

## In the Name of God

### Islamic Republic of Iran Ministry of Health and Medical Education Deputy for Education

## Neurosurgery (Neurological Surgery)

### Degree: Specialty

#### Program Description (Introduction)

Neurosurgery was established in Iran in 1951 and since then the curriculum has undergone many changes parallel to this specialty developments in the world.

It is necessary that the curriculum of various programs be reviewed every few years due to constant advances in science and technology, environmental changes, changing pattern of diseases, and increase in accidents in the world (many of which lead to brain and spinal cord injuries); and, considerable developments in diagnostic and therapeutic procedures in various fields, including neurosurgery. To review the neurosurgery program curriculum, multiple committees participated and the current curriculum is the result of their hard intellectual works.

#### Definition and Duration of the Program:

Neurological surgery is a branch of medical sciences in which students study all fields of central/peripheral nervous system disorders, autonomic nervous system, skull, spine, and other supporting structures and systems and are involved in diagnosis, surgical and nonsurgical management, care and rehabilitation of different types of related diseases. **Program duration: 5 years.**

#### Admission Requirements

- Holding an MD degree
- Having passed the National Entrance Exam

#### Expected Competencies at the End of the Program      General Competencies\* Specific Competencies and Skills

1. Diagnostic procedures
  - The brain (biopsy of the brain, blood vessels, skull)
  - Vertebral column and spinal cord (such as lumbar puncture, spinal biopsy)
  - Peripheral nerves (such as nerve biopsy)
2. Taking care of and following-up patients' treatment in ICU
3. Surgical procedures of the brain, vertebral column and peripheral nerves
  - A. Emergency cases
    - Reconstruction of different types of pressure on nerve tissue
    - Reconstruction of skull and vertebral column fractures
    - Evacuation of hematoma
    - Brain decompression
    - Traction of vertebral column

**B. Selected cases:**

- Reconstruction of congenital abnormalities
- Treatment of various types of lesions:
  - degenerative infectious
  - tumoral ◦ functional ◦ vascular

**Educational Strategies, Methods and Techniques\*****Student Assessment (Methods and Types)**




<b>Methods Of Assessment</b>	<b>Periods Of Assessment :</b>
MINICEX	End of each rotation
Oral exams	Annual
DOPS	End of the 4 year Course (PreBoard & Board)
Computerized assessment	Repetitive Please revise according to previous ones
Logbook Evaluation	
OSCE	
MCQ	
Descriptive Exams	

**Ethical Considerations\***

\*Note: The related document(s) can be found at <http://hcmep.behdasht.gov.ir/>.

### The overall structure of the course:

Years of residency	Department / unit (education field)	Content	Duration
1 <sup>st</sup>	Department of Neurosurgery	History taking and physical examination, ordering and interpreting tests	8 months
	Neurosurgery ICU	Intensive care of patients	
	General surgery Department and Emergency Classroom	Care before and after surgery, familiarity with emergency and trauma surgery as well as fluid and electrolyte disorders Shock treatment Wound healing General topics (issues contained in paragraph 1-20)	4 months
2 <sup>nd</sup>	Neurological department	Neurological diseases Neuroelectrophysiology	3 months
	Department of Neurosurgery	Diagnosis and treatment of neurosurgical patients LP, myelography, and angiography Wound debridement, trephination and ventricular drainage Placement of cranial tractions	9 months
3 <sup>rd</sup>	Department of Pathology	Neurological molecular and cellular neuropathology and pathology	3 months
	Selected department	Content of selected department	3 months
	Department of Neurosurgery	Diagnosis and surgical treatment of neurosurgical patients Depressed skull fracture Insertion of different types of shunts Chronic subdural hematoma evacuation Subdural hematoma evacuation Extradural and subdural hematoma evacuation	6 months
4 <sup>th</sup>	Department of Neurosurgery	Diagnosis and surgical treatment of neurological diseases and vertebral column Stereotactic biopsy Simple lumbar spinal and disc laminectomy Journal club guidelines	12 months
5 <sup>th</sup>	Department of Neurosurgery	Diagnosis and surgical treatment of neurological diseases and vertebral column Journal club guidelines Planning and managing the department	12 months

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