MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
Petro Mohyla Black Sea National University
Medical Institute
Department of Therapeutic and Surgical Disciplines

"APPROVE"
The first vice-rector
Ishchenko NM
_____
"__" _____ 2021

COURSE DISCRIPTION

"NEUROLOGY"

Specialty 222 "Medicine"

Developer	Chernyshov O. V. _____
Head of the Department of Developer	Zak M. Yu. _____
Guarantor of the educational program	Klymenko M. O. _____
Director of the institute	Grishchenko G.V. _____
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Mykolaiv– 2021

1. Description of the disciplinary us

Characteristic	Characteristics of the discipline	
Name of discipline	Neurology	
Branch of knowledge	22 "Health care	
Specialty	222 "Medicine"	
Specialization (if any)		
Educational program	Medicine	
Level of higher education	Master	
Discipline status	Normative	
Curriculum	4-th	
Academic year	2021 - 2022	
Semester numbers:	Full-time	Correspondence form
	7th, 8th	Missing
Total number of ECTS credits / hours	3.0 credits / 90 hours	
Course structure: - lectures - seminars (practical, laboratory, semi-group) - hours of independent work of students	Full-time 7.5 (2.0 / 5.5) 50 (30/20) 3 2. 5 (10 / 22.5)	Correspondence form - - -
Percentage of classroom load	64%; Independent work 36 %	
Language of instruction		
Form of intermediate control (if any)	Final modular control (PMC)	
Form of final control	8th semester - Exam	

The program is compiled in accordance with the following regulations:

- educational and qualification characteristics (EQ) and educational and professional programs (OPP) of training, approved by the order of the Ministry of Education and Science of Ukraine from 16.04.03 on 39239 "On approval of constituent industry standards of higher education in the field of training 1101" Medicine ";
- experimental curriculum developed on the principles of the European Credit Transfer System (ECTS) and approved by the order of the Ministry of Health of Ukraine dated 31.01.2005 on №52 higher educational institutions of III-II levels of accreditation of Ukraine in the specialties "Medical business", "Pediatrics", "Medical and preventive business"; Order of the Ministry of Health of Ukraine 49749 dated 19.10.2009 “On the introduction of the 2009-2010 academic year a new curriculum for the specialties "Medical business", "Pediatrics", "Medical and preventive business";
- recommendations on curriculum development training courses approved by the MOH ordered Ukraine from 24.03 per 2004 №152 "On approval of recommendations , on curriculum development training courses" as amended and supplemented by the order of Ministry of Health of Ukraine of 12.10.2004 for №492 "On Introduction changes and additions to the recommendations for the development of curricula of academic disciplines ”;
- Order of the Ministry of Health of Ukraine dated 31.01.03 under №148 "On measures to implement the provisions of the Bologna Declaration in the system of higher medical and pharmaceutical education";
- instructions on the system of assessment of students' learning activities under the credit-module system of educational process (Medical education in the world and in Ukraine. Approved by the Ministry of Health of Ukraine as a textbook for teachers, masters, graduate students, students. Kyiv. Book Plus, 2005).

Appendix to the standard curriculum in the discipline " Neurology" in accordance with the order of the Ministry of Health of Ukraine dated 19.10.2009 № 749 (as amended by the order of the Ministry of Health of Ukraine dated 08.07.2010 № 539 Kyiv, 2012)

- The plan of the educational process of Petro Mohyla National University from 01.05.21

2 Purpose, tasks and results of studying the discipline

The general purpose of teaching the discipline "Neurology" is to provide students with knowledge of the etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis of the most common neurological diseases. As a result of the discipline the student ***of aye know :***

1. Anatomical and physiological features and pathology of the olfactory analyzer.
2. Anatomical and physiological features and pathology of the visual analyzer.
3. Interpret the syndromes of oculomotor nerve damage.
4. To determine the anatomical and physiological features and pathology of the trigeminal nerve.
5. And atomic features and pathological manifestations of facial nerve damage.
6. C ymptomy defeat cranial vestibular nerve.
7. P atolohiyu IX-XII pairs of cranial nerves, bulbar and pseudobulbar syndromes.
8. P atolohiyu autonomic nervous system.
9. C indromas of lesions of the cerebral cortex.
10. From the cerebrospinal fluid and meningeal symptom complex.
11. H eyrovizualizatsiyni, ultrasonic and electrophysiological methods of inspection of neurological patients.
12. Impressions before the blockade
13. Master the protocols of the treatment program.

14. The main symptoms and syndromes of neurological diseases

Must be able to:

1. To determine the place of neurology as a science, a field of practical medicine and a subject.
2. Analyze the stages of formation of neurology.
3. Interpret the principles of structure and functioning of the nervous system.
4. Interpret the implementation of arbitrary movements.
5. Explain the symptoms of central and peripheral paresis.
6. Interpret motor disorders in motor pathway lesions at different levels.
7. Explain the anatomical and physiological, biochemical data of the extrapyramidal system and the syndromes of its defeat.
8. Analyze the anatomical and physiological features of the cerebellum and syndromes of its lesions.
9. Interpret the concept of reception, clinical classification of sensitivity, types of sensitive disorders, topical types of sensitive disorders.
10. To master the skills of examination of patients with motor and sensory disorders.
11. Identify the main symptoms and syndromes of different parts of the nervous system
12. Interpret the data of functional anatomy and clinical physiology of the nervous system.
13. To determine the etiological factors and pathogenetic mechanisms of the development of major neurological diseases.
14. Make a preliminary diagnosis of major neurological diseases.
15. Analyze the main indicators of laboratory and instrumental research methods in neurological practice.
16. To plan tactics of management of the patient with neurologic pathology.

Master the skills of examination of cranial nerves, autonomic nervous system, cerebral cortex function.

The developed program corresponds to the ***educational-professional program (OPP)*** and is focused on the formation of ***competencies:***

general (ZK) - ZK1-ZK3 OPP :

ZK1. Ability to abstract thinking, analysis and synthesis, the ability to learn and master modern knowledge.

ZK2. Ability to apply knowledge in practical situations.

ZK3. Knowledge and understanding of the subject area and understanding of professional activity.

professional (FC) - FC1- FC 9, FC11, FC16, FC18 OPP:

- Patient interviewing skills.
- Ability to determine the required list of laboratory and instrumental studies and evaluate their results.
- Ability to establish a preliminary and clinical diagnosis of the disease.
- Ability to determine the required mode of work and rest in the treatment of diseases.
- Ability to determine the nature of nutrition in the treatment of diseases.
- Ability to determine the principles and nature of disease treatment.
- Ability to diagnose emergencies.
- Ability to determine the tactics of emergency medical care.
- Emergency care skills.

– Skills to perform medical manipulations.
– Ability to determine the tactics of management of persons subject to dispensary supervision.
– Ability to keep medical records.

According to the educational-professional program, the expected ***program learning outcomes (PRN)*** include the skills of ***PRN11, PRN13-18, PRN22, PRN25, PRN28, PRN30, PRN32, PRN33, PRN35, PRN41 OPP*** :

PRN10	Know the problems of environmental protection and ways to preserve it. Be able to form requirements for themselves and others to preserve the environment. Make proposals to the relevant authorities and institutions on measures to preserve and protect the environment. Bear responsibility regarding the implementation of measures conservation of the environment in the framework of the competence.
PRN13	In the conditions of the health care institution, its subdivision and among the attached population: To be able to identify and fix the leading clinical symptom or syndrome (for list 1) by adopting a reasonable solution using preliminary data history patient data physical examination of the patient, the knowledge of the person, its organs and systems, adhering to appropriate ethical and legal standards. To be able to establish the most probable or syndromic diagnosis of disease (in list 2) by adopting a reasoned decision by means of comparison with standards, using preliminary data history of the patient and the data given patient, on the basis of leading clinical symptom or syndrome, using the knowledge of the person, its agencies and system, adhering to the relevant ethical and legal norms.
PRN14	In the conditions of a health care institution, its subdivision: • Assign a laboratory and / or instrumental examination of the patient (according to list 4) 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. • Carry out differential diagnosis of diseases (according to list 2) by making an informed decision, according to a certain algorithm, using the most probable or syndromic diagnosis, data of laboratory and instrumental examination of the patient, knowledge about the person, his organs and systems, adhering to appropriate ethical and
	legal norms. • Establish a preliminary clinical diagnosis (according to list 2) by making an informed decision and logical analysis, using the most probable or syndromic diagnosis, data from laboratory and instrumental examination of the patient, conclusions differential diagnosis, knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms.

PR N15	Determine the required mode of work and rest at the treatment of the disease (2 on the list), in terms of health care facility, home of the patient and during medical evacuation in t. H. In field conditions, on the basis of previous clinical diagnosis using knowledge of man, his organs and systems, adheri ng to the relevant ethical and legal norms, by making an informed decision for existing algorithms and standard schemes.
PR N16	To determine the necessary therapeutic food in the treatment of disease (in list 2), in terms of establishment health care, home of the patient and on the stages of medical evacuation in t. H. In field conditions on the basis of previous clinical diagnosis using knowledge of human, his bodies and systems, adhering to the relevant ethical and legal norms, by making an informed decision on the existing algorithms and standard schemes.
PR N17	To determine the nature of the treatment (conservative, surgical) disease (for list 2), in terms of establishment health care, home of the patient and on the stages of medical evacuation in t. H. In field conditions on the basis of previous clinical diagnosis using knowledge of human , its bodies and systems, adhering to the relevant ethical and legal norms, by making an informed decision according to existing algorithms and standard schemes. To determine the principles of treatment of the disease (2 on the list), in terms of establishment health care , home of the patient and on the stages of medical evacuation in t. H. Field conditions, based on previous clinical diagnosis using knowledge of a person of organs and systems , adhering to the relevant ethical and legal norms, by making an informed decision according to existing algorithms and standard schemes.
PR N18	Establish a diagnosis (according to list 3) by making an informed decision and assessing the human condition, under any circumstances (at home, on the street, health care facility, its units), including in an emergency , in the field , in conditions of lack of information and limited time, using standard methods of physical examination and possible anamnesis, knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms.

