ODESSA NATIONAL MEDICAL UNIVERSITY
Medical faculty
Department of Neurology and Neurosurgery

Syllabus of discipline "Neurosurgery"

Volume	45 hours (1.5 credits)
Semester, year of study	9 and 10 semesters, 5 years of study
Days, time, place	The discipline is conducted according to the approved schedule Clinical departments - MCL №11; OOKЛ
Teacher (s)	D.Sc., Professor Son Anatoliy Serhiyovych Ph.D., Associate Professor Kardash Konstantin Anatoliyovych Ph.D., Assistant Gafiychuk Yu.G. Assistant Serbin Igor Vladimirovich Assistant Kateryna Vyacheslavivna Podmazko Assistant Sheptilis Sergey Alexandrovich
Contact phone	(048)7500318
E-mail	neurology@onmedu.edu.ua
Workplace Base	MKL №11 OOKL base
Consultations Online	consultations are conducted using the platform MS Teams, Zoom by prior arrangement

COMMUNICATION

Depending on the form of study (distance or classroom) communication with students will be carried out using E-mail, social networks, telephone, face-to-face meetings

COURSE ANNOTATION

Description of the discipline

The subject of study of the discipline are: neurosurgery - applied and basic medical science, practical branch of medicine, which is surgery of diseases and lesions of the central and peripheral nervous system of different genesis (traumatic, tumor, infectious, parasitic, etc.), vascular pathology of the brain and spinal cord , surgery on the leading pathways and centers of the CNS, surgery for uncontrollable pain and the effects of lesions of the central nervous system and PNS of various origins.

Interdisciplinary connections

Neurosurgery, as a science, is closely related to other fundamental medical disciplines and:

I. human anatomy; histology, cytology, cytology and embryology; physiology, pathomorphology; pathophysiology; clinical disciplines - general surgery (operative surgery and topographic anatomy), propaedeutics of internal medicine, propaedeutics of pediatrics, neurology, psychiatry, ophthalmology, otorhinolaryngology, traumatology and orthopedics, oncology, radiology, anesthesiology and anesthesiology;

II. Neurosurgery - involves the integration of teaching first with academic disciplines, which use surgical methods of treatment (general surgery, traumatology and orthopedics, anesthesiology and intensive care, oncology, obstetrics and gynecology, ophthalmology, otorhinolaryngology, etc.), and neurology, psychiatry, therapy, endocrinology, functional diagnostics, radiology, etc., and develops the ability to apply knowledge in the process of professional activity at the level of the doctor of the main profile;

The purpose of teaching the discipline "Neurosurgery" is to improve knowledge in the diagnosis, treatment and prevention of diseases of the nervous system

The main tasks of studying the discipline "Neurosurgery" are:

• surgical diseases and lesions of the central and peripheral nervous system of various genesis (traumatic, tumor, infectious, parasitic, etc.), vascular pathology of the brain and spinal cord, surgery on the conduction pathways and CNS centers, surgery of intractable pain and the effects of central nervous system lesions and PNS of different genesis. Knowledge of the basics of the clinical course of neurosurgical diseases, modern methods of diagnosis and treatment of neurosurgical patients, the ability to provide emergency.

• acquisition of skills and abilities for examination of the patient and registration of results in the relevant medical documentation;

• formation of moral, ethical and deontological qualities in professional communication with the patient.

The discipline provides students with the acquisition of competencies:

 integrated: the ability to solve typical and complex specialized problems and practical problems in professional activities in the field of health care or in the learning process, which involves research and / or innovation and is characterized by complexity and uncertainty of conditions and requirements.

 general:

1. ability to abstract thinking, analysis and synthesis;
2. the ability to learn and master modern knowledge;
3. ability to apply knowledge in practical situations;
4. ability to plan and manage time;
5. knowledge and understanding of the subject area and understanding of professional activity;
6. skills of using information and communication technologies;

7. ability to adapt and act in a new situation;
8. ability to make informed decisions;
9. ability to work in a team;
10. interpersonal skills;
11. determination and persistence in terms of tasks and responsibilities;
12. desire to preserve the environment;
13. ability to act on the basis of ethical considerations.

1. special (professional, subject):

1. collecting medical history of the patient;
2. conducting an objective examination of the patient;
3. assessment of the severity of clinical manifestations of the disease;
4. drawing up a survey plan and evaluating their results;
5. differential diagnosis;
6. providing patient care;
7. identify and assess acute medical conditions;
8. first aid;
9. appointment of appropriate treatment;
10. knowledge of protocols for care in various types of emergencies in patients.

Learning outcomes:

Integrative final program learning outcomes, the formation of which is facilitated by the discipline:

• ability to conduct professional activities in social interaction based on humanistic and ethical principles;
• ability to identify future professional activity as socially significant for human health;
• ability to use knowledge and understanding of the subject area and understanding of the profession;
• ability to show knowledge in practical situations;
• ability to use the results of independent search, analysis and synthesis of information from various sources to solve typical problems of professional activity;
• ability to argue information for decision-making, to be responsible for them in standard and non-standard professional situations;
• understanding and adherence to the principles of deontology and ethics in professional activities;
• understanding of the norms of the sanitary-epidemic regime and safety requirements in carrying out professional activities;
• understanding of self-regulation and leading a healthy lifestyle, the ability to adapt and act in a new situation;
• ability to be aware of the choice of communication strategy, skills of interpersonal interaction;
• ability to adhere to the norms of communication in professional interaction with colleagues, management, to work effectively in a team;

