

MINISTRY OF HEALTH OF UKRAINE
KHARKIV NATIONAL MEDICAL UNIVERSITY

DEPARTMENT OF NEUROLOGY

Academic year 2021-2022

SYLLABUS OF TRAINING COURSE IN
«NEUROLOGY»

Regulatory discipline

Form of education _____ full-time _____

Field of knowledge 22 «Health» _____

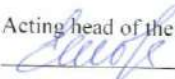
Specialty 222 «Medicine» _____

Second (Master's) level

Year IV

The syllabus of the training course was approved
at the meeting of the department of neurology


Protocol from
«01» September 2021 № 1

Acting head of the department
 prof. Tovazhnyanska O.L.

“ ” _____ 20 _____

Approved by the methodical commission of KhNML
on problems of professional training

Protocol from
“ ” _____ 20 _____ № _____

Head  prof. Kravchun P.G.

“ ” _____ 20 _____

***Syllabus of the training course in «Neurology» for students in the
field of knowledge 22 "Health" in the specialty 222 "Medicine" second (Master's) level***

Year 4

Developers: Acting head of the Department of Neurology, MD, Professor O.L. Tovazhnyanska;
Associate Professor, Ph.D. O.I. Kauk.; Associate Professor, Ph.D. L.V. Tykhonova

INFORMATION ABOUT LECTURERS

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Information about counseling

The students are consulted face-to-face by teachers of groups according to the schedule approved by the department which can be found on the information stand of the department, on the eve of tests and exams.

Location

Lectures in 2021-2022 academic year will be held online.

Venue of practical classes: training room of the Department of Neurology on the basis of SPMC "UC" KhNMU (Kharkiv, O. Speyer St., 4) and KNP CHO "OKL" (Kharkiv, 13 Nezalezhnosti Ave.).

Class time: according to the schedule.

INTRODUCTION

The syllabus of the discipline «Neurology» is compiled in accordance with the educational-professional program (hereinafter - EPP) «Medicine» and the Standard of Higher Education of Ukraine (hereinafter - the Standard), the second (master's) level, field of knowledge 22 "Health", specialty "Medicine".

Description of the course

Neurology is a branch of clinical medicine that studies the etiology, pathogenesis and clinical manifestations of diseases of the nervous system and develops methods for their diagnosis, treatment and prevention.

In accordance with the EPP and the curriculum for the training of specialists of the second (master's) educational and qualification level of qualification in the field of training 22 "Health" in the specialty 222 "Medicine" for the discipline "Neurology" allocated 4.0 ECTS credits, total number of hours - 120 ; classroom - 80: 10 hours of lectures and 70 hours of practical classes; independent work of students - 40 hours.

The form of final control is an exam.

General structure of the course - the program of the course is structured in separate sections: "General neurology" and "Special neurology", which in turn consists of separate topics. The amount of student workload is described in ECTS credits which are given to students upon successful mastering of the corresponding volume of the material.

The role and place of the course in the educational system

The course "Neurology" is an integral part of the training of future pediatricians giving them an opportunity to gain knowledge about the structure and functioning of various parts of the nervous system, master the methodology of neurological status, study etiopathogenetic features, clinical manifestations, differential diagnostic signs and current trends in neurologic emergencies.

Prerequisites and co-requisites of the course

"Neurology" as a training course is based on the study of medical biology, biological and bioorganic chemistry, histology, physiology and pathological physiology, human anatomy and pathomorphology and integrates with these courses, propaedeutic courses of therapeutic profile, pharmacology, radiology and integrates with these. The course "Neurology" is fruitfully integrated with other clinical courses (internal medicine, neurosurgery, oncology, psychiatry, medical genetics, etc.).

The purpose and objectives of the course

1.1. The purpose of teaching the course "Neurology" is:

- to improve knowledge about the structure and functioning of various parts of the nervous system,
- mastering the method of studying neurological status,
- studying etiopathogenetic features, clinical manifestations, differential diagnostic signs and modern directions and algorithms for treating various diseases of the nervous system.

1.2. The main tasks of studying the course "Neurology" are:

- 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 master the method of studying 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 independently examine patients with neurological pathology with the compilation of medical history, the establishment of 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.

