

Krishna Vishwa Vidyapeeth

(Deemed to be University), Karad

Curriculum for the Fellowship in

Neurosurgery (Cisternostomy)

Duration 1 year

- **Preamble:**

To treat patients with Traumatic Brain Injury, at different stages and perform Cisternostomy procedure which consists of advanced micro-neurosurgical techniques. Fellows should be excellent counsellors. A fellow should be able to contribute to knowledge in this subspeciality through clinical and research.

- **Eligibility Criteria(Qualification):**

- M.Ch Neurosurgery
- M.Ch Neurosurgery Residents

- **Objectives**

Knowledge:

Trainee should be able.

- To make assessment of a patient with a suspected or known neurological condition.
- To make appropriate staging of the disease.
- To counsel them and their relatives regarding available treatment options and risk involved.
- To provide palliative treatment.

Skill:

Fellow should be able.

- To obtain appropriate history and do clinical examination and investigations.
- To communicate treatment plan to the patient and relatives.
- To counsel regarding risks of treatment/Surgery
- To select and perform appropriate surgical management.
- To discuss, recognize and manage intra and post-operative complications.

- **Goals of Training:**

- To learn how to examine and evaluate a patient with traumatic brain injury.
- To understand management protocols for common neurosurgical diseases.
- To acquire a thorough knowledge of neuroanatomy and to learn basic principles in Neurosurgery.
- To acquire basic knowledge of neuro anatomy along with Radiological findings in different stages of acute trauma.

- To learn Pre and Postoperative management of patients with Traumatic Brain Injury in Neuro ICU with Neurosurgeons and critical care team.

- **Syllabus/Course content :**

I. Clinical :

Out Patient Clinic:

- In the first four weeks: to learn work-up patients in casualty: history taking, clinical examination, CT scan findings, pre-treatment investigations and follow up protocols.
- Actively involved in Neurosurgical and Neurocritical Care Multidisciplinary team meetings.
- Learn
 1. Disease staging
 2. To read CT scan/MRI/DSA
 3. Basic Investigations
 4. Treatment decision making
 5. Post treatment rehabilitation protocols

Inpatient:

- Daily ICU and ward rounds along with Neurosurgical residents and consultants
- Learn
 - b. Post operative management of patients diagnosed with Acute subdural hemorrhage, Traumatic Subarachnoid Hemorrhage, Traumatic and Non-Traumatic Intraparenchymal Hemorrhage, Acute Infarct who have undergone Cisternostomy
 - c. Pre-operative management and evaluation of cases like Acute Subdural hemorrhage, Traumatic Subarachnoid Hemorrhage, Traumatic and Non-Traumatic Intraparenchymal Hemorrhage, Acute Infarct, and taking decisions regarding their further surgical interventions.
 - d. Management of the patients diagnosed with Nontraumatic Subarachnoid Hemorrhage due to ruptured aneurysm. Treatment/ prevention of vasospasm. Stabilization and evaluation Treatment decision for the further surgical intervention.

Surgical Exposure:

a. To Assist and perform the following surgeries

- Cisternostomy
- Evacuation of Subdural, Intraparenchymal Hematoma

b. Contusectomy

To assist in Cisternostomy procedure:

- To learn how to perform Adequate Craniotomy
- To learn Precise SkullBase technique using drill system
- To learn how to open Basal Cisterns in a tight brain.
- To learn how to identify all anatomical structures in a tight brain.

c. Minor OT procedures;

- EVD
- Evacuation of Hematoma

- Excision of Bone Fracture

Allied Postings:

1. ICU	-	Eight week
2. Ward	-	Four week
3. Casualty	-	Four week
4. Neurosurgical Skill Lab	-	Eight week
5. OPD	-	Two week
6. OT	-	Twenty two week

Lecture Schedule (Saturday):

Lecture 1- Introduction in Traumatic Brain Injury

Lecture 2- A new perspective on CSF dynamics after SAH: from physiology to pathophysiological changes.

Lecture 3- CSF Shift Edema - Role of "Fluid Shift" in Adopting a Microsurgical Technique for Moderate to Severe Head Injuries.

Lecture 4- Cisternostomy for Traumatic Brain Injury:

Lecture 5- Cisternostomy: A Timely Intervention in Moderate to Severe Traumatic Brain Injuries: Rationale, Indications, and Prospects.

Lecture 6- Exploring the Virchow-Robin spaces function: A unified theory of brain diseases.

Lecture 7- Mechanism of Basal Cisternostomy

Lecture 8- Anterolateral Skull Base Approach for Cisternostomy

Lecture 9- The Orbital Meningeal Band as a Way to Bloodless Transcavernous Dissection and Anterior Clinoidectomy.

Lecture 10- Brain unlocking in Axial and Sagittal Planes

Lecture 11- Technique of Posterior Clinoidectomy and Its Applications.

Lecture 12- Cisternostomy for Middle Cerebral Artery Infarction.

Lecture 13- Radiological Finding in Traumatic Brain Injury

Lecture 14- Radiological Findings in Acute Stroke.

Lecture 15- Ipsilateral Cerebellopontine Angle Cistern Widening- A Radiological Indication For Timely Cisternal Drainage In Patients With Traumatic Brain Injury.

Lecture 16- Role of computed tomography scores and findings to predict early death in patients with traumatic brain injury

Lecture 17- Modified World Federation of Neurosurgical Societies subarachnoid hemorrhage grading system.

Lecture 18- Outcomes Of Severe Head Injury Patients Undergoing Cisternostomy

Lecture 19 - Critical Post operative management

Lecture 20- Evaluation and Interpretation of all investigations

Lecture 21- Ventilator Parameters and modes

Lecture 22- Neurorehabilitation

Lecture 23-Recent advances in neurosurgery

Lecture 24 - Purpose and usefulness of writing articles and projects

Skill Lab work Every Friday:**Core Neurosurgery**

- General Assessment of a Neurosurgical patient
- Pre and postoperative care
- Case discussions
- Lab work
- Surgical management
- Conservative management
- OPD
- Neuro Rehabilitation

Additional training

- Physiotherapy techniques for Neurosurgical Patients
- Radiological Academic Lectures
- Clinical Audit And Research
- Communication and counseling skills

Advanced modules

- Minimally Invasive surgery
- Advanced Microneurosurgical management of Trauma cases

II. Research:

The candidate must try to publish at least one research paper in one year.

ASSESSMENT:

- Theory examination (200 marks): Two papers of 100 marks each
- Practical Examination (200 marks): Long case structured assessment, Short case structured assessment, OSCE/ OSPE examination,
- Oral structured viva voce examination
- Logbook



Duration of the Program : 1 year

Tuition Fee of the Program : USD 2000