PRN22	Perform medical manipulations (according to list 5) in a medical institution, at home or at wo of previous clinical diagnosis and / or indicators of the patient's condition, using kn the person, his organs and systems, adhering to appropriate ethical and legal norms, by making an informed decision and using standard methods.
PRN25	To form, in the conditions of a health care institution, its subdivision on pro the generalized procedure of an assessment of a state of human health , kn the person, its bodies and systems, adhering relevant ethical and legal norms, by adopting
	reasonable decision, among the fixed contingent of the population: dispensary groups of patie a group of healthy people, who are subject to dispensary supervision (infants, children, pregnant women, members of professions who have to undergo mandatory clinical examinati

PRN28	Organize holding of fixed contingent of population measures secondary and tertiary preven generalized procedure assess the state of humans (screening, preventive medical examination, request for medical help), knowledge organs and systems, adhering to appropriate ethical and legal norms, reasoned decision in terms of establishment health care, including: to form groups of dispensary supervision; to organize medical and health-improving measures differentiated from the group of medical
PRN30	Carry out in the conditions of a health care institution, its subdivision: • detection and early diagnosis of infectious diseases (according to list2); ***** primary anti-epidemic measures in the center of an infectious disease.
PRN32	In health care facilities or at home for a patient based on the received data on the state o patient by means of standard schemes, using the knowledge of human, his organs and syste to appropriate ethical and legal norms by adopting a reasoned decision: determine the tactics inspection and secondary prevention patients, which are subject to clinic to determine the tactics of examination and primary prevention of healthy persons subject to dispensary supervision; calculate and assign the necessary products catering to children of the first year of life.
PRN33	To determine the presence and extent of the restrictions of life, type, degree and duration of the design of relevant documents in terms of establishment health care on the basis of informa disease and its course, features of professional activity of the person.
PRN35	On the territory of service according to standard methods of descriptive, analytical epidemiolo medical-statistical researches: to carry out screening concerning detection of the most importa communicable diseases; evaluate in dynamics and in the comparison with the average stati morbidity, in fact including chronic non- communicable diseases, disability, mortality, integral indicators of health; identify risk factors for the occurrence and course of diseases; to form risk groups o the population.
PRN41	In the conditions of a health care institution or its subdivision according to standard methods: carry out the selection and use of standardized clinical protocols regard of medical care, which developed on the basis of evidence-based medicine; take part in the development of local protocols for medical care; to control the quality of medical care on the basis of statistical data, expert evaluation and soc
	Research on the use of indicators of structure, process and results of activities; identify factors that hinder the improvement of the quality and safety of medical care.

III. CURRICULUM CONTENT

The educational process is organized according to the European Credit Transfer and Accumulation System (ECTS).

The curriculum consists of two blocks:

Block 1. "General Neurology".
1. Introduction. Reflexes. Symptoms of motor, coordination and sensory disorders.
2. Pathology of cranial nerves. Symptoms of disorders of the autonomic nervous system and higher brain functions. Meningeal and cerebrospinal fluid syndromes. Additional research methods in neurology (radiological, electrophysiological and neuroimaging). CNS blood supply.

Block 2. "Special neurology".

1 . Vascular diseases of the brain and spinal cord, paroxysmal conditions, cephalgia, sleep disorders, neurointoxication. Traumatic lesions of the nervous system.
2 . Infectious, infectious-allergic, demyelinating and parasitic diseases of the nervous system, prion infections. Amyotrophic lateral sclerosis.
3 . Diseases of the peripheral nervous system, perinatal lesions of the nervous system, somatoneurological syndromes. Hereditary - degenerative diseases of the nervous system, congenital defects of the spine and spinal cord. Tumors of the brain and spinal cord. Diseases of the autonomic nervous system. Drugs used in neurology.

Block 1 . "General Neurology".

1). Introduction. Reflections. Symptoms of motor, coordination and sensory disorders.

Specific goals:

1 *Define the place of neurology as a science, a field of practical medicine and a subject .*
2 Analyze the stages of formation of neurology.
3 Interpret the principles of structure and functioning of the nervous system. Have an idea of the reflex arcs of different reflexes and the clinical significance of each of the reflexes
4 Interpret the implementation of arbitrary movements.
5 Explain the symptoms of central and peripheral paresis.
6 Interpret motor disorders in motor lesions at different levels. Explain the anatomical and physiological, biochemical data of the extrapyramidal system and syndromes of its lesions.
7 Analyze the anatomical and physiological features of the cerebellum and syndromes of its lesions.
8 Interpret the concepts of reception, clinical classification of sensitivity, types of sensitive disorders, topical types of sensitive disorders.
9 To acquire the skills of examination of patients with coordination-motor and sensory disorders.

Topic 1 . Principles of structure and functioning of the nervous system. The functional unit of the nervous system is a neuron. Motor system. Representation of reflex and reflex arc.

The main stages of phylogeny and ontogenesis of the nervous system. Structural and functional unit of the nervous system. The main anatomical and topographic departments of the nervous system: hemispheres of the brain, subcortical nodes, brain stem, cerebellum, spinal cord, roots, spinal ganglia, plexuses, peripheral nerves. The functional unit of the nervous system is a neuron. Types of neurons, their functional significance. Neuroglia, its functional significance.

Representation of reflex and reflex arc, conditioned and unconditioned reflexes, levels of closure of skin, tendon and periosteal reflexes . Ana tomichni features and neurophysiology system of voluntary movements, extrapyramidal system and cerebellum.

Topic 2 . Arbitrary movements and their violations. Pyramid system. Cortico-nuclear and cortico-spinal pathways.

Implementation of arbitrary movements. Pyramid system. Central and peripheral motor neurons. Cortico-nuclear and cortico-spinal pathways.

Topic 3 . Symptoms of central and peripheral paresis.

Paralysis, paresis, monoplegia, paraplegia, hemiplegia, triplegia, tetraplegia. Methods of research of the motor sphere . Symptoms of central (spastic) paralysis. Pathophysiology of ' muscle hypertension, hyperreflexia, pathological reflexes, reduce abdominal reflexes.

Symptoms of peripheral (in ' yaloho) paralysis. Pathophysiology of atony, arephyxia , atrophy.

Syndromes of motor pathway lesions at different levels . Clinical anatomy, physiology of the spinal cord. The syndrome of motor disorders in lesions of the motor way at different levels: front central twist (symptoms of irritation and loss), beam crown, internal capsule, brainstem brain (alternating paralysis), different levels of spinal cord injury (complete cross and half the lesions, higher cervical sweat forgiveness , at the level of cervical thickening, thoracic, lumbar thickening, cone), different levels of damage to the peripheral motor neuron (anterior horn, anterior root, nerve plexuses, individual peripheral nerves). Pelvic reservoir dysfunction, symptoms of horsetail damage.

Topic 4 . Automated involuntary movements. Coordination of movements. Extra pi ramidna system and syndromes of defeat .

Anatomical data: basal ganglia (lentil- like, caudate nucleus, fence, subthalamus), brainstem formation (red nucleus, substantia nigra, reticular formation). Sv ' bandages basal ganglia of different departments of the brain and spinal cord. Physiology of the extrapyramidal system, its participation in providing unconditional reflexes, realization of stereotypical automated movements, readiness of muscles for action.

Syndromes of lesions of the extrapyramidal system. Akinetic-rigid syndrome, or Parkinson's syndrome, its biochemical aspects. Key clinical features of Parkinson's disease, oligo-bradikineziya, rigidity of ' muscles, parkinsonian tremor, postural instability.

Hyperkinetic syndrome. Types of hyperkinesis: athetosis, choreic hyperkinesis, hemibalism, tics. Muscle dis - Tony (focal (blepharospasm, hemi facial spasm , spastic torticollis, oromandybulyarna dystonia, dystonia hand, foot dystonia, torsion dystonia), segmental, generalized).

Topic 5. Cerebellum, syndromes of cerebellar lesions.

Anatomical and physiological features of the cerebellum. Ligaments of the cerebellum with different parts of the brain and spinal cord (homo - and heterolateral). Afferent and efferent pathways. Worm and cerebellar hemispheres. The functions of the cerebellum, providing balance, coordination th , synergy movements, regulation of muscle tone. Cerebellar lesion syndromes. Representation of static and locomotor ataxia, asynergy, muscle atony, intentional tremor, adiadochokinesis, dysmetry, hyperemia, nystagmus, chanting. Types of ataxia : cerebellar, cortical, vestibular, sensitive , hysterical .

Topic 6 . Sensitive system and symptoms of its defeat. Types and types of sensitivity disorders .

The concept of reception. Types of recipe ditch. Extraceptive, proprioceptive , interoceptive sensitivity. Clinical classification of sensitivity. Leading ways of sensitivity. Research methodology.

Types of sensitive disorders: anesthesia, hypoesthesia, hyperesthesia, hyperpathy, dysesthesia. Synesthesia, dissociation and disorders, polysthesia, paresthesia . Pain and its classification. The concept of nociceptive and antinociceptive systems of the brain.

Topical types of sensitive disorders: mononeuritic, polyneuritic, radicular, posterior horny, conductive (with the defeat of the leading sensitive pathways at the level of the spinal cord, medial loop, visual hump , inner capsule); cortical type (syndromes of irritation and loss) . Half-spinal cord injury syndrome (Brown-Sekara syndrome) .

2). Pathology of cranial nerves. Symptoms of disorders of the autonomic nervous system and higher brain functions. Meningeal syndrome. Additional research methods in neurology Blood supply to the brain and spinal cord.

Specific goals:

1 Analyze the anatomical and physiological features and pathology of the olfactory analyzer.
2 Analyze the anatomical and physiological features and pathology of the visual analyzer.
3 Explain the symptoms of damage to the parietal nerve.
4 Interpret the syndromes of oculomotor nerves.
5 To determine the anatomical and physiological features and pathology of the trigeminal nerve.
6 Interpret the anatomical features and pathological manifestations of facial nerve damage.
7 Interpret the pathology of IX - XII pairs of cranial nerves, boulevard and pseudobulbar syndromes. Interpret alternating paralysis.
8 To determine the pathology of the autonomic nervous system.
9 To analyze the syndromes of lesions of the cerebral cortex.
10 Interpret changes in cerebrospinal fluid and meningeal symptom complex.
11 To interpret neuroimaging, ultrasound and electrophysiological methods of examination of neurological patients.
12 Assimilate the anatomical features of the blood supply to the brain and spinal cord.
13 Master the skills of examination of coordination-motor and sensory functions, cranial nerves, autonomic nervous system, cerebral cortex function.

Topic 7 . Cranial nerves I, II, VIII and syndromes of their defeat .

And the pair - the olfactory nerve (sensory nerve): basic anatomical and physiological data.

Olfactory analyzer: the first neuron (ganglion cells of the nasal mucosa); second neuron (olfactory bulbs, olfactory pathway); third neuron (primary subcortical olfactory centers - olfactory triangle, transparent septum, anterior perforated substance); cortical olfactory center (medial surface of the temporal lobe of the brain). Research of the olfactory analyzer. Syndromes of defeat - hyposmia, anosmia, hyperosmia, olfactory hallucinations .

The second pair is the optic nerve (sensory nerve).

Anatomical and physiological features: departments - peripheral (rods and cones, bipolar cells, ganglion cells, the nerve itself, chiasm, visual tract), central (lateral geniculate bodies, upper mounds of the quadriceps, pillow of a healthy mound (subcortical centers), Gracio bundle) sulcus of the occipital lobe (cortical center of the analyzer).