1.3. Competences and learning outcomes

1.3.1. The study of the discipline provides students with mastery of competencies	
Integral competence	ability to solve typical and complex specialized tasks and practical problems in professional activities in the field of health care, or in the learning process, which involves research and / or innovation and is characterized by complexity and uncertainty of conditions and requirements.
General Competences (GC)	GC 1 - Ability to abstract thinking, analysis and synthesis, the ability to learn and be modernly trained GC2 - Ability to apply knowledge in practical situations GC3 - Knowledge and understanding of the subject area and understanding of professional activity GC4 - Ability to adapt and act in a new situation GC5 - Ability to make an informed decision; work in a team; interpersonal skills GC6 - Ability to communicate in the state language both orally and in writing; ability to communicate in a foreign language GC 7 - Skills in the use of information and communication technologies GC8 - Definiteness and persistence in terms of tasks and responsibilities GC9 - Ability to act socially responsibly and consciously
Professional competencies (PC)	PC1 - Survey skills PC2 - Ability to determine the required list of laboratory and instrumental studies and evaluate their results PC3 - Ability to establish a preliminary and clinical diagnosis of the disease PC4 - Ability to determine the required mode of work and rest, the nature of nutrition in the treatment of diseases PC5 - Ability to determine the principles and nature of treatment of diseases PC6 - Ability to diagnose emergencies PC7 - Ability to determine tactics and skills of emergency medical care PC9 - Skills to perform medical manipulations PC11 - Ability to plan and conduct sanitary, preventive and anti-epidemic measures, including infectious diseases PC12 - Ability to determine PC14 - Ability to keep medical records PC15 - Ability to conduct epidemiological and medical-statistical

	<p>studies of public health; processing of state, social, economic and medical information</p> <p>PC17 - Ability to analyze the activities of a doctor, department, health care institution, to take measures to ensure the quality and safety of medical care and improve the efficiency of medical resources</p> <p>PC18 - Ability to conduct activities for the organization and integration of medical care, and marketing of medical services</p>
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1.3.2. The study of the discipline ensures the acquisition of students the following program learning outcomes:

Knowledge and understanding:

PLO 1 - acquisition by a person of general and special fundamental and professionally-oriented knowledge, skills, abilities, competencies necessary for the performance of typical professional tasks related to his / her activity in the medical field in the relevant position

PLO 2 - knowledge of psychophysiological features of the person, human health, support of health, prevention of diseases, treatment of the person, health of the population

Application of knowledge and understanding:

PLO 3 - the ability to apply the acquired knowledge, skills and understanding to solve typical problems of the doctor, the scope of which is provided by lists of syndromes and symptoms, diseases, emergencies, laboratory and instrumental research, medical manipulations

PLO 4 - collection of patient information

PLO 5 - evaluation of survey results, physical examination, laboratory and instrumental research data

PLO 6 - establishing a preliminary clinical diagnosis of the disease

PLO 7 - determining the nature, principles of treatment of diseases

PLO 8 - determination of the necessary diet in the treatment of diseases

PLO 9 - determination of tactics of contingent contingent of persons subject to dispensary supervision

PLO 10 - diagnosing emergencies, determining the tactics of emergency medical care

PLO 11 - carrying out sanitary and hygienic and preventive measures

PLO 12 - planning of preventive and anti-epidemic measures for infectious diseases

PLO 15 - performance of medical manipulations

PLO 17 - maintenance of medical documentation, processing of state, social and medical information

Formation of judgements:

PLO 18 - the ability to assess the state of human health and provide its support taking into account the impact of the environment and other health factors

PLO 20 - the ability to apply the acquired knowledge about the existing health care system to optimize their own professional activities and participate in solving practical problems of the industry

PLO 21 - the formation of a specialist with appropriate personal qualities, who adheres to the code of ethics of the doctor

1.3.3. The study of the discipline ensures the acquisition of students following social skills (Soft skills):

- communication skills
- interpersonal skills
- research skills
- adaptability
- emotional intelligence