• ability to communicate effectively, form and solve problems in the native language both orally and in writing;
• ability to use some information and communication technologies;
• ability to analyze and evaluate the results of research, age, sex, individual characteristics of the human body, clinical anatomy of human body parts, organs and other anatomical formations;
• collect, interpret relevant data and analyze complexities within the specialization to make judgments that highlight social and ethical issues;
• understanding the desire to preserve the environment;

Learning outcomes for the discipline:
Know:
• To determine the etiological and pathogenetic factors of the most common neurosurgical diseases.
• Determine the management of neurosurgical patients and analyze the data of auxiliary examinations
• Present a typical clinical picture and make a preliminary diagnosis of major neurosurgical diseases.
• Analyze the main indicators of laboratory and instrumental methods of research of neurosurgical patients.
Be able:
• identify and record the leading clinical symptom or syndrome by making an informed decision, using preliminary data of the patient's history, physical examination of the patient, knowledge of the person, his organs and systems, adhering to relevant ethical and legal norms.
• establish the most probable or syndromic diagnosis of the disease by making an informed decision, by comparison with standards, using previous patient history and patient examination data, based on the leading clinical symptom or syndrome, using knowledge of the person, his organs and systems, adhering to appropriate ethical and legal norms.
• appoint a laboratory and / or instrumental examination of the patient by making an informed decision, based on the most probable or syndromic diagnosis, according to standard schemes, using knowledge about the person, his organs and systems, adhering to relevant ethical and legal norms.

COURSE DESCRIPTION

The course will be presented in the form of lectures (4 hours) and practical classes - 26 hours, organization of independent work of students - (15 hours).

Types of educational activities of students according to the curriculum are: lectures, practical classes, independent work (VTS) with active consultation of the teacher.
Content, scope and structure of the discipline "Neurosurgery"

Thematic plan of lectures
1. Trauma of the nervous system. Traumatic brain and spinal cord injuries.
2. Tumors and vessels of the nervous system.
Thematic plan of practical classes
1. Traumatic lesions of the nervous system. Closed and open traumatic brain injury. Traumatic lesions of the nervous system.
2. Spinal cord injury. Traumatic injuries of the peripheral nervous system
3. Brain tumors.
4. Vascular pathology of the brain, accompanied by acute cerebrovascular accident of the hemorrhagic type.
5. Vascular pathology of the brain, accompanied by ischemic disorders of cerebral circulation. Pathology of the vessels of the spinal cord.

A list of literature.
Basic literature:
1. Neurology: textbook / I.A. Hryhorova, L.I. Sokolova, R.D. Herasymchuk et al.; edited by I.A. Hryhorova, L.I. Sokolova. – Kyiv : AUS Medicine Publishing, 2017. – 624 p.
2. Topical Diagnosis in Neurology. Anatomy, Physiology, Signs, Symptoms / Mathias Baehr, Michael Frotscher (6 edition) – Thieme, 2019 - 332 p.
3. Adams and Victor's Principles of Neurology / Allan Ropper, Martin Samuels, Joshua Klein, Sashank Prasad (11th edition). - McGraw-Hill, 2019. - 1664 p.
4. Netter's Atlas of Neuroscience (3rd Edition) / David Felten, Michael O'Banion, Mary Maida. -Elsevier, 2015. – 496 p.
5. Handbook of Neurosurgery (9th Edition) / Marc S. Greenberg M.S. – Thieme, 2019. – 1784 p.

Additional literature:

1. DeMyer’s The Neurologic Examination: A Programmed Text (Seventh Edition) / José Biller, Gregory Gruener, Paul Brazis McGraw-Hill Education, 2016. – 656 p. (Published Online December 9, 2018 http://dx.doi.org/10.1016/ S1474-4422(18)30488-5)
2. Harrison's Neurology in Clinical Medicine (4th Edition) / Stephen Hauser, S. Andrew Josephson McGraw-Hill Education, 2016. – 944 p.

Information resources

Web resources for neurologists and neurosurgeons
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4117098/
American academy of neurology / TOOLS & RESOURCES
https://www.aan.com/tools-and-resources/
The National Institute of Neurological Disorders and Stroke
https://www.ninds.nih.gov

Differential credit.

Upon completion of the study of the discipline is a differential test. Only those students who do not have academic debt and have an average score of at least 3.00 for current academic activities are allowed to take the final certification. Differential credit is assessed on a 4-point (traditional) scale.

Discipline assessment

The assessment of the discipline consists of two components:

• 50% - current performance (arithmetic mean of all student grades);

• 50% score on the differential test.

Thus, the department lists two grades:

1). the arithmetic mean of all current estimates (calculated as a number rounded to 2 (two) decimal places, for example, 4.76);

2). traditional assessment for differential credit.

The average score for the discipline (traditional grade) is calculated as the arithmetic mean of the current performance and grades on the differential test.

COURSE POLICY

Deadline and recompilation policy. All missed classes must be completed. Lectures are practiced by writing essays on the topic of the lesson. Practical classes are practiced according to the schedule of consultations.

Students do not have the right to rearrange the differential test score and current satisfactory grades in order to increase the arithmetic mean of all current grades.

Students have the right during the cycle to retake current unsatisfactory grades only in order to achieve an average current score of 3.00.

Academic Integrity Policy: Unacceptable write-offs, student must be fluent in the material.

Policy on attending classes and late classes: the student should not miss lectures and practical classes, the dean's office, which issues permits to practice missed classes, should be informed about the absence for valid reasons, delays are not desirable.

Mobile devices: it is not allowed to use a mobile phone, tablet or other mobile devices during the lesson (except for the cases provided by the curriculum and methodical recommendations of the teacher).

Behavior in the audience: creative, business, friendly atmosphere.