Symptoms: amaurosis, amblyopia, homonymous and heteronymous hemianopsia (binazal, bitemporal), visual hallucinations. Changes in the optic disc (changes in the fundus).

V III pair - parietal-curly nerve (sensitive).

Anatomical and physiological data, cochlear and vestibular nerves. Pathology of the cochleo-vestibular apparatus: lesions of the sound-perceiving apparatus (hearing disorder at high tones), lesions of the sound-conducting apparatus (hearing disorder at low tones); lesions of the parietal part (dizziness, nystagmus, imbalance, coordination of movements, autonomic disorders, lesions of the temporal lobe (in case of irritation - auditory hallucinations).

Topic 8 . Cranial and nerves III , IV , V , VI , VII and syndromes of their defeat.

III , IV , VI pairs - oculomotor (mixed), block, abductor (motor) nerves: localization of nuclei, exit of roots from a skull, a zone of innervation on periphery.

Symptoms of lesions: ptosis, strabismus, diplopia, convergence and accommodation disorders, ophthalmoplegia (partial and complete); pupillary reactions, reflex arc of the pupillary reflex, impaired pupillary reactions (Argyle-Robertson syndrome), miosis, mydriasis, anisocoria

V pair - trigeminal nerve (mixed): nerve nuclei, the output of the roots at the base of the brain, skull, nerve branches and areas of their innervation (optic nerve, maxillary, mandibular nerves).

Symptoms of trigeminal nerve damage: lesions of the trigeminal nerve branches (shooting pains, violation of all types of sensitivity in the area of innervation of the corresponding branches, loss of the corneal reflex, paresis of the masticatory muscles, loss of the mandibular reflex); node lesions of the trigeminal nerve (sealed rash , bi l , violations of all kinds of sensitivity on half the face, reducing corneal, mandibular reflexes); lesions of the sensitive nucleus of the trigeminal nerve - the nucleus of the spinal tract (segmental - dissociated type of violation of pain and temperature sensitivity in half of the face); lesions of the thalamus (hemianesthesia of all types of sensitivity, thalamic pain on the opposite side of the focus; lesions of the cortex of the postcentral gyrus.

V II pair - facial nerve (mixed).

Anatomical and physiological features; components of the nerve branch (large stony nerve, stirrup nerve, eardrum, facial nerve itself).

Symptoms of facial nerve damage: peripheral facial muscle paresis (nerve damage in the canal, pons, brainstem (alternating bridge syndromes)) and central facial muscle paresis (inner capsule; lower anterior central gyrus).

Topic 9 . Cranial and nerves IX , X , XI , XII and syndromes of their defeat. Bulbar and pseudobulbar syndromes. Alternating syndromes of the medulla oblongata, Varoli's bridge, midbrain:

IX - XII pairs of cranial nerves.

IX pair - lingual-pharyngeal nerve (mixed);

X pair - vagus nerve (mixed);

XI pair - additional nerve (motor);

X II pair - sublingual nerve (motor).

Anatomical -fiziol at tech features . Localization of nuclei in the medulla oblongata. Bulbar and pseudobulbar syndromes: common symptoms (dysphagia, dysphonia , dysarthria) and differences (fibrillation and atrophy of the muscles of the tongue, reflexes of oral automatism, forced laughter, crying). Disorders of innervation of the muscles of the tongue - peripheral and central paresis.

Varoliev Bridge: Miyara-Gubler, Foville, Brisso Sekara, Raymond Setan , Gasperini, Grene.

Midbrain: Weber, Benedict, Monaco, Knapp, Notnagel

Cerebellum: Jackson, Tapia, Avellis, Schmidt, Wallenberg - Zakharchenko (5 types), Babinsky - Najotta. Cross-hemiplegia syndrome.

Topic 10 . Autonomic nervous system. Methods of research of the autonomic nervous system. Pathology of the autonomic nervous system.

Anatomical and physiological features and functions of the autonomic nervous system:

Segmental department of the autonomic nervous system.

Sympathetic nervous system: lateral horns of the spinal cord, sympathetic trunk, ganglia. Parasympathetic nervous system: Craniobulbar, sacral (sacral) departments.

Suprasegmental department of autonomic functions: hypothalamus, limbic system, reticular formation of the brainstem. Ergotropic and t r ophotropic activity. Methods of research of vegetative functions. Syndromes of lesions on the segmental part of the autonomic nervous system. Autonomic dystonia syndrome. Permanent and paroxysmal course. Hypothalamic syndrome.

Vegetative-vascular paroxysms: sympatho-adrenal, vago-insular, mixed.

Syndrome of lesion of the segmental autonomic nervous system. Lesions of the brainstem, lateral horns of the spinal cord, ganglia of the border trunk, plexuses, nerves.

Claude-Bernard-Gorner syndrome . Visceral symptoms. Levels of regulation of pelvic functions and their disorders.

Topic 11 . Localization of functions in the cerebral cortex. Defeat syndromes.

The structure of the large hemispheres of the brain.

Cyto- and myeloarchitectonics of the cortex. Localization of functions in the cerebral cortex. Dynamic localization of functions. Motor and sensory representations in the cortex. The concept of functional asymmetry of the hemispheres.

Gnostic functions. Types of disorders of gnostic functions: visual, olfactory, gustatory, auditory agnosia, astereognosis, autotopagnosia, anosognosia. Praxis. Types of apraxia: constructive, ideational, motor. Language. Speech disorders: motor, sensory, amnestic aphasia.

Syndromes individual particles cortex, frontal, temporal, parietal, occipital her fate, limbic cortex. Syndromes of irritation of the cortex of the large hemispheres. Syndromes of defeat of the right and left hemispheres. The concept of interhemispheric asymmetry.

Chronic autonomic syndrome. "Closed person" syndrome. Brain death syndrome.

Topic 12 . Cerebrospinal fluid, its changes. Meningeal syndrome.

Spinal tap. Meninges and spinal cord. Physiology of cerebrospinal fluid formation. The composition of the cerebrospinal fluid is normal, its changes in meningitis, tumors , hemorrhagic stroke, tuberculosis. Cell-protein, protein-cell dissociation. Pleocytosis.

Meningeal symptoms: headache, vomiting, general hyperesthesia, photophobia, occipital muscle rigidity, Kernig's symptom, Brudzinski's symptoms (upper, middle, lower), trismus, local reactive pain phenomena of Mendel, zygomatic Bechterev's pain, when pressing the exit points of the small and large occipital nerves. Meningeal posture of the patient. Lessage's symptom.

Topic 1 3 . Functional diagnosis of diseases of the nervous system.

X-ray (cranio-, spondylography) ;

Contrast radiological examinations (myelography, angiography, ventriculography);

Ultra sound (ehoentsefaloskopiya, Doppler);

Electrophysiological (electroencephalography, rheoencephalography, echo-encephalography, electromyography, etc.);

Imaging methods (computer ' Books tomography, magnetic resonance imaging).

Topic 1 4 . Blood supply to the brain and spinal cord.

Blood supply from the vertebrobasilar vascular pool.

Blood supply from the carotid pool.

Syndromes of defeat of various vascular pools.

Topic 15 . Methods of examination of neurological patients . Pathological reflexes. Scales in neurology .

Neurological status, assessment of the patient's state of consciousness, examination of neurological patients in a coma, determination and justification of topical diagnosis. Determination of preliminary clinical diagnosis. Scales for assessing the general state of the CNS (Glasgow coma scale, levels of disturbance of consciousness according to Shakhnovich), scales for assessing intellectual disabilities (Blessd dementia scale, MMSE), scales for assessing motor functions (Berg equilibrium scale), Hamilton scale for assessing depression. Flexion, extensor pathological foot reflexes, reflexes of oral automatism

CPC1. The main stages of development of neurological science.

The first studies of diseases of the nervous system (Hippocrates, Galen, Avicenna) The study of neurology in the universities of the Middle Ages and the Renaissance. Organization of the first departments of neurology at universities (Moscow, Kharkiv, St. Petersburg, Kyiv, Lviv, etc.). Domestic and world neurological schools. Modern directions of neurology development: differentiation of neurological science (creation of separate centers and scientific subdivisions for the study of cerebrovascular, demyelinating diseases, epilepsy, neuromuscular pathology, etc.) and integration with other sciences (somatoneurology, vertebral neurology, neurosurgery).

Block 2. "Special neurology".

1. Vascular diseases of the brain and spinal cord, paroxysmal conditions, cephalgia, sleep disorders, neurointoxication. Traumatic lesions of the nervous system.

Specific goals:

1. *Master the principles of classification of vascular diseases of the brain.*
2. *To interpret features of transient disturbances of cerebral circulation.*
3. *Interpret the features of hemorrhagic strokes.*
4. *Analyze the features of ischemic strokes.*
5. *Master the principles of undifferentiated (basic) and differentiated treatment of strokes.*
6. *Master the principles of prevention of acute cerebrovascular disorders.*
7. *Interpret the modern classification of epileptic and non-epileptic paroxysmal states.*
8. *Diagnose status epilepticus and provide emergency care.*
9. *Interpret the main types of cephalgia and tactics of their treatment. Explain modern ideas about the mechanisms of action of chemical and physical agents on the nervous system.*
10. *Diagnose neurological manifestations of traumatic brain and spinal cord injury.*
11. *To examine patients, to formulate a preliminary and to make a differentiated diagnosis of neurological diseases.*

Topic 1 . Vascular diseases of the brain and spinal cord. Chronic cerebrovascular disorders.

Classification. Etiology . P atogenesis. Treatment.

Vascular dementia.

Topic 2 . Ischemic stroke. Transient ischemic attack.

Acute cerebrovascular disorders: strokes and transient cerebrovascular disorders (transient ischemic attacks and cerebral hypertensive crises). Etiological factors and pathogenesis.

Classification, types. Symptoms of damage to the anterior, middle, posterior cerebral arteries. Syndromes of occlusion and stenosis of the main vessels of the brain. Cerebral and focal syndromes. R ozladiv consciousness (Glasgow Coma Scale) .

Differential diagnosis of different types of acute cerebral circulatory disorders.

Modern methods of undifferentiated (basic) and differentiated therapy of acute cerebrovascular disorders. P onyattya of "therapeutic is a window of ".

Topic 3 . Hemorrhagic stroke.

Classification, types. Semiology. Diagnosis. Intensive care in the acute period. Indications and contraindications for surgical treatment of cerebrovascular disorders.

Treatment of patients in the period of residual effects after cerebral and spinal strokes. Rehabilitation and examination of patients' ability to work.

Prevention of vascular diseases of the brain and spinal cord.

Topic 4 . Epilepsy and non-epileptic paroxysmal conditions.

Epilepsy. Pathogenetic essence of the epileptic center in the development of the disease. The value of endogenous and exogenous factors that affect Formation I of this fire. Classification of epileptic seizures : generalized, partial and partially generalized. Principles of differentiated treatment of epilepsy. Status epilepticus (diagnosis, emergency care) .

Non-epileptic paroxysmal states. Conditions with convulsions: spasmophilia, febrile convulsions, toxic convulsions, hysterical paroxysms. Conditions without convulsions: vegetative paroxysms, migraine, syncope. Differential diagnosis of epilepsy and non-epileptic paroxysmal conditions. Treatment of paroxysms and treatment in the inter-fall period .

Topic 5 . Headache. Disorders of sleep and vitality. Occupational and domestic neurointoxication. Defeat of the nervous system under the influence of physical factors.

Etiology and mechanisms of headache: vascular, cerebrospinal fluid, neuralgic, muscle tension, psychalgic, mixed. Classification. Nosological forms of headache: migraine, muscle tension pain, beam pain. Differential diagnosis, principles of treatment.

Migraine: etiology, modern mechanisms of pathogenesis. Clinical forms (simple migraine; without aura; associated with aura), diagnosis, differentiated diagnosis, principles of treatment (during the attack and in inter-seizure periods).

Headache in the syndrome of intracranial hypotension and hypertension (etiopathogenetic factors, subjective data, clinical and instrumental data).

Sleep and vigor disorders: sleep stages, sleep disorders - parasomnia, sleep disorders - insomnia, causative factors, treatment. Hypersomnia - pathological drowsiness. Sleep apnea syndrome . Treatment.

Poisoning by industrial poisons of neurotropic action (lead, mercury, manganese, tetraethyl lead , arsenic, carbon monoxide, methyl alcohol, carbon disulfide, organophosphorus compounds). Clinic, neurological syndromes, treatment, prevention.

Food poisoning, botulism.

Korsakov syndrome and other neurological manifestations of alcoholism. Clinic of acute barbiturate poisoning. Emergency aid.

Vibration disease, radiation injuries, electric shock of the nervous system, the influence of constant and alternating electromagnetic fields, damage to the nervous system by heat and sunstroke. Clinical picture, neurological syndromes, treatment, prevention.

Topic 6 . Neurological aspects of traumatic brain injury. Spinal cord injury. CNS tumors

Modern aspects of classification of craniocerebral trauma. Concussion. Differential diagnosis of slaughter and compression of the brain. Intracranial hemorrhage. Complications of traumatic brain injury: post-traumatic encephalopathy, post-traumatic arachnoiditis, post-traumatic convulsive syndrome, post-traumatic asthenic syndrome. Chronic shell hematoma (epi and sub dural). Emergency care .

Spinal cord injury. Clinic, diagnosis, treatment. Peripheral nerve injuries . Classification (topical and pathomorphological). CNS tumors - Clinic: cerebral, focal and dislocation syndromes. Differential diagnosis of brain and spinal cord tumors. Extra - and intramedullary tumors. Diagnostic value ophthalmoscopy, research cerebrospinal fluid, EEG, e ho -entsefaloskopiyi , kraniohrafiyi, angiography, ventriculography, MRI, CT scan, spondilohrafiyi, myelography and other methods for tumors of the brain and spinal cord. Principles of surgical and conservative treatment of brain and spinal cord tumors. Sources of abscessing. Clinic, diagnosis, differential diagnosis.

2. Infectious, infectious-allergic, demyelinating and parasitic diseases of the nervous system, prion infections. Amyotrophic lateral sclerosis.

Specific goals:

1. *Master the principles of classification of infectious diseases of the nervous system.*
2. *Master the clinic of the main nosological forms of infectious diseases.*
3. *Interpret forms of neurosyphilis.*
4. *Analyze the lesions of the nervous system in the presence of HIV infection.*
5. *Master modern aspects of etiopathogenesis, clinical forms, treatment of demyelinating diseases.*

To make schemes of treatment, prevention of infectious diseases of a nervous system

Topic 7 . Infectious diseases of the emergency: meningitis, arachnoiditis, encephalitis, brain abscess. Poliomyelitis. Acute myelitis. Amyotrophic lateral sclerosis. Neurosyphilis. Early and late forms. Lesions of the nervous system in the presence of HIV infection. Tuberculosis of the nervous system.

Meningitis. Classification of meningitis: primary and secondary, purulent and serous. Purulent meningitis. Primary meningococcal meningitis, clinic, diagnosis, features of the course, atypical forms. Secondary meningitis: pneumococcal, staphylococcal. Clinic, diagnosis, changes in cerebrospinal fluid, treatment, prevention.

Serous meningitis. Primary viral: lymphocytic choriomeningitis, enteroviral meningitis (ECHO, Coxsackie), mumps , etc. Secondary: tuberculous meningitis and meningitis in other infections. Clinic, diagnosis, the importance of cerebrospinal fluid research in differential diagnosis, treatment, prevention.

Arachnoiditis. Etiology, pathogenesis. Pathomorphology: adhesive, cystic. Classification by localization: arachnoiditis of the posterior cranial fossa, basal, convex. Clinic, course, diagnosis. Differential diagnosis. Treatment and prevention.

Encephalitis. Classification. Primary encephalitis: epidemic, tick-borne spring-summer, epilepsy . Secondary encephalitis, rheumatoid (chorea), postva ktsynalnyy, with chicken pox, for orientation, krasnusi. Clinic, course, forms of the disease, diagnosis.

Lesions of the nervous system in influenza (influenza hemorrhagic encephalitis, encephalopathy).

Infectious encephalopathy - dyscirculatory-dystrophic changes of the brain without severe focal lesions with a predominance in the clinic of asthenic manifestations, autonomic dystonia, intracranial hypertension. Course, diagnosis, differential diagnosis, treatment, prevention. Brain abscess diagnosis, differential diagnosis, treatment, prevention.

Poliomyelitis. Etiology, pathogenesis, epidemiology, routes of transmission. Pathomorphology. Clinical classification: paralytic (abortive, subclinical) and paralytic forms (pre-paralytic and paralytic stages) and stem forms. Diagnosis, differential diagnosis. The value of virological and serological studies in the diagnosis of the disease. Treatment in the acute and recovery period. Consequences. Prevention.

Poliomyelitis-like diseases in children caused by Coxsackie and ECHO viruses, mumps, herpes simplex, adenoviruses. Clinical forms, course, prognosis, diagnosis, treatment, prevention.

Acute myelitis. Etiology (in primary myelitis - neurotropic viruses, tuberculosis, syphilis; in secondary - as a complication of infectious diseases - measles, scarlet fever, typhoid, pneumonia, influenza or sepsis). Pathogenesis. Pathomorphology. Clinic and clinical forms (symptom complex of spinal cord injury in the lumbar , thoracic, cervical thickening, in the upper cervical region). Liquor diagnostics. Differential diagnosis. Treatment.

Amyotrophic lateral sclerosis. Etiology (excitoxic lesion of peripheral neurons and central motoneurons due to increased function of glutamate receptors). Pathogenesis. Pathomorphology. Clinic and clinical forms (boulevard, cervical-thoracic, lumbosacral) . Differential diagnosis. Treatment with the aim not only to improve the patient's condition and le and improve quality of life (palliative neurology)

Neurosyphilis. Early neurosyphilis (mesodermal): generalized syphilitic meningitis, meningovascular syphilis, gums of the brain and spinal cord, latent asymptomatic meningitis (cerebrospinal fluid).

Late neurosyphilis (parenchymal): tuberculosis, progressive paralysis. Diagnosis, treatment methods.

NeuroAIDS. Etiology, pathogenesis, key clinical manifestations: dementia, acute meningoencephalitis and atypical aseptic meningitis, myelopathy, lesions of the peripheral nervous system.

Lesions of the nervous system associated with infections that develop on the background of immunodeficiency, caused by toxoplasmosis, herpes simplex virus, cytomegalovirus infection, papovavirus, fungi (cryptococcus, candidiasis). Tumors of the central nervous system in AIDS: primary lymphoma, Kaposi's sarcoma. Cerebrovascular disorders in AIDS patients. Diagnosis of neurological manifestations of AIDS. Treatment. Forecast. Prevention. Lesions of organs and systems in HIV infection.

Tuberculosis of the nervous system. Tuberculous meningitis (clinic, course, changes in cerebrospinal fluid). Tuberculous spondylitis, solitary tuberculomas of the brain. Diagnosis, modern methods of treatment , prevention .

Topic 8 . Demyelinating diseases of the nervous system.

Acute multiple encephalomyelitis. Multiple sclerosis. Modern theory of pathogenesis (autoimmune disease, genetic predisposition) . Pathomorphology (numerous foci are epileptic in the brain and spinal cord) . Early symptoms. The main clinical forms (cerebral: stem, cerebellar, optical, hyperkinetic, spinal, cerebrospinal) . Charcot Triad. Pentada Ma r burg. Forms of the disease. Differential diagnosis. Treatment (in the period of exacerbation - metabolic plasmapheresis, pulse therapy with corticosteroids, cytostatics, desensitizing therapy, antihistamines, antioxidants; in remission - interferons , drugs that improve trophic nervous system, vascular drugs.

Subacute sclerosing encephalitis. Leukodystrophy: metachromatic , globoid-cellular, sudanophilic, rapid diagnostic methods.

3 . Diseases of the peripheral nervous system, perinatal lesions of the nervous system, somatoneurological syndromes. Hereditary diseases of the nervous system, congenital defects of the spine and spinal cord. Drugs used in neurology.

Specific goals:

1. *Master the principles of formation of vertebrogenic and nonvertebrogenic diseases of the peripheral nervous system.*
2. *Interpret clinical features in perinatal lesions of the nervous system.*
3. *Analyze the neurological manifestations of hereditary and degenerative diseases of the neuromuscular, epileptic, pyramidal, cerebellar systems.*
4. *Interpret neurological syndromes in diseases of internal organs, paraneoplastic syndromes.*
5. *Analyze congenital defects of the spine and spinal cord.*
6. *Assimilate drugs used in patients with neurological profile.*

Topic 9 . Diseases of the peripheral nervous system. Paraneoplastic polyneuropathy, palliative treatment.

Clinical classification of diseases of the peripheral nervous system.

Vertebrogenic lesions of the peripheral nervous system.

Cervical level: reflex syndromes (cervicago, cervicalgia; cervicocranioalgia or posterior vertebral artery syndrome and cervicobrachial achialgia with muscle in tonic, vegetative-vascular or neuro-dystrophic manifestations). Radical syndromes (discogenic lesions of radiculopathy roots). Radicular and vascular syndromes (radiculoischemia).

Dec tion level; reflex syndromes (torakaho, torakalhiya with muscles t tonic, vehetat and vno-neurodystrophic or visceral symptoms).

Radical syndromes (discogenic lesions of the roots - radiculopathy).

Lumbosacral level: reflex syndromes (lumbago, lumbalgia, lumbois and algia with muscular, tonic, vascular or neurodystrophic manifestations).

Radical syndromes (discogenic lesions of the roots - radiculopathy). Radicular and vascular syndromes (radiculoischemia).

Cranial nerve damage. Neuralgia of the trigeminal and other cranial nerves. H eyropatiya facial nerve, neuro Opatija other cranial nerves.

Lesions of individual spinal nerves.

Traumatic. On the upper extremities: radial, ulnar, median, cutaneous-muscular and other nerves. On the lower extremities: femur, buttocks, tibia, tibia and others.

Plexopathy . Injuries of plexuses: cervical, upper shoulder (Erb-Duchenne paralysis); lower shoulder (Degerin-Klumpke paralysis); shoulder (totally); lumbosacral (partial or total).

Compression-ischemic mononeuropathy (most often tunnel syndromes). On the upper extremities: carpal tunnel syndrome (median nerve); Guillain's canal syndrome (ulnar nerve). On the lower extremities: tarsal canal syndrome (tibial nerve); pareste t ychna meralhiya Co-Bernhardta (jamming during pupartovoyu ligament lateral cutaneous nerve of the thigh).

Multiple lesions of nerve roots.

Infectious polyneuropathy, infectious-allergic polyradiculoneuropathy (Landry, Guillain-Barré).

Polyneuropathy. Toxic: in chronic domestic or industrial intoxications (alcohol, lead, chlorophosphate and others); with toxicoinfections (diphtheria, botulism); allergic (medication , etc.); dysmetabolic: hypo- or avitaminosis, in endocrine diseases - diabetes, liver disease, kidney disease, etc .; dyscirculatory: nodular periarteritis , rheumatic and other vasculitis, idiomatic and hereditary forms. Paraneoplastic polyneuropathy (PNP), palliative treatment of PNP.

Treatment of diseases of the peripheral nervous system: medical, orthopedic, surgical, sanatorium. Physical therapy. Issues of prevention and examination of working capacity.

Topic 10 . Somatoneurological syndromes.

Somatoneurological syndromes that occur as a result of metabolic disorders of the nervous system, hypoxia, pathological reflex impulses in human somatic diseases.

Somatoneurological syndromes, the most common: asthenic, autonomic dystonia, polyneuropathy, neuromuscular disorders.

Somatic symptoms in diseases of the lungs, heart, blood system, digestive tract, Pec and nky, kidneys, endocrine system, kollagenozah.

Paraneoplastic syndrome. Treatment. Prevention.

Topic 11 . Hereditary and degenerative diseases of the nervous system. Perinatal lesions of the CNS. Congenital defects of the spine and spinal cord. Syringomyelia

Modern principles of classification. Neuromuscular diseases. Progressive muscular dystrophies. Myopathies: pseudohypertrophic Duchenne, juvenile Erba-Rota, shoulder-scapular-facial Landuzi-Degerina; amyotrophies: spinal Verdnig-Hoffman, spinal Kugelberg-Welander, neural Charcot-Marie.

Myotonia. Congenital Thompson's myotonia. Rossolimo-Steinert-Kurschmann dystrophic myotonia.

Myasthenia. Myasthenic syndromes. Wide medical urgency of the problem, features of palliative therapy. Paroxysmal myoplegia. Paroxysmal myoplegia syndrome.

Extrapyramidal degeneration. Hepatocerebral degeneration - Konovalov-Wilson disease: pathogenesis, clinical syndromes, diagnosis, treatment) . X Huntington's sparrow (pathogenesis, leading clinical syndromes, diagnosis, treatment) .

Muscular dystonias (primary hereditary, secondary due to organic diseases of the brain), etiology, principles of treatment.

Spinocerebellar ataxias. Hereditary ataxia of Friedrich. Hereditary spinocerebellar ataxias.

Pyramidal degeneration. Hereditary spastic paraplegia (Strumpel's disease). Principles of treatment.

Etiological factors (intrauterine, birth trauma, brain damage in the early postpartum period). Hypoxic-ischemic encephalopathy (acute period, recovery period). Cerebral palsy, clinical forms - spastic, hemiplegic, atactic, quadriplegic, hyperkinetic. Diagnosis. Treatment (drug, non-drug). Prevention.

Craniovertebral abnormalities: Klippel - Weyl, Arnold - Chiari syndromes. Underdevelopment of the spinal cord. Spinal cord and hernia . Syringomyelia - etiology, pathogenesis, pathomorphism, clinical forms, the major clinical syndromes (damage to the posterior horn anterior and lateral horns syndromes white matter pathways of side and rear pillars spinal cord dyzrafichnyy s t atus). Diagnostic criteria. Differential diagnosis. Principles of therapy.

CPC1. Drugs used in neurology. Procedure for providing palliative care to incurable patients. Order of the Ministry of Health № 41 dated 21.01.2013.

Groups of drugs used to treat neurological diseases: neuroprotectors; drugs that improve cerebral hemodynamics; antiparkinsonian; anticonvulsants; antimigraine, vegetotropic, biogenic stimulants; neuroleptics; anti-stress drugs; interferons; drugs used in neuromuscular diseases, autoimmune and demyelinating diseases, muscular dystonias and hyperkinesias, etc.

CPC2 . Practical experience. Independent supervision of patients with and compilation of medical history.

VTS 3 Parasitic diseases of the nervous system, prion infections.

Cysticercosis, echinococcosis. Toxoplasmosis. Ways of infection. Clinic. Diagnosis, treatment, prevention. Prion infections. Creutzfeldt-Jakob disease (etiology, pathogenesis, clinic, diagnosis, prevention).

O INDICATIVE STRUCTURE OF THE DISCIPLINE :

Section 1. " General Neurology " .

Topic	Lectures	Prac - cal classes	CPC
1 . Principles of structure and functioning of the nervous system. The functional unit of the nervous system is a neuron. Representation of reflex and reflex arc.	-	2	
2 . Arbitrary movements and their violations. Methods of research of arbitrary movements. Pyramid system. Cortico-nuclear and cortico-spinal pathways ..	1	2	
3. Symptoms of central and peripheral paresis. Syndromes of motor pathway lesions at different levels	-	2	
4. Automated involuntary movements. Coordination of movements. Extrapyramidal system and syndromes of its defeat.		2	2
5. Cerebellum. Cerebellar lesion syndromes .		2	
6. Sensitive system and symptoms of its defeat. Types and types of sensitivity disorders.	1	2	2
7 . Cranial nerves: I , II , VIII and syndromes of their defeat ..	-	2	
8. Cranial nerves: III , IV , V , VI , VII and syndromes of their defeat. .	-	2	1

9. Cranial nerves : IX , X , XI , XII and syndromes of their defeat. Boule be Arni , pseudobulbar syndromes . Alternating syndromes of the medulla oblongata and midbrain, Varoli's bridge	-	2	
10 . Methods of research of the autonomic nervous system. Pathology of the autonomic nervous system		2	1
11 . Localization of functions in the cerebral cortex. Defeat syndromes.		2	2
12 . Cerebrospinal fluid, its changes. Meningeal syndrome .	-	2	
13 . Functional diagnosis of diseases of the nervous system.	-	2	
14 . Blood supply to the brain and spinal cord.	-	2	
15. Methodology of examination of neurological patients. Pathological reflexes. Scales in neurology		2	
VTS 1. The main stages of development of neurological science.			2
Total hours - 42	**2**	**30**	**10**
ECTS loans - 1.4			

Classroom work - 76 %, VTS - 24 %

Section 2 "Special Neurology".

Topic	Lectures	Prac - cal classes	CPC
1 . Vascular diseases of the brain and spinal cord . Chronic cerebrovascular disorders.	-	2	2
2. Ischemic stroke. Transient ischemic attack.	1	2	
3. Hemorrhagic stroke.	1	2	
4 . Epilepsy and non-epileptic paroxysmal conditions	2	1	2
5 . Headache . Disorders of sleep and vitality . Occupational and domestic neurointoxication. Defeat of the nervous system under the influence of physical factors	-	1	3
6 . Neurological aspects of traumatic brain injury. Spinal cord injury . CNS tumors	1	2	1
7 . Meningitis. Arachnoiditis. Encephalitis . Brain abscess Polio. Acute myelitis. Amyotrophic lateral sclerosis. Neurosyphilis. Early and late forms. Lesions of the nervous system in the presence of HIV infection. Tuberculosis of the nervous system.	-	2	3

8 . Demyelinating diseases of the nervous system.		1	2
9 . Diseases of the peripheral nervous system. Paraneoplastic polyneuropathy. Palliative treatment	-	2	
10 . Somatoneurological syndromes.	0.5	1	2
11 . Hereditary degenerative disease of the nervous system, neuro-m ' muscle and lesions of pyramidal, extrapyramidal and cerebellar systems. Perinatal lesions of the CNS. Congenital defects of the spine and spinal cord. Syringomyelia	-	2	1.5
CPC1 . Drugs used in neurology. The procedure for providing palliative care to incurable patients			2
CPC2 . Practical experience. Independent curation of patients with a history.	-	2	2
CPC 3 . Parasitic diseases of the nervous system, prion infections.	-	-	2
At this hour - 48 / 1.6 ECTS credits	**5.5**	**20**	**22.5**
Total (section 1,2) 90 / 3,0 ECTS credits			
Exam (classroom pose)			**8**

Classroom work - 53 %, VTS - 47 %

IV. Thematic plan of lectures on the subject "Neurology"

№ z.p.	T e m a	Number of hours
	Section 1 "General Neurology".	
1.	Arbitrary movements and their violations. Methods of research of arbitrary movements. Pyramid system. Cortico-nuclear and cortico-spinal pathways.	1
2.	Sensitive system and symptoms of its defeat. Types and types of sensitivity disorders.	1
	Together	**2**
	Section 2 "Special Neurology"	
3 .	Vascular diseases of the brain and spinal cord. . Ischemic stroke. Transient ischemic attack. Hemorrhagic stroke.	2
4 .	Paroxysmal conditions in the clinic of nervous diseases . Epilepsy and non-epileptic paroxysmal conditions	2
5 .	Neurological aspects of traumatic brain injury. Spinal cord injury. CNS tumors. Somatoneurological syndromes	1.5
	Together	**5.5**

	Number of hours per discipline	***7.5***

V. Thematic plan of practical classes in the discipline "Neurology"

№ classes.	T e m a	Number of hours
	Section 1. "General Neurology".	
1	1. Principles of structure and functioning of the nervous system. The functional unit of the nervous system is a neuron. Representation of reflex and reflex arc.	2
2	2. Arbitrary movements and their violations. Methods of research of arbitrary movements. Pyramid system. Cortico-nuclear and cortico-spinal pathways.	2
3	3. Symptoms of central and peripheral paresis. Syndromes of motor pathway lesions at different levels	2
4	4. Automated involuntary movements. Coordination of movements. Extrapyramidal system and syndromes of its defeat.	2
5	5. Cerebellum. Cerebellar lesion syndromes.	2
6	6. Sensitive system and symptoms of its defeat. Types and types of sensitivity disorders.	2
7	7. Cranial nerves: I , II , VIII and syndromes of their defeat ..	2
8	8. Cranial nerves: III , IV , V , VI , VII and syndromes of their defeat ..	2
9	9 . Cranial nerves: IX , X , XI , XII and syndromes of their defeat. Bulbar, pseudobulbar and alternating paralysis.	2
10	10 . Methods of research of the autonomic nervous system. Pathology of the autonomic nervous system	2
11	11 . Localization of functions in the cerebral cortex. Defeat syndromes.	2
12	12 . Cerebrospinal fluid, its changes. Meningeal syndrome.	2
13	13 . Functional diagnosis of diseases of the nervous system.	2
14	14 . Blood supply to the brain and spinal cord.	2
15	15 . Methods of examination of neurological patients. Pathological reflexes. Scales in neurology.	2
	Together	**30**
	Section 2. "Special neurology".	
1	1 . Vascular diseases of the brain and spinal cord. Chronic cerebrovascular disorders.	2
2	2 . Acute cerebrovascular accident of the ischemic type. Transient ischemic attack.	2
3	3 . Acute cerebrovascular accident of hemorrhagic type.	2
4	4 . Epilepsy and epileptic paroxysmal conditions	2
5	5 . Headache. Sleep disorders. Occupational and domestic neurointoxication. Defeat of the nervous system under the influence of physical factors	2
6	6 . Neurological aspects of traumatic brain injury. Spinal cord injury	2
7	7 . Meningitis. Arachnoiditis. Encephalitis. Poliomyelitis. Acute myelitis. Amyotrophic lateral sclerosis. Palliative therapy. Neurosyphilis. Early and late forms. Lesions of the nervous system in the presence of HIV	2

	infection. Tuberculosis of the nervous system.	
8	8 . Demyelinating diseases of the nervous system. Somatoneurological syndromes.	2
9	9 . Diseases of the peripheral nervous system . Paraneoplastic neuroinfections. Palliative treatment	2
10	10 . Hereditary degenerative disease of the nervous system, neuro-m ' muscle and lesions of pyramidal, extrapyramidal and cerebellar systems. Perinatal lesions of the CNS. Congenital defects of the spine and spinal cord. Syringomyelia	2
	Together	**20**

VI. Thematic plan of independent work of students (VTS) in the discipline "Neurology" and its control.

№ z.p.	TOPIC	Number of hours	type of control
	Section 1. "General Neurology".		
1.	Preparation for practical classes - *theoretical training and development of practical skills*	6	Current control in practical classes
2.	Independent elaboration of topics that are not included in the lesson plan:	2	Exam
2.1	VTS 1. The main stages of development of neurological science.	2	- " -
	Together	**10**	
	Section 2. "Special neurology".		
3.	Preparation for practical classes - theoretical training and development of practical skills	10	Current control in practical classes
4.	Independent elaboration of topics that are not included in the lesson plan:		Exam
	CPC 1 . Drugs used in neurology. The procedure for providing palliative care to incurable patients. Order of the Ministry of Health № 41 dated 21.01.2013.	2	- " -
	CPC 2. Independent curation of patients with drafting history of the disease	3	- " -
	CPC 3 . Parasitic diseases of the nervous system, prion infections.	2	- " -
	CPC 4 . Tumors of the brain and spinal cord. Brain abscess.	2	- " -
	5 bid . Congenital defects of the spine and spinal cord. Cheese and nhomiyeliya.	1.5	- " -
	CPC 7 . Perinatal lesions of the nervous system.	2	- " -
	Together	**22.5**	
5	**Together with the discipline**	**35**	

Typical test problems to be solved in practical classes:

1. Classification of neuropathies by clinical manifestations:

A) All of the above is true except: vegetative

B) Mixed

C) Vegetative

D) Sensitive

E) All of the above is true, except: mixed

E) Motor

E) All of the above is true

2. In the phase of loss of function of the motor fibers of the nerve may occur:

A) Paralysis, atony, atrophy, areflexia, degeneration reaction

B) Paralysis, atony, atrophy, degeneration reaction, myasthenic syndrome

C) Atony, atrophy, areflexia, degeneration reaction

3. Vasomotor disorders that are not characteristic of nerve or plexus damage:

A) Paleness in the area of innervation

B) Cyanosis in the area of innervation

C) Positive symptom of "white spot"

D) Change in skin temperature in the area of innervation

D) No pulse at the distal vessels

E) Hyperemia in the area of innervation

4. Symptoms of loss of function of the phrenic nerve (p.repisis) include:

A) High standing of the diaphragm dome, breathing disorders, difficulty coughing

B) Violation of peristalsis, respiratory disorders, hiccups

C) Low standing of the dome of the diaphragm, breathing disorders, difficulty coughing

5 .: Symptoms of short branches of the humeral plexus include:

A) "Winged" scapula

B) All the said is true, except: loss of shoulder-blade reflex

C) All of the above is true, except: "winged" blade

D) atrophy of the muscles of the shoulder girdle

E) All of the above is true

E) Impossibility of raising the shoulders and bringing the shoulder

E) Loss of scapular-shoulder reflex

6 .: At defeat of an ulnar nerve (p.ilparis) there are:

A) Limited flexion of the end phalanx of 1 finger, the impossibility of bringing all five fingers and diluting 2-5 fingers

B) Impossibility of bringing 1-5 fingers and diluting 2-5 fingers, flexion and extension of the middle and distal phalanges of 4-5 fingers

7. At defeat of a median nerve (p.mediapis) there are:

A) All of the above is true, except: the loss of extensor-elbow reflex

B) Impaired sensitivity in the area of innervation

C) Loss of extensor-elbow reflex

D) Peripheral paralysis of the muscles innervated by it

E) Burning pain in the hand, vegetative-trophic changes of the hand

8. At defeat pervis femoralis it is observed:

A) Impossibility of extension in the knee joint

B) All of the above is true, except: the impossibility of flexion in the knee joint

C) Malnutrition of the muscles of the anterior thigh

D) Lack of knee reflex

E) Limited flexion in the hip joint

9 .: Characteristic radiological signs of osteochondrosis:

A) Decrease in height of vertebral bodies, pathological mobility of vertebrae, thickening and unevenness of closing plates, vertical marginal growths of vertebral bodies, change of a configuration of a backbone

B) Reduce the height of the intervertebral space, pathological vertebral mobility, thickening and inequality locking plates, horizontal proliferation edge of the vertebral bodies, reconfigure spine

10. The patient had short-term attacks of intense pain in half of the face, lasting up to several minutes and can be provoked by chewing, talking. Possible diagnosis:

A) Sluder's syndrome

B) Trigeminal neuralgia

VII. List of questions to prepare students for the exam

Discipline "Neurology"
Section 1. " General neurology "
1). Introduction. Symptoms of motor, coordination and sensory disorders.
1. Neurology as a science, a branch of practical medicine and a subject.
2. The main stages of development of neurological science.
3. The main stages of development of the nervous system.
4. Anatomical and topographic departments of the nervous system.
5. Basic principles of functioning of the nervous system.

6. Reflex apparatus of the spinal cord. Reflex, reflex arc. Unconditional reflexes.
7. Tendon and periosteal reflexes, arcs of their closure.
8. Cortico-spinal and cortico-nuclear pathways.
9. Central (spastic) paralysis.
10. Peripheral (flaccid) paralysis. Pathogenesis of atony, areflexia, atrophy. Topical diagnosis of pathology of voluntary movements.
11. Syndromes of motor tract lesions at different levels of the spinal cord.
12. The alternating paralysis. Brain syndromes legs, bridge-cerebellar angle pons.
13. Extrapyramidal system, anatomical features, functions.
14. Parkinson's syndrome, biochemical mechanisms of pathogenesis.
15. Types of hyperkinesis.
16. Cerebellum, anatomical and physiological features, lesion syndromes.
17. Types of ataxia.
18. Sensitivity. Types of sensitivity, sensitive types of violations.
19. Types of sensitivity disorders. Brown-Sekara syndrome.

2) . The pathology of cranial nerves. Violations of the autonomic nervous system and higher brain functions. Meningeal syndromes. Additional methods in neurology.

1. Anatomical and physiological data, research methods, syndromes of lesions I - XII pairs of cranial nerves.
2. Central and peripheral paresis of the facial nerve.
3. Bulbar and pseudobulbar syndromes.
4. Alternating syndromes.
5. Suprasegmental and segmental departments of the autonomic nervous system, their functions, lesion syndromes.
6. Bernard-Gorner syndrome.
7. Bark of large hemispheres, cytoarchitectonic fields, lesion syndromes.
8. Agnosia, apraxia, aphasia.
9. Speech disorders (dysarthria, aphasia).
10. Liquor formation, cerebrospinal fluid composition is normal, its changes in meningitis, tumors, hemorrhagic stroke, tuberculosis.
11. Clinic of meningeal syndrome.
12. Electrophysiological research methods.
13. Methods of neuroimaging in the clinic of nervous diseases.
14. Ultrasound research methods.

Section 2 "C special neurology "

3). Vascular diseases of the brain and spinal cord, paroxysmal conditions, cephalgia, sleep disorders, neurointoxication. Traumatic lesions of the nervous system.

1. Blood supply to the brain and spinal cord.
2. Classification of vascular diseases of the nervous system.
3. Variants of cerebral vascular crises.
4. Syndromes of transient ischemic attacks.
5. Transient cerebrovascular disorders.
6. Hemorrhagic stroke.
7. Ischemic stroke.
8. Principles of undifferentiated and differentiated treatment of strokes.
9. Spinal strokes.
10. Stroke prevention.
11. Modern classification of paroxysmal conditions in the clinic of nervous diseases.
12. Pathogenetic essence of epilepsy, classification of epileptic seizures, principles of differentiated treatment.

13. Status epilepticus, clinic, diagnosis, treatment.
14. Non-epileptic paroxysmal states - convulsive and non-convulsive.
15. Vegetative-vascular paroxysms.
16. Syncopal states.
17. Cephalgia-pathogenetic mechanisms of occurrence, clinic, diagnosis, treatment.
18. Migraine: pathogenesis, clinic, treatment. Insomnia, hypersomnia.
19. Basic clinical syndromes and principles of treatment for exogenous intoxications.
20. Stages of damage to the nervous system in acute and chronic radiation sickness.
21. Vibration disease.
22. Closed traumatic brain injury, concussion, contusion, compression of the brain. Emergency aid.
23. Spinal cord injury.
24. Classification, syndromes of brain and spinal cord tumors. Changes in cerebrospinal fluid.
25. Brain abscesses, clinical syndromes, differential diagnosis.

4) . Infectious, infectious-allergic, demyelinating, parasitic diseases of the nervous system, prion infections. Amyotrophic lateral sclerosis.

1. Meningitis (purulent-primary, secondary; serous).
2. Arachnoiditis (sticky, cystic), basal, convex).
3. Encephalitis (primary, secondary)
4. Lesions of the nervous system with influenza, rheumatism. Herpetic lesions.
5. Poliomyelitis (clinical forms, stages, diagnosis, treatment, prevention).
6. Acute myelitis.
7. Amyotrophic lateral sclerosis. Principles of palliative therapy.
8. Neurosyphilis, early and late forms.
9. Lesions of the nervous system in the presence of HIV infection.
10. Tuberculosis of the nervous system.
11. Multiple sclerosis (etiopathogenesis, course options, clinic, modern treatments).
12. Parasitic diseases of the nervous system (cysticercosis, echinococcosis, toxoplasmosis).
13. Prion infections.

5) . Structure and functions of the peripheral nervous system. Symptoms of tension. Diseases of the peripheral nervous system, perinatal lesions of the nervous system, somatoneurological syndromes. Hereditary-degenerative diseases of the nervous system, congenital defects of the spine and spinal cord. Drugs used in neurology.

1. Classification of diseases of the peripheral nervous system.
2. Reflex vertebrogenic syndromes of cervical, thoracic, lumbar levels.
3. Radical syndromes of cervical, thoracic, lumbar localization. Symptoms of tension of the femoral and sciatic nerves.
4. Trigeminal neuralgia.
5. Neuropathy of the facial nerve.
6. Variants of shoulder plexopathies.
7. Neuropathy of the ulnar, radial, median, tibial, tibial nerves.
8. Compression-ischemic syndromes. Tunnel syndromes.
9. Polyneuropathy (infectious, toxic), modern methods of treatment, paraneoplastic and their palliative therapy.
10. Hypoxic-ischemic encephalopathy.
11. Cerebral palsy, clinical options, treatment.
12. Somatoneurological syndromes in diseases of the digestive tract, lungs, cardiovascular system, blood, endocrine diseases. Paraneoplastic syndrome.
13. Progressive muscular dystrophies-primary (myopathies) and secondary (amyotrophies).
14. Myotonia.

15. Myasthenia. Myasthenic syndromes. Paroxysmal myoplegia.
16. Hepatocerebral degeneration (Konovalov-Wilson disease).
17. Huntington's disease.
18. Modern biochemical aspects of Parkinson's disease and its treatment.
19. M ' muscle dystonia.
20. Spinocerebellar ataxia. Hereditary ataxia of Friedrich.
21. Hereditary spastic paraplegia. Strumpel's disease.
22. Cranio-vertebral anomalies.
23. Syringomyelia (etiopathogenesis, clinic, diagnosis, treatment).
24. Groups of drugs used in neurology.
25. Symptoms of sciatic and femoral nerve tension.
26. Features of incurable patients and the use of palliative techniques in neurological practice. The procedure for providing palliative care. Order of the Ministry of Health №41.

VIII . List of practical skills

"General Neurology"

1. Survey of the volume of active and passive movements.
2. Examination of muscle tone and strength .
3. Examination of tendon, periosteal, skin reflexes (stylo-carpo-radial, biceps, triceps, knee, Achilles, abdominal).
4. Examination of pathological reflexes (Babinsky, Oppenheim, Gordon, Schaefer, Rossolimo, Bekhterev, Zhukovsky and others) and synkinesis.
5. OBST TION coordination of movement and a (fingers, nose, knee-p ' yatkova sample diadohokinez, tests on dismetriyu) , detection of static and dynamic ataxia.
6. Sensitivity survey (superficial, deep and complex types and c).
7. Examination of symptoms of tension for the sciatic and femoral nerves .
8. Examination of smell and taste.
9. Examination of visual acuity, fields of vision, color perception.
10. Examination of the function of the oculomotor nerves.
11. Examination of V nerve functions .
12. Examination of the functions of the VII nerve.
13. Examination of the functions of IX - X nerves.
14. Examination of the functions of XI - XII nerves.
15. Examination of the autonomic nervous system.
16. Study of meningeal symptoms (occipital muscle rigidity, symptoms of Kernig, Brudzinski, Lesage.
17. OBST TION language, praxis, gnosis, writing , reading, count ing .
18. Interpretation of the main indicators of auxiliary methods of examination in the neurological clinic (electrophysiological, ultrasound, radiological, computed tomography).

"Special neurology".

1. Independent curation of patients with neurological pathology with compiling a medical history.
2. Determination of the leading neurological syndrome in a particular patient.
3. Rationale for topical diagnosis in the patient being examined.
4. Carrying out differential diagnostics.
5. Rationale for the clinical diagnosis.
6. Determination of the etiology of the disease, features of pathogenesis, course of the disease and its complications in the examined patient.

7. Rationale for the treatment regimen and additional examinations that are prescribed to the existing patient.
8. Determining the prognosis of the disease in this patient.

"0" version of the exam ticket

Black Sea National University named Peter Graves
Educational and qualification level -
master Field
of knowledge: 22 Health care
specialty 222 Medicine
Academic discipline - Neurology

Option № 0

1. Anatomical and topographic departments of the nervous system. (Maximum number of points - 15).
2. Classification of vascular diseases of the nervous system (Maximum number of points - 15).
3. Neuropathy facial nerve. (Maximum number of points - 15).
4. Modern biochemical aspects of Parkinson 's disease and its treatment. (Maximum number of points - 15).
5. Examine a patient with a diagnosis of sciatica (history, objective status, symptoms). Report the results. (Maximum number of points - 20).

Approved at the meeting of the Department of Therapeutic and Surgical Disciplines, Minutes № from " " 2020. _____

Head of the department: Professor Zak M. Yu.

Examiner:

Example of final control work

Task 1

A 42-year-old patient was taken by ambulance after falling on the ice. Complains of headache, nausea, dizziness, single vomiting. He does not remember the circumstances of the disease. According to his wife, it is known that after the fall he was unconscious for a few minutes. Objectively: slightly stunned, orientation in place and time is correct, horizontal nystagmus with extreme abduction of the eyeballs, weakness of convergence on the left, tendon reflexes S = D , bilateral symptom Marinescu - Rodovichi, increased sweating of the palms, blood pressure on the right 125/70 mm Hg. Art., left 110/75 mm Hg. Art. Radiograph of the skull without bone changes. Make a diagnosis.

Task 2

A 40-year-old patient complains of sharp low back pain in the legs, weakness in the legs, loss of sensation, urinary retention. Two hours ago he fell from a second floor window. Objectively: pain on palpation of the spinous processes of L2-L3 vertebrae, smoothed lumbar lordosis. Anesthesia in the area of innervation of the roots L5-S2 on the left and L4-S1 on the

right. The tone and strength of the leg muscles are reduced, the volume of movements in the knee joints is reduced, there are no movements of the feet. Knee and Achilles reflexes are not caused on both sides. There are no pathological reflexes. Bladder emptying with a catheter. On radiographs of the lumbar spine, the height of the body L2 of the vertebra is reduced by half. Make a diagnosis.

Task 3

A 65-year-old patient complains of weakness in his left arm and leg, which appeared suddenly about 2 hours ago. Objectively: consciousness is preserved, orientation in place and time is correct, pulse 78 per 1 min, blood pressure - 128/70 mm Hg. Art. Hypesthesia on the left arm and leg is more pronounced in the distal parts, tendon reflexes S> D. Symptom of Marinex-Radovichi on the left. Meningeal symptoms are absent. Fuzzy symptom of Babinsky on the left. During the observation of the patient for 6 hours, the neurological seizures completely disappeared. Make a diagnosis.

Task 4

A 44-year-old patient complains of a sharp headache, nausea, vomiting, weakness in the left extremities. Ill suddenly against a background of high blood pressure (180/110 mm Hg), there was a short-term fainting. Objectively: stunned, anisocoria D> S, smoothed left nasolabial fold, tendon reflexes S> D, reduced muscle strength in the left extremities. Positive meningeal signs. Computed tomograms revealed a focus of increased density in the depth of the right parietal lobe. Make a diagnosis.

Task 5

The 22-year-old patient fell ill suddenly. Against the background of fever (38.2 C) appeared headaches, repeated vomiting, olfactory and taste hallucinations. Meningial symptom complex, central hemiparesis quickly joined. A generalized epileptic seizure and coma developed. In the cerebrospinal fluid - mixed pleocytosis, xanthochromia, single erythrocytes. The polymerase chain reaction revealed elements of the DNA of the herpes virus in the cerebrospinal fluid. Make a diagnosis.

1: Sources of blood supply to the brain: "

1. Internal carotid arteries
2. Vertebral and internal carotid arteries
3. Vertebral arteries
4. External carotid arteries

2: "End branches of the internal carotid artery:"

1. Middle cerebral artery
2. Posterior cerebral artery
3. Posterior connecting artery
4. Anterior villous artery
5. Ophthalmic artery
6. Anterior cerebral artery

3: "The terminal branches of the internal carotid artery do not include:"

1. Anterior cerebral artery

2. Ophthalmic artery
3. Posterior cerebral artery
4. Posterior connecting artery

4: "The anterior cerebral arteries are connected by:"

1. Anterior villous artery
2. Middle cerebral artery
3. Anterior connecting artery

5: "The cortical branches of the anterior cerebral artery supply the following formations, except:"

1. The upper part of the central gyri and the upper parietal gyrus
2. Olfactory bulb
3. Corpus callosum
4. The medial surface of the frontal and parietal lobes
5. Inner capsule

6: "Areas of the brain supplied with blood by the anterior cerebral artery:"

1. Eyeball
2. Radiant crown / partially /
3. The nuclei of the base of the cerebral hemisphere / basal ganglia /
4. Medial departments of the frontal and parietal lobes of the hemispheres
5. Olfactory bulb

7: "The middle cerebral artery passes in:"

1. Lateral sulcus of the cerebral hemisphere

2. The lower corner of the lateral ventricle

3. Central sulcus of the brain

4. Transverse sulcus of the brain

5. Corn body

8: "The anterior cerebral artery passes into:"

1. Central sulcus of the brain
2. Longitudinal slit of the brain
3. Lateral sulcus of the brain

Criteria Evaluation and means of diagnosis results of study

Control methods

- **Survey (testing of theoretical knowledge and practical skills).**
- **Test control.**
- **Writing a review of scientific literature (abstracts), performing individual tasks, their defense.**

Current control. Testing in practical classes of theoretical knowledge and the acquisition of practical skills, as well as the results of independent work of students. Supervised by teachers according to the specific purpose of the curriculum. Assessment of the level of students' training is carried out by: interviewing students, solving and analyzing situational tasks and test tasks, interpreting the results of clinical- instrumental and clinical-laboratory research, monitoring the acquisition of practical skills.

Intermediate control. Checking the possibility of students using for clinical and diagnostic analysis of theoretical knowledge and practical skills on all topics studied, as well as the results of independent work of students. Carried out in the last lesson on the topic / section by passing practical skills, solving situational problems and testing.

Final Tests (PKR) is held at the end of the study subjects block on the latter, control, pursuit semester. To the PKR allowed students who attended all prescribed curriculum lectures, lecture- practical classes performed fully independent work and during training gained score not less than the minimum - **70 points in the fall semester and 40 points in the spring semester.**

Distribution points are getting students

In the autumn semester, a positive assessment in each practical session can be **from 4, 7 to 8 points.** A score below 4.7 points means "unsatisfactory", the lesson is not credited and must be practiced in the prescribed manner. At PKR №1 a student can get a maximum of **80 points.** PKR is considered passed if the student scored **no less than 50 points.**

In the spring semester, a positive assessment in each practical session can be **from 4.7 to 8 points.** A score below 4.7 points means "unsatisfactory", the lesson is not credited and must be practiced in the prescribed manner. At PKR № 2 a student can get a maximum of **40 points.** PKR is considered passed if the student scored **no less than 30 points.**

With the purpose of evaluation of the results of studies of Neurology held final control in the form of **exam** is recommended for teaching subjects that are part of the integrated test exams YEDKI and "Step 2". Only students who have both PKRs (№№ 1 and 2) in the discipline are admitted to the exam . At the exam, a student can get a maximum of **80 points.** The test is considered to be drawn, if the student has received **no less than 50 points.** Distribution of points on the exam - see above in the example of the exam ticket.

Evaluation of the success of the student

Type of activity (task)	Maximum number of points
Blo ck 1	
Practical lessons from the 1st to 15th - te	8 points in each lesson
Together for 1 5 to occupy	**120**
Final control work №1 (practical lesson № 1 5)	**80**
Together for block 1	**200**
Blo	

ck 2	
Practical lessons from the 1st to 10 -te	8 points in each lesson
Together for 1 0 to occupy	**80**
Final test № 2 (practical lesson № 1 0)	**40**
Together for block 2	**120**
Examination	**80**
Together for block 2 and the exam	**200**

Assessment of student performance

Block 1 (content of the evaluated activity)	Maximum number of points
Block 1	
Topic 1. Principles of structure and functioning of the nervous system. functional unit of the NA - neuron. Representation of reflex and reflex arc	8
Topic 2. Arbitrary movements and their violations. Methods of research of arbitrary movements. Pyramid system. Cortico-nuclear and cortico-spinal pathways.	8
Topic 3. Symptoms of central and peripheral paresis. Syndromes of motor pathway lesions at different levels	8
Topic 4. Automated involuntary movements. Coordination of movements. Extrapyramidal system and syndromes of its defeat.	8
Topic 5. Cerebellum. Cerebellar lesion syndromes	8
Topic 6. Sensitive system and symptoms of its defeat. Types and types of sensitivity disorders.	8
Topic 7. Cranial nerves: I , II , VIII and syndromes of their defeat ..	8
Topic 8. Cranial nerves: III , IV , V , VI , VII and syndromes of their defeat.	8
Topic 9 . Cranial nerves: IX , X , XI , XII and syndromes of their defeat. Bulbar, pseudobulbar and alternating paralysis.	8
Topic 10 . Methods of research of the autonomic nervous system. Pathology of the autonomic nervous system	8
Topic 11 . Localization of functions in the cerebral cortex. Defeat syndromes.	8
Topic 12 . Cerebrospinal fluid, its changes. Meningeal syndrome	8
Topic 13 . Functional diagnosis of diseases of the nervous system.	8
Topic 14 . Blood supply to the brain and spinal cord.	8
Topic 15 . Methods of examination of neurological patients. Pathological reflexes. Scales in neurology.	8
Together	120
Final control work № 1	**80**
Together for block 1	**200**
Block 2	
Topic 1 . Vascular diseases of the brain and spinal cord. Chronic cerebrovascular disorders.	8
Topic 2 . Acute cerebrovascular accident of the ischemic type. Transient	8

ischemic attack	
Topic 3 . Acute cerebrovascular accident of hemorrhagic type.	8
Topic 4 . Epilepsy and epileptic paroxysmal conditions	8
Topic 5 . Headache. Sleep disorders. Occupational and domestic neurointoxication. Defeat of the nervous system under the influence of physical factors	8
Topic 6 . Neurological aspects of traumatic brain injury. Spinal cord injury	8
Topic 7 . Meningitis. Arachnoiditis. Encephalitis. Poliomyelitis. Acute myelitis. Amyotrophic lateral sclerosis. Palliative therapy. Neurosyphilis. Early and late forms. Lesions of the nervous system in the presence of HIV infection. Tuberculosis of the nervous system.	8
Topic 8 . Demyelinating diseases of the nervous system. Somatoneurological syndromes.	8
9 . Diseases of the peripheral nervous system . Paraneoplastic neuroinfections. Palliative treatment	8
1 0 . Hereditary degenerative disease of the nervous system, neuro-m ' muscle and lesions of pyramidal, extrapyramidal and cerebellar systems. Perinatal lesions of the CNS. Congenital defects of the spine and spinal cord. Syringomyelia	8
Together	**80**
Final control work № 2 with checking the medical history	**40**
Together for block 2	**120**
Final control (exam)	**80**
THE AMOUNT OF POINTS PER BLOCK	**200**

Evaluation criteria

Students' knowledge is assessed from both theoretical and practical training according to the following criteria:

8-7.3 points per topic in the first and second blocks, 71-80 points on the RCC № 1, 38-40 points on the RCC № 2 and 71-80 points on the exam ("excellent" on the national scale, and on the ECTS scale) - the student correctly answered 90-100% of the tests of the Step-2 format. Correctly, clearly logically and fully answers all standardized questions of the current topic, including questions of a lecture course and independent work, or an exam ticket. Closely connects theory with practice and correctly performs practical work with writing a conclusion on the results. Freely reads the results of laboratory tests, solves situational problems of increased complexity, is able to summarize the material, has the methods of laboratory tests to the extent necessary.

7.2-6.4 points per topic in the first block and the second block, 61-70 points on the RCC № 1, 35-37 points on the RCC № 2 and 61-70 points on the exam ("good" on the national scale, In and C on the ECTS scale) - the student correctly answered 70-89% of the Step-2 tests . Correctly and essentially answers the standardized questions of the current topic, lecture course and independent work or exam ticket. Demonstrates performance (knowledge) of practical skills. Correctly uses theoretical knowledge in solving practical problems. Is able to solve easy and medium situational problems. Has the necessary practical skills and techniques to perform them in excess of the required minimum.

6.3-4.8 points per topic in the first and second blocks, 50-60 points on the RCC № 1, 30-34 points on the RCC № 2 and 50-60 points on the exam ("satisfactory" on the

national scale, D and E on the ECTS scale) - the student correctly answered 50-69% of the tests of the Step-2 format . Incomplete, with the help of additional questions, answers standardized questions of current activity, lecture course and independent work or exam ticket. Not can independently build a clear, logical answer. During the answer and demonstration of practical skills, the student makes mistakes. The student solves only the easiest problems, has only a mandatory minimum of research methods .

Less than 4.7 points per topic in the first and second blocks, 50 points on the RCC № 1, 30 points on the RCC № 2 and 50 points on the exam ("unsatisfactory" on the national scale, Fx and F on the ECTS scale) - the student is correct responded to less than 50% of Step-2 tests . Does not know the material of the current topic or questions of the exam ticket, can not build a logical answer, does not answer additional questions, does not understand the content of the material. Makes significant, gross mistakes when answering and demonstrating practical skills .

Criteria for assessing medical history

Assessment of the history of the disease as a mandatory individual work of the student, occurs during its defense in the process of individual work of the teacher with the student.

Grade 8 Ball s ("excellent" on a national scale and a scale ECTS) is assigned if the student had a complete clinical examination of a sick child, described the results correctly assessed the clinical condition of the patient, clinical changes in the organs and body systems, laboratory and instrumental methods of examination, correctly determined the clinical diagnosis according to the classification of diseases and substantiated it, fully carried out the differential diagnosis, prescribed complete and correct treatment, correctly determined the prognosis and means of its prevention.

A score of 7.2-6.4 points ("good" on the national scale, B and C on the ECTS scale) is given if the student conducted a complete clinical examination of a sick child, but made inaccuracies in assessing the clinical condition, the results of laboratory and instrumental methods of examination, correctly defined the clinical diagnosis and substantiated it, did not make a full differential diagnosis, prescribed the right treatment, but not in full or with minor errors.

A score of 6.3-4.8 points ("satisfactory" on the national scale, D and E on the ECTS scale) is given if the student has made some mistakes in assessing the clinical condition of the patient, the results of clinical, laboratory and instrumental examination, diagnosis and justification of the diagnosis, prescribing treatment or determining the prognosis of the disease.

A score of less than 4.7 points ("unsatisfactory" on the national scale, Fx and F on the ECTS scale) is given if the student has made significant errors in the analysis of clinical condition, results of clinical, laboratory and instrumental examination of a sick child, failed diagnosis, appointment proper treatment.

The work is considered completed if the student receives a positive assessment in writing and defending a medical history.

IX. List of educational and methodical literature.

Main literature:

1. Neurology / S.M. Vinychuk, TI Ilyash, OA Myalovytska and others; For order. S.M. Vinichuk. - K .: Здоров ' я, 2008. - 664 с .;
2. Neurology: nat. Textbook / I.A. Григорова, Л.I. Sokolova, RD Gerasymchuk and others; for order. I.A. Grigorova, LI Sokolova. - K .: ВСВ «Медицина», 2014. - 640 с.

3. Public health: a textbook for students. higher honey. textbook institutions / [VF Москаленко, О.П. Gulchiy, TS Gruzeva and others.] . - Vinnytsia: New book, 2011. - 559 p.
4. On the organization of palliative care [Electronic resource] / Order of the Ministry of Health of Ukraine dated 21.01.2013 №41 - Access mode: http://zakon4.rada.gov.ua/laws/show/z0229-13.

Additional literature:

1. Brillman J. Neurology / John Brillman, Scott Cohen; lane. with English - M .: MEDpress-inform, 2007. - 224 p.
2. Vinychuk SM, Prokopiv MM Acute ischemic stroke. - Kyiv: Scientific opinion. - 2006. - 286p.
3. Popp John A., Deschamps Eric M. Handbook of Neurology; lane. with English V. Yu. Khalatova; under ed. acad. NN Yakhno. - M .: GEOTAR-Media, 2012. - 688 p.