2. INFORMATION SCOPE OF THE COURSE

Name of indicators	Field of knowledge, direction of training, educational and qualification level	Characteristics of the discipline
		full-time education
Number of credits - 4,0	educational program for training specialists of the second (master's) level of higher education training 22 "Health"	<u>Regulatory</u>
Total number of hours - 120	Specialty: 222 "Medicine"	Year of preparation:
		4 th
		Semester
		7 th and 8 th
		Lectures
		10 hours
		Practical, seminar
		70 hours.
Hours for full-time (or evening) form of education: classroom – 70 individual work of the student - 70	Education level: master	Laboratory
		0 hours
		Individual work
		40 hours
		Individual tasks:
		Type of control: exam

2.1 Description of the discipline

Lecture themes

№	The name of the topic	Number of hours
1	Vascular diseases of the brain and spinal cord.	2
2	Epilepsy and non-epileptic paroxysmal conditions.	2
3	Infectious diseases of the nervous system.	2
4	Diseases of the peripheral nervous system.	2
5	Somatoneurological syndromes.	2
Total lecture hours		10

Topics of practical classes

№	Name topics	Number of hours	Teaching methods	Forms of control
1	Principles of structure and functioning of the nervous system. Functional unit of the nervous system. The concept of reflex and reflex arc.	2	Story-explanation, conversation, demonstration,	Oral interview; written survey; test control;
2	Arbitrary movements and their disorders. Pyramid system. Cortical-nuclear and cortical-spinal pathways.	2		
3	Symptoms of central and peripheral paresis, pathogenesis of symptoms. Pathological reflexes, technique of research.	2	presentation, supervision of	

4	Symptomocomplexes of movement disorders at defeat of different levels of cortico-muscular way.	2	patients, written creative works, creative tasks; individual tasks.			
5	Extrapyramidal system and its lesion syndromes.	2				
6	Cerebellum. Syndromes of the cerebellum. Types of ataxia.	2				
7	Clinical classification of sensitivity. Anatomy of sensitive pathways. Research methodology	2				
8	Types and types of sensory disorders (symptom complexes of sensory disorders when affecting different levels of sensory pathways).	2				
9	Pathology of olfactory and visual analyzers. Syndromes of lesions of oculomotor nerves.	2				
10	Trigeminal, facial, optic nerve and their syndromes.	2				
11	Pathology IX-XII pairs of cranial nerves. Bulbar and pseudobulbar syndromes.	2				
12	Anatomical and physiological data, pathology and methods of investigation of the autonomic nervous system.	2				
13	Anatomical and physiological data, technique for the study of cortical functions. Syndrome lesions and irritation of the cortex. Violation of higher brain functions (aphasia, agnosia, apraxia and others). Liquid diagnostics. Meningeal syndrome.	2				
14	Functional diagnostics of nervous system diseases.	2				
15	Practical skills. Final control # 1 "General neurology".	2				
16	Independent curation with compilation of medical history.	2				
17	Vascular diseases of the brain and spinal cord.	4				
18	Headache. Sleep Disorders.	2				
19	Demyelinating diseases of the nervous system.	2				
20	Epilepsy and non-epileptic paroxysmal conditions.	4				
21	Meningitis.	2				
22	Encephalitis. Arachnoidites.	2				
23	Poliomyelitis. Acute myelitis. Amyotrophic lateral sclerosis. Neurosyphilis. Neurological manifestations of polymyositis-dermatomyositis. Nervous system lesions in the presence of HIV infection. Tuberculosis of the nervous system.	4				
24	Diseases of the peripheral nervous system.	2				
25	Perinatal lesions of the nervous system. Congenital defects of the spine and spinal cord. Syringomyelia.	2				
26	Somatoneurological syndromes.	5				
27	Hereditary degenerative diseases of the nervous system.	5				
28	Practical skills. Protection of medical history.	2				
29	Final control # 2 "Special Neurology".	2				
Total hours of practical classes		70				

