Schwannoma
  - Infratemporal Fossa Approaches
  - Surgery of Lesions of Petrous Apex

- VI. Management of Complications
- Rehabilitation of Cranial Nerve Deficits
  - Vestibular Rehabilitation
  - Treatment of the Eye and Disorders of Facial Nerve
  - Management of Post Operative CSF Leak

## VII

- **Temporal Bone Dissection Exercises**

## VIII Research

Read and Analyse Scientific articles.

Write and Publish at least one Manuscript

Take part in Journal Club, Seminars, CGR, Pre-op Sessions and Group Discussion of the Department.



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#### Duration of PDCC/Training /Rotation and Exit Evaluation

Neuro-otology PDCC will be of 1 year Duration during which the Candidate will have 4 week rotation in Neurology ,6 week in Neurosurgery Theater and 2 week in Neuro-Radiology.

The Candidate will participate in in the Patient care on Outdoor, Indoor and Emergency Services. The candidate has to maintain a log book.

#### Exit Evaluation

The Final Exam will be held at the end of 1 year. It will consist of Theory and Practical Examinations as per Institute Guidelines of PDCC Curriculum.



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