

**SYLLABUS OF THE EDUCATIONAL COMPONENT
" FUNDAMENTALS OF NEUROSURGERY AND NEUROSTOMATOLOGY "**

Specialty: 221 Dentistry

Educational and Professional Program: Dentistry

Component Code in the Educational Program: EC71

Level of Higher Education: Second (Master's)

Form of Study: Full-time (day)

Year of Study: 5

Semester(s): IX (autumn) or X (spring)

Type of Educational Component: Elective

Academic Year: 2028–2029

Credits: 3.0 ECTS (90 hours)

Learning Activities: Lectures, practical sessions, consultations

Final Assessment: Credit

Prerequisites: CC7, CC13, CC18, CC19, CC20, CC32, CC34

**Department/Unit: Department of Neurology with a Course of Neurosurgery, 13
Nezalezhnosti Ave., KNP KhMR "Regional Clinical Hospital"**

Course Coordinator: Prof. V.O. Pyatykop, Doctor of Medical Sciences

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Course Page in the KhNMU Distance Learning System:

<https://distance.knhmu.edu.ua/course/view.php?id=2324>

COURSE DESCRIPTION

The "Fundamentals of Neurosurgery and Neurostomatology" educational component is dedicated to studying the basic principles of diagnosis, clinical assessment, and medical management of neurosurgical and neurostomatological pathologies that may occur in dental practice.

This specialized clinical course for dentists focuses on pathologies at the intersection of neurosurgical and maxillofacial competencies, which can be encountered in dental practice. The course aims to develop skills in early recognition of life-threatening neurological conditions, conducting primary clinical assessment of patients, determining patient routing tactics, and providing first-line medical assistance for neurosurgical pathology.

COURSE OBJECTIVE: To develop competencies in students for timely diagnosis of combined craniofacial pathologies, identification of central and peripheral nervous system symptoms, determining patient routing, and providing medical care for neurosurgical and neurostomatological pathologies using modern diagnostic methods and treatment approaches in accordance with current clinical protocols and guidelines.

LEARNING OUTCOMES:

Upon successful completion of the course, students will be able to:

- Know the main symptoms and syndromes, disease courses, and clinical manifestations of neurosurgical and neurostomatological disorders.
- Understand the principles, capabilities, indications, and contraindications of modern diagnostic methods used in neurosurgery.
- Know diagnostic algorithms (sequence and rationale for ordering diagnostic procedures) for key neurosurgical and neurostomatological conditions.
- Interpret results of modern diagnostic tests, justify, and formulate preliminary diagnoses of neurosurgical and neurostomatological diseases.
- Use standardized clinical scales to assess patient condition and determine treatment strategies.
- Justify indications for choosing contemporary neurosurgical treatment methods according to current clinical protocols and guidelines.

CONTENT OF THE EDUCATIONAL COMPONENT

Practical Session Topics (20 hours):

1. Traumatic injuries of the nervous system: classification, clinical manifestations, diagnosis. Principles of conservative and surgical treatment.
2. Neurosurgical pathology of the central nervous system: cerebrovascular diseases including acute cerebrovascular accidents (ischemic and hemorrhagic types), neuro-oncology, tumors of the brain and spinal cord, hydrocephalus. Modern principles of diagnosis and treatment.
3. Neurostomatological pain syndromes of the maxillofacial region: classification of facial pain, prosopalgias, trigeminal neuralgia (etiology, pathogenesis, clinical manifestations, diagnostics), functional and restorative neurosurgery. Principles of pharmacological and surgical management of pain syndromes.
4. Facial nerve disorders and autonomic neurostomatological syndromes: facial nerve neuritis (neuropathy) – etiology, pathogenesis, clinical manifestations, diagnostics, principles of conservative and surgical management. Credit assessment.

Topics for Independent Study (70 hours)

1. Anatomical and functional features of cranial nerves and their relevance in dental practice.
2. Traumatic brain injury: modern approaches to diagnosis, emergency care, and patient routing.
3. Modern neuroimaging methods in neurosurgery (CT, MRI) and their diagnostic value in brain pathology.
4. Neuro-oncology: clinical manifestations of brain tumors and principles of neurosurgical management.
5. Contemporary approaches to diagnosis and management of trigeminal neuralgia, including pharmacotherapy and minimally invasive methods.
6. Neuritis and neuropathies of the trigeminal nerve: causes, clinical manifestations, and management principles.
7. Facial nerve neuritis (neuropathy): clinical forms, diagnosis, and modern conservative and surgical treatment methods.
8. Neurostomatological aspects of temporomandibular joint disorders and dysfunction.
9. Prosopalgias and other pain syndromes of the maxillofacial region: classification, pathogenesis, and treatment principles.
10. Autonomic neurostomatological syndromes: Slader's syndrome, Oppenheim's syndrome, Sjögren's syndrome.

Independent work is aimed at deepening and consolidating theoretical knowledge acquired during classroom learning and contributing to the development of professional competencies. The results of independent study are monitored and included in the final assessment.

Consultations

Online, by prior registration on the course page in the KhNMU Distance Learning System.

Teaching Methods

Explanation, discussion, practical exercises, case studies, and situational problem-solving.

ASSESSMENT

Current Academic Performance (CAP):

Assessment of student performance is carried out in accordance with the KhNMU Instruction for Evaluation of Higher Education Students ([link](#)). Scores for practical or final sessions range from 2 to 5 points. Late submission without valid reason results in grade reduction according to the delay percentage. Tasks are checked within 24 hours, and grades are recorded in the electronic journal. Unsatisfactory grades are retaken in accordance with the Regulations on Make-up Classes ([link](#)).

At the end of the course, the average score is converted to a multi-point scale (120–200 points) according to the evaluation guidelines.

Individual assignments (IA) are scored up to 10 points.

Final Assessment: Score for the final session ranges from 3 to 5 points and is included in the total course grade (CAP).

Course Grade (CG): $CG = CAP + IA$

Appeals for final assessment results are conducted according to the established KhNMU procedure ([link](#)).

COURSE POLICIES

Participation: Active participation in all forms of learning activities is required. Students should dedicate 1–2 hours daily to independent work, prepare for sessions, ask questions, attend consultations, and submit assignments on time.

Attendance: Attendance of lectures and practical sessions is mandatory. White medical coat is required for in-person classes. Students arriving more than 5 minutes late may not be admitted. Missed sessions are made up according to the KhNMU regulations ([link](#)).

Academic Integrity: KhNMU adheres to a zero-tolerance policy for academic misconduct. Violations result in disciplinary action in accordance with university regulations ([link](#)).

Use of Technology: Use of electronic devices and AI tools is allowed only with instructor permission.

Students with Special Educational Needs: Students should contact the instructor to develop an individual educational trajectory.

Instructor Response Time: 24 hours.

TECHNICAL REQUIREMENTS

- Access to a computer, laptop, tablet, or smartphone
- Corporate Google account with personal photo
- Skills in Google Workspace (Meet, Docs, Sheets, Slides, Forms) and Moodle

Technical Support:

- ASU: ev.shevtsov@knmu.edu.ua
- Google: tehotdelknmu@gmail.com
- Moodle: al.korol@knmu.edu.ua

RECOMMENDED LITERATURE

1. Нейрохірургія: Підручник – 2-ге вид. /За ред. акад. В.І. Цимбалука. – Вінниця: Нова Книга, 2020. – 360 с.
2. Нейрохірургія: навчальний посібник / за ред. В.О. П'ятикопа. – 2-ге видання перероблене та доповнене. П'ятикоп В.О., Кутовий І.О., Сергієнко Ю.Г., Завгородня Н.І.- Київ: Всеукраїнське спеціалізоване видавництво «Медицина», 2025. – 182 с. ISBN: 978-617-505-978-4
3. Стандартизація в нейрохірургії. Частина 1. Травматичні ушкодження центральної та периферичної нервової системи/ За редакцією Є.Г. Педаченка – Київ 2019 – 152 с.
4. Нейростоматологія: навч. посіб. / за ред. д-ра мед. наук, проф. Гриб В. А. - Київ: Медкнига, 2021. - 215 с.

5. Пятикоп, В.О., Казаченко А.В., Кутовий І.О., проф. Григорова І.О. Нейростоматологія. Методичний посібник.- . Харків.-2017. - 49с.
6. Нейростоматологія: навчальний посібник / В. С. Личко, С. О. Личко, О. О. Потапов. – Суми: Сумський державний університет, 2024. – 337 с.
7. Huff KD, Benoliel R. Clinical Handbook for Oral, Facial, and Head Pain. J Oral Facial Pain Headache. 2023 Dec 18;37(4):219-268. doi: 10.11607/ofph.3488.
8. Gary D. Klasser / Marcela Romero Reyes (Editor). Orofacial Pain. Guidelines for Assessment, Diagnosis, and Management. 7th Edition 2023. Quintessence, Book 368p.

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з курсом нейрохірургії
Професорка, д. мед. н.



Наталія НЕКРАСОВА