Individual work

№	Name topics	Number of hours	Teaching methods	Forms of control
1	The main stages of the development of neurological science.	1	Written creative works, creative tasks; individual tasks	Oral interview; written survey; test control, abstracts; report.
2	Principles of structure and functioning of the nervous system. Functional unit of the nervous system. The concept of reflex and reflex arc.	1		
3	Arbitrary movements and their disorders. Pyramid system. Cortical-nuclear and cortical-spinal pathways. Symptoms of central and peripheral	1		

	paresis, pathogenesis of symptoms. Pathological reflexes, technique of research.			
4	Symptomocomplexes of movement disorders at defeat of different levels of cortico-muscular way.	1		
5	Extrapyramidal system and its lesion syndromes.	1		
6	Cerebellum. Syndromes of the cerebellum. Types of ataxia.	1		
7	Clinical classification of sensitivity. Anatomy of sensitive pathways. Research methodology. Types and types of sensory disorders (symptom complexes of sensory disorders when affecting different levels of sensory pathways).	1		
8	Pathology of olfactory and visual analyzers. Syndromes of lesions of oculomotor nerves.	1		
9	Trigeminal, facial, optic nerve and their syndromes.	1		
10	Pathology IX-XII pairs of cranial nerves. Bulbar and pseudobulbar syndromes.	1		
11	Anatomical and physiological data, pathology and methods of investigation of the autonomic nervous system.	1		
12	Anatomical and physiological data, technique for the study of cortical functions. Syndrome lesions and irritation of the cortex. Violation of higher brain functions (aphasia, agnosia, apraxia and others). Liquid diagnostics. Meningeal syndrome.	1		
13	Functional diagnostics of nervous system diseases.	1		
14	<i>Practical skills. Final control № 1 "General neurology".</i>	4		
15	Vascular diseases of the brain and spinal cord. Features of management of patients with a stroke at COVID-19.	2		
16	Headache. Sleep Disorders.	1		
17	Epilepsy and non-epileptic paroxysmal conditions.	1		
18	Occupational and household neurointoxication. Damage to the nervous system under the influence of physical factors.	1		
19	Neurological aspects of traumatic brain injury. Spinal trauma.	1		
20	Meningitis.	1		
21	Encephalitis. Arachnoidites.	1		
22	Infectious complications of the central and peripheral nervous system in COVID-19.	1		
23	Poliomyelitis. Acute myelitis. Amyotrophic lateral sclerosis. Neurosyphilis. Neurological manifestations of polymyositis-dermatomyositis. Nervous system lesions in the presence of HIV infection. Tuberculosis of the nervous system.	1		
24	Parasitic diseases of the nervous system, prion infections, neurobereliosis.	1		
25	Demyelinating diseases of the nervous system.	1		
26	Brain and spinal cord tumors. Brain abscess.	1		
27	Diseases of the peripheral nervous system.	1		
28	Perinatal lesions of the nervous system. Congenital defects of the spine and spinal cord. Syringomyelia.	1		
29	Somatoneurological syndromes.	1		
30	Hereditary degenerative diseases of the nervous system.	1		
31	Medicines used in neurology.	1		

32	Practical skills. Protection of medical history.	1		
33	<i>Final control № 2 "Special Neurology".</i>	4		
Total hours of student's individual work		40		

3. Evaluation policy

3.1. Evaluation of the success of education of students is carried out on the basis of the current "Instructions for evaluating the educational activities of students of KhNMU" from 21.08.2021 order of the rector of KhNMU №181.

Organization of current control.

Evaluation of current educational activities (hereinafter referred to as CEA)

During the assessment of mastering each educational topic of the discipline (**CEA**) ra final lesson (**FL**) the student is graded according to the traditional 4-point system: «5», «4», «3» ra «2».

CEA provided for disciplines whose study in the current semester does not end. CEA is considered fulfilled if the applicant in the current semester has completed all the missed classes and lectures, and the average score for all topics is 3 points or higher, in this case, the statement is marked "worked out" and indicates the average score in the 4-point system (calculated automatically within the functionality of the electronic journal of ACS), or "not worked" if the applicant in the current semester has unfinished missed classes and lectures, or average score below 3 points.

4. Tasks for practical and professional training that reflect the skills and abilities during the supervision of thematic patients, evaluation of laboratory and instrumental research methods and the choice of treatment tactics, which are defined in the lists of curricula and EQF specialties.

5. Tasks for diagnosis and care in emergencies.

Assessment of general educational activity (hereinafter - GEA)

General educational activity (GEA) is the educational activity of an applicant during the whole period of studying the discipline. GEA is considered fulfilled if the applicant has completed all the missed classes and lectures, and the average score for all topics is equal to 3 points and above. GEA scores for disciplines with the form of control "differentiated test" or "exam" are calculated as the arithmetic mean of scores for all topics of all semesters, throughout the study period of the discipline (to the nearest hundredth) according to table 1 "Conversion of average score for current control in multi-point scale (for disciplines that end with a medical exam or an exam) ", which is attached (Appendix 1), automatically within the functionality of the electronic journal of the ACS. GEA is defined in points from 70 to 120.

Assessment of the final lesson

Final lesson (hereinafter - **FL**) must be conducted in accordance with the curriculum of the discipline during the semester on schedule, during classes.

Reception of the **FL** is carried out by the teacher of the academic group or the exchange of adjacent groups between teachers.

The department must provide the following materials to prepare for the **FL** on the information stand:

- basic and anchor test tasks "Krok";
- list of theoretical questions (including questions on independent work);
- list of practical skills;
- criteria for assessing the knowledge and skills of students;
- schedule of students completing missed classes during the semester.

Recommendations for the final lesson:

1. Solving a package of test tasks on the content of educational material, which includes the following:

- basic test tasks in the discipline, which cover the content of the study material of the **FL** in accordance with the RNPД in the amount of at least 30 tests (for disciplines that are part of "Krok" - open database of test tasks "Krok". Evaluation criterion - 90,5% of correctly solved tasks; "passed" or "failed");

2. Assessment of the development of practical skills (assessment criteria - "performed" or "failed");

3. During the assessment of the student's knowledge on theoretical issues included in **FL**, the student is given a traditional grade, which is converted into a multi-point scale together with the grades for **GEA**.

Assessment of individual student tasks (hereinafter - IST)

The individual tasks of the student in the discipline contribute to a more in-depth study of the theoretical material by the student, the formation of skills to use knowledge to solve relevant practical problems.

Terms of receipt, performance and protection of individual tasks are determined by the schedule developed by the department for each semester. **IST** is performed by the applicant independently with the receipt of the necessary advice from the researcher. Cases of performance of **IST** of a complex subject by several students are allowed.

ISTs are evaluated in points (not more than 10), which are added to the points scored on the **GEA** at the end of the study of the discipline or its part, when conducting a "test", "differentiated test" or "exam".

The total amount of points for GEA and IST cannot exceed 120 points.

Assessment of independent work of students

Assimilation of topics that are submitted only for independent work is checked during the final classes and exam.

Exam

The discipline exam is a process during which the results obtained during the course (semester) are checked:

- level of theoretical knowledge;
- development of creative thinking;
- skills of independent work;
- competencies - the ability to synthesize the acquired knowledge and apply them in

solving practical problems.

To conduct the exam, a session schedule is established, approved by the rector of KhNMU, indicating the specific dates of the exams, which are set aside outside the semester.

If the exam is not passed, the dates of rescheduling during the holidays are set, until the beginning of the next semester.

Exam technique:

1. The solution of the package of test tasks is carried out at the last lesson of the semester, which includes basic (anchor) test tasks of Krok in the amount of not less than 30 tests. Evaluation criterion - 100% of correctly solved tasks, "passed - failed".

2. Assessment of the acquisition of practical skills and theoretical knowledge on all topics of the discipline on the day of the exam.

The department has established an assessment of the development of practical skills and theoretical knowledge on the tickets drawn up at the department.

Exam grade

The maximum number of points that a student can score during the exam is 80. The minimum number of points during the exam is 50.

Course grade

The maximum number of points that a student can score from OD - 200, including the maximum total educational activity - 120 points and 80 points - according to the exam results. The minimum number of OD points is 120, including the minimum total educational activity - 70 and 50 points - according to the exam results.

Thus, the share of evaluation results of current and semester control is 60% and 40%.

The students who have not been admitted to the credit test or have not passed it, are entitled to liquidation of current academic debt and reassignment of the semester control within the current semester, as well as during winter or summer vacations after the end of the semester but before the next.

The students can re-take the differential test no more than twice if it is allowed by the dean of the faculty.

Assessment of student performance in the subject is a rating and is set on a multi-point scale as the arithmetic mean of the relevant sections, determined by the ECTS system and the traditional scale adopted in Ukraine.

If a student wants to improve his rating, he has the opportunity to perform individual tasks, which include preparation of diagrams of meridians and acupuncture points, creating tables of compatibