

## **Annotations of disciplines at the Department of Neurology.**

Neurology occupies an important place in the system of clinical disciplines, so it is especially important to improve the quality of training of students of higher medical institutions. The following disciplines are presented and taught at the department:

### **1) "Neurology" for fourth-year students of the medical faculty in accordance with the Standard of higher education of the second (master's) level of higher education, field of knowledge 22 "Healthcare" speciality 222 "Medicine".**

The discipline "Neurology" is studied by fourth-year students of the medical faculty during the VII and VIII semesters. 120 academic hours are provided for this subject, which according to the norms of the Ministry of Health of Ukraine corresponds to 4 credits. These hours are divided as follows: **80 classroom hours** (lectures - 12 hours, practical classes - 68 hours) and **40 hours of individual work - Totaly 120 hours. / 4.0 ECTS credits.**

**The subject of study of the discipline** is the pattern of functioning of the nervous system and features of clinical manifestations of its diseases.

The purpose of teaching the discipline "**Neurology**" is to improve knowledge about the structure and functioning of different parts of the nervous system, to study methods of research of neurological status, to study etiopathogenetic features, clinical manifestations, differential diagnostic signs and modern directions and algorithms for treating various diseases of the nervous system.

#### ***The main tasks of studying the discipline "Neurology" are:***

- to improve knowledge about anatomical and functional features and basic syndromes of lesions of the pyramidal, extrapyramidal, cerebellar, sensory systems, cranial nerves, integrative systems of the brain and autonomic nervous system;
- to study methods of examining the neurological status;
  - to get acquainted with the main research methods in neurology (EEG, ultrasound of cerebral vessels, ENMG, evoked potentials, CT, MRI, etc.), their advantages and diagnostic capabilities;
  - learn to examine patients with neurological pathology independently with compiling a medical history, establishing topical and clinical neurological diagnoses,
  - to study the etiology, pathogenetic features, clinical manifestations, diagnostic and differential diagnostic signs, modern directions and algorithms for the treatment of various diseases of the nervous system.

In accordance with the requirements of the Standard of Higher Education, the discipline provides students with the acquisition of competencies: **integral, general and special:**

- Ability to evaluate data on functional anatomy and clinical physiology of the human nervous system.
- Collection of medical information about the patient's condition.. -
  - According to standard methods to identify the leading neurological symptoms and syndromes.
  - By logical analysis and justification to establish a topical diagnosis of nervous system damage.
  - Ability to determine etiological factors and pathogenetic mechanisms of development of major neurological diseases.
  - Evaluation of laboratory and instrumental research results.
  - By making an informed decision, make the most likely clinical diagnosis.
- Diagnosing emergencies.

- Defining tactics and providing emergency pre-medical care.
- Maintaining medical records.

### **The structure of the discipline.**

The curriculum of the discipline "Neurology" is represented by two sections "**General Neurology**" and "**Special Neurology**".

#### **Discipline section 1:**

«**General neurology**» 1. The main stages of development of neurological science. 2. Principles of structure and functioning of the nervous system. The functional unit of the nervous system. Clinical classification of sensitivity. Anatomy of sensitive pathways. Research methodology. Types and kinds of sensitive disorders (symptom complexes of sensitive disorders in the lesion of different levels of sensitive pathways). 3. The concept of reflex and reflex arc. Pathological reflexes, methods of its examination. Voluntary movements and its disorders. Pyramid system. Cortico-nuclear and cortico-spinal pathways. Symptoms of central and peripheral paralysis. Pathophysiology of its symptoms. 4 Voluntary movements and its disorders. Pyramid system. Cortico-nuclear and cortico-spinal pathways. Symptoms of central and peripheral paralysis. Pathophysiology of its symptoms. 5. Symptom complexes of movement disorders at the lesion of various levels of a cortico-muscular way. 6. Extrapyramidal system and syndromes of its deficit. 7. Cerebellum. Syndromes of cerebellar lesions. Types of ataxia. 8. Pathology of olfactory and visual analyzers. Syndromes of oculomotor nerve damage. 9. The trigeminal, facial, vestibule-cochlear nerves and symptoms of their affection. 10. Pathology of IX-XII pairs of cranial nerves. Bulbar and pseudobulbar syndromes. 11. Anatomical and physiological features, pathology and methods of examining of the autonomic nervous system. 12. Anatomical and physiological features, methods of examining of the cortical functions. Syndromes of affection and irritation of cortex. Disorders of higher cortical functions (aphasia, agnosia, apraxia, etc). 13. Diagnostics of cerebrospinal fluid. Meningeal syndrome. Functional diagnostics of neurological diseases.

