



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## SYLLABUS DEL CORSO

### Neurosurgery

2425-5-H4102D032-H4102D129M

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#### Aims

To understand the physiopathology of

- intracranial hypertension
- CSF dynamic
- cerebral blood flow
- spinal biomechanics

that subtend the main neurosurgical diseases.

To learn the nosology, the clinical expression and the treatment of the main neurosurgical diseases acquiring basic knowledge of pre and intraoperative technological devices.

#### Contents

##### Detailed program

- Physiopathology of brain and spine neurosurgical conditions
- Primary and secondary brain and spine tumors
- Cerebrovascular diseases (Aneurysms, AVMs, Cavernous angiomas, dural arteriovenous fistula)

- Hydrocephalus
- Monitoring and Surgical treatment of traumatic brain injury
- Surgical treatment of ischemic/hemorrhagic stroke (indications to treatment and outcome)
- Traumatic, degenerative and main malformative spine conditions

affecting the spinal cord and roots

- Peripheral nerve surgery
- Principles of functional neurosurgery in the treatment of movement disorders, epilepsy, pain, neurovascular conflicts.
- Principles of pre and intra-operative image guided surgery and advanced intraoperative neuro-monitoring and direct brain mapping (awake surgery)

## **Prerequisites**

Knowledge of neuro-anatomy, neurophysiology, biochemistry, pharmacology and neurology

## **Teaching form**

Frontal lessons with discussion of clinical cases through a problem based learning approach

## **Textbook and teaching resource**

Same material of the Neurology Unit + pdf of dedicated papers

## **Semester**

## **Assessment method**

Oral exam

## **Office hours**

**Sustainable Development Goals**

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