#### **Discipline section 2:**

«**Special neurology**». 1. Independent curation of patient and writing case history. 2. Headache. Sleep disorders. 3. Vascular diseases of the brain and spinal cord. Transient ischemic attacks. 4. Epilepsy and non-epileptic paroxysmal conditions. 5. Occupational and habitual neurotoxicities. Affection of the nervous system under the influence of physical factors. 6. Neurological aspects of traumatic brain injury. Spinal cord injury. 7. Meningitis. Encephalitis. Arachnoiditis. 8. Poliomyelitis. Acute myelitis. Neurosyphilis. 9. Lesions of the nervous system in the presence of HIV infection. Tuberculosis of the nervous system. 10. Parasitic diseases of the nervous system, prion infections. 11. Amyotrophic lateral sclerosis. 12. Demyelinating diseases of the nervous system. 13. Diseases of the peripheral nervous system. 14. Perinatal lesions of the nervous system. 15. Congenital defects of the spine and spinal cord. Syringomyelia. 16. Somatoneurological syndromes. 17. Hereditary and degenerative diseases of the nervous system. 18. Drugs used in neurology.

**Types of control** (current and final).

**Current control** is carried out at each practical lesson in accordance with the specific objectives of the topic.

**Final control:** Final control is carried out upon completion of the study of all topics in the discipline.

**For the subject "Neurology" form of final control is an exam.**

2) **The discipline "Neurology, including neurodentistry" training of specialists of the second (master's) level of higher education for fourth-year students of the medical faculty who study in the specialty 221" Dentistry".**

The discipline "Neurology, including neurodentistry" is studied by fourth-year students of the Faculty of Dentistry during the eighth semester. **45** academic hours are provided for this subject, which according to the norms of the Ministry of Health of Ukraine corresponds to **1.5 credits**, which are divided as follows: **30 classroom hours** (lectures - 6 hours, practical classes - 24 hours) and **15 hours of individual work - Total 45 hours. / 1.5 ECTS credits.**

**The subject of study of the discipline** is the pattern of functioning of the nervous system and features of clinical manifestations of neurodentistry diseases.

The purpose of teaching the discipline "Neurology, including neurodentistry" is to improve knowledge about the structure and functioning of various parts of the nervous system, studying the methods of examining of neurological status, studying etiopathogenetic features, clinical manifestations, differential diagnostic signs and modern directions and algorithms for treating various diseases of the nervous system, including neurodentistry.

The main tasks of studying the discipline "Neurology, including neurodentistry" is

- to improve knowledge of anatomical and functional features and basic syndromes of lesions of the pyramidal, extrapyramidal, cerebellar, sensory systems, cranial nerves, integrative systems of the brain and autonomic nervous system;
- to study the method of examining the neurological status;
- to get acquainted with the main research methods in neurology and neurodentistry (EEG, ultrasound of cerebral vessels, ENMG, evoked potentials, CT, MRI, etc.), their benefits and diagnostic capabilities;
- learn to examine patients with neurostomatological pathology independently, the establishment of topical and clinical neurological diagnoses;
- to study the etiology, pathogenetic features, clinical manifestations, diagnostic and differential diagnostic features, modern directions and algorithms for the treatment of various neurostomatic diseases.

### **Competences and learning outcomes**

In accordance with the requirements of the Standard of Higher Education, the discipline provides students with the acquisition of competencies: **integral, general and special:**

- Ability to evaluate the data of functional anatomy and clinical physiology of the human nervous system.
  - Collection of medical information about the patient's condition.
  - According to standard methods to identify the leading neurological symptoms and syndromes.
  - By logical analysis and justification to establish a topical diagnosis of lesions of the nervous system.
  - Evaluation of laboratory and instrumental research results.
  - Diagnosis of emergencies.
  - Defining tactics and providing emergency pre-medical care.
  - Maintaining medical documentation.

The curriculum consists of the following sections:

## 1. Neurology. 2. Neurodentistry.

### Section 1. Neurology

1. The main stages of development of neurological science. Principles of structure and functioning of the nervous system. Voluntary movements and their violations. Pyramid system. Symptoms of central and peripheral paresis. Extrapyramidal system and syndromes of its lesion.
2. Cerebellum, cerebellar lesion syndromes. Sensitive system and symptoms of its deficit. Types and kinds of sensitivity disorders.
3. Pathology of olfactory and visual analyzers. Syndromes of oculomotor nerve damage. Localization of functions in the cerebral cortex. Lesion syndromes. Cerebrospinal fluid, its changes. Meningeal syndrome.
4. Epilepsy and non-epileptic paroxysmal conditions.
5. Vascular diseases of the brain and spinal cord.
6. Infectious diseases of the nervous system.
7. Demyelinating diseases of the nervous system.
8. Functional diagnosis of diseases of the nervous system.

### Section 2. Neurostomatology

9. Headache.
10. Pathology of the autonomic nervous system.
11. Trigeminal, facial, vestibule-cochlearis nerves and their symptoms of lesions.
12. Pathology of IX - XII pairs of cranial nerves. Bulbar and pseudobulbar syndromes.
13. Trigeminal neuralgia.
14. Neuropathy of the trigeminal nerve and its individual branches. Iatrogenic neuropathies of the trigeminal nerve.
15. Syndromes of facial nerve damage.
16. Syndromes of lesions of the glosso-pharyngeal, vagus and sublingual nerves.
17. Autonomic prosopalgia and other neurogenic facial diseases.
18. Diseases of the peripheral nervous system.

**Types of control** (current and final).

**Current control** is carried out at each practical lesson in accordance with the specific objectives of the topic.

The form of **final control** in accordance with the curriculum - credit.

**3) Course "Fundamentals of reflexotherapy" (course for choice) training of specialists of the second (master's) level of higher education for students of the IV course of the medical faculty who study in the specialty 222 "Medicine".**

According to the curriculum, the study of the basics of reflexotherapy is carried out in the 4th year of study. The elective course program contains the main sections of modern reflexotherapy and is designed for **20** classroom hours (practical classes) and **40** hours of individual work. **60 academic hours** are provided for this subject, which according to the norms of the Ministry of Health of Ukraine corresponds to **2.0** credits, which are divided as follows:

**The subject** of study of the discipline is the theory of non-traditional methods of rehabilitation, technology and content of classes on non-traditional methods of rehabilitation.

**The aim** is to create in students a holistic idea of the main theoretical and methodological aspects of reflexotherapy, as well as the acquisition of practical skills of its use in clinical settings.

**The task** - to teach students the general principles of reflexotherapy in diseases of the internal organs; to reveal the practical aspects of reflexology, ways and methods of using its achievements in clinical practice.

**Competences and learning outcomes:** in accordance with the requirements of the Standard of Higher Education, the discipline provides students with the acquisition of competencies: **integral, general and special:**

- analyze the clinical manifestations of the disease and form an algorithm for reflexotherapy (punctured and manual);
- demonstrate knowledge of simple methods of reflexotherapy (acupressure and segmental massage, thermoreflexotherapy, postisometric muscle relaxation, etc.);
- to substantiate the optimal parameters of electrical stimulation for percutaneous electrical stimulation and electromyostimulation;
- to determine the features of the use of reflexotherapy methods in different medical situations (first aid, treatment, rehabilitation, prevention).

**The discipline is structured in 2 sections:**

**Section 1. Fundamentals of reflexotherapy.**

**Section 2: Special reflexotherapy.**

1. Definition of reflexotherapy, its role and place in modern medicine.
2. The main components of punctual reflexotherapy: place of action, reception and moment of action.
3. Acupressure. Local barotherapy.
4. Superficial multi-needle acupuncture.
5. Thermoreflexotherapy.
6. Electroreflexotherapy: percutaneous electroneurostimulation (CHENS), electromyostimulation, laser therapy.
7. Reflex diagnostics. Microacupuncture systems. Combination of acupuncture zones.
8. General provisions of manual reflexology. Static optimization of dynamic loads on the spine and joints.
9. Myofascial pain syndrome. Manual muscle techniques correction. Principles of reflex anesthesia.
10. Features of application of reflexology in medical practice.

**Types of control** (current and final).

**Current control** is carried out at each practical lesson in accordance with the specific objectives of the topic.

The form of **final control** in accordance with the curriculum - credit.

**4) Annotation of the discipline "Actual problems of neurology" (elective course) training of specialists of the second (master's) level of higher education for students of the 5th year of the medical faculty who study in the specialty 222 "Medicine".**

According to the curriculum, the study of "Current Problems of Neurology" (elective course) is carried out during the IX-X semesters of the 5th year of study.

The program of the elective course contains the main sections of modern neurology and is designed for **20 classroom hours** (practical classes) and **40 hours of individual work - 60 hours. / 2.0 ECTS credits.**

The purpose of studying the discipline is to create in students a holistic view of the main theoretical and methodological problems of neurology and the acquisition of practical skills of its use in clinical settings.

**Ultimate goals:**

To identify the main symptoms and syndromes of lesions of different parts of the nervous system.

To determine the etiological factors and pathogenetic mechanisms of the development of major neurological diseases.

Make a preliminary diagnosis of major neurological diseases.

Analyze the main indicators of laboratory and instrumental research methods in neurological practice.

To plan tactics of management of the patient with neurologic pathology.

**The discipline is structured** into sections and the following topics of practical classes:

1. Vascular diseases of the brain and spinal cord.
2. Epilepsy and non-epileptic paroxysmal conditions.
3. Demyelinating diseases of the nervous system.
4. Infectious lesions of the nervous system.
5. Headache.
6. Diseases of the peripheral nervous system.
7. Somatoneurological syndromes.
8. Hereditary diseases of the nervous system.
9. Practical skills. Analysis of patients.
10. Functional diagnosis of diseases of the nervous system.
11. Drugs used in neurology.

**Practical classes** include:

- 1) examination by students of the neurological status of a healthy person;
- 2) examination of the neurological status in various nervous system diseases; detection of symptoms and syndromes;
- 3) resolution of topical and clinical diagnosis; carrying of differential diagnosis;
- 4) appointment of modern treatment of neurological patients. It is recommended for students in practical classes to write briefly the theoretical material, data on the course of neurological disease in this patient.

**Types of control** (current and final).

**Current control** is carried out at each practical lesson in accordance with the specific objectives of the topic.

The form of **final control** in accordance with the curriculum - credit.

**5) Annotation of the discipline "Reflexotherapy in Neurology" (elective course) for the training of specialists of the second (master's) level of higher education for students of the 5th year of the medical faculty who study in the specialty 222 "Medicine".**

According to the curriculum, the subject "**Reflexotherapy in Neurology**" (elective course) is carried out during the IX-X semesters of the 5th year of study. The program of the elective course contains the main sections of modern reflexotherapy and is designed for **20 classroom hours** (practical classes) and **40 hours of individual work - 60 hours. / 2.0 ECTS credits.**

The discipline is structured into sections:

**1. General reflexotherapy.**

## **2. Special reflexotherapy.**

The discipline of the elective course " " in its content is a document that determines the amount of knowledge that must be acquired by fifth-year students in accordance with the requirements of the educational and qualification characteristics of the future specialist. The discipline is designed to enable senior students not only to study the basic theoretical aspects of reflexotherapy, but also to acquire practical skills of its use in complex treatment at different stages of the pathological process, as well as rehabilitation of patients.

**The purpose** of studying the discipline is to create in students a holistic view of the basic theoretical and methodological aspects of reflexotherapy and the acquisition of practical skills in its use in clinical settings.

**The ultimate goals** of the discipline: 1. To define the key concepts of reflexotherapy as a clinical discipline.

2. To interpret the relationship between reflexogenic zones and their reflexotherapeutic effects.

3. To determine the indications and contraindications to reflexotherapy, prescribe the optimal method of reflex action.

4. To study simple ways of reflexotherapy (acupressure and segmental massage, thermoreflexotherapy, postisometric muscle relaxation, etc.).

5. Analyze acupuncture zones in terms of their reflexotherapeutic effects, in particular acupuncture analgesia.

6. Use the basic rules of selection and conduct of puncture and manual reflexotherapy in clinical practice.

**Types of control** (current and final).

**Current control** is carried out at each practical lesson in accordance with the specific objectives of the topic.

The form of **final control** in accordance with the curriculum - credit.

**6) Annotation of the discipline "Reflexotherapy in dentistry" (elective course) training of specialists of the second (master's) level of higher education for students of the 5th year of the dental faculty in the specialty 221 "Dentistry".**

The discipline "**Reflexotherapy in dentistry**" in its content is a document that determines the amount of knowledge that must be acquired by fifth-year students in accordance with the requirements of educational and qualification characteristics of the future specialist. The discipline of the elective course contains the main sections of modern reflexotherapy and is designed for **40 classroom hours** (practical classes) and **80 hours of individual work - Total 120 hours. / 4.0 ECTS credits.**

Students of the Faculty of Dentistry should know the key concepts of reflexotherapy as a clinical discipline, determine the indications and contraindications to reflexotherapy, prescribe optimal methods of reflex action, master the methods of reflexotherapy - acupressure and segmental massage, thermoreflexology, ,anesthetic reflexotherapy in dentist, etc.

**Structural discipline in sections:**

- 1. General reflexotherapy,**
- 2. Special reflexotherapy** and the following topics:

1. Definition of reflexotherapy, its role and place in modern medicine. 2. Mechanisms of reflexotherapy from the standpoint of reflex theory. 3. Topography of acupuncture points and acupuncture meridians. 4. The concept of methods of complementary (reinforcing, complementary) medicine. 5. The main components of punctual reflexotherapy: place of action, reception and moment of action. 6. Definition of reflex diagnostics and its systematization (local, segmental, meridian, microacupuncture). 7. Modern ideas about microacupuncture systems and their properties. 9. Principles of reflex anesthesia. General provisions of manual reflexology. 10. Acupressure. Local barotherapy. 11. The concept of methods of complementary (reinforcing, complementary) medicine. 12. Myofascial pain syndrome in dentistry. 13. Manual methods of muscle correction.

**Types of control** (current and final).

**Current control** is carried out at each practical lesson in accordance with the specific objectives of the topic.

The form of **final control** in accordance with the curriculum - credit. Final control is carried out in order to assess learning outcomes at a certain educational and qualification level and at some of its completed stages on a national scale and ECTS scale.

#### **7) Annotation of the discipline "Actual issues of cerebrovascular pathology" (elective course) for students of the VI course of the medical faculty in the specialty 222 "Medicine".**

The discipline of the elective course "**Topical issues of cerebrovascular pathology**" is carried out during the XI-XII semesters of the 6th year of study and is designed for **30 hours** of practical classes, **90 hours** of independent work, **total - 120 hours, 3.0 ECTS credits**.

The working curriculum as a normative document that lays down the ideology of the content of education and the organization of the educational process, determines the educational and methodological principles of the department; on its basis all educational and methodical materials for maintenance of educational process are developed, including for independent work of students.

The study of the discipline provides competencies (general and special competencies):

- general:

- ability to act socially responsibly and consciously;
- ability to apply knowledge in practical situations;
- ability to abstract thinking, analysis and synthesis. ;
- ability to communicate in the native language orally and in writing;
- ability to communicate with representatives of other specialties.

-special (professional, subject):

- to determine the tactics of examination and management of the patient of various vascular diseases;
  - interpret the results of laboratory and instrumental methods of vascular pathology research;
  - formulate a preliminary clinical diagnosis of the disease;
  - formulate general treatment tactics;
  - demonstrate the ability to maintain medical records for patients with vascular pathology;
- demonstrate mastery of the principles of clinical deontology.

**Specific goals:**

- Master the principles of classification of vascular diseases of the brain and spinal cord.



- To interpret the anatomical and physiological features of the blood supply to the nervous system.
- Understand the etiology and risk factors of vascular diseases of the nervous system.- - --  
Interpret the clinical picture of cerebrovascular pathology.
- Understand the leading clinical syndromes of acute and chronic cerebrovascular disorders.
- To interpret the main methods of clinical and instrumental examination of patients with cerebrovascular pathology.
- Study the principles of differentiated and undifferentiated treatment of vascular diseases of the nervous system.
- Interpret the principles of non-drug and drug rehabilitation of patients with vascular diseases of the nervous system.
- Understand the basics of primary and secondary prevention of cerebral circulatory disorders.
- Assimilate the main groups of drugs used in vascular diseases of the brain.

**Types of control** (current and final).

**Current control** is carried out at each practical lesson in accordance with the specific objectives of the topic.

The form of **final control** in accordance with the curriculum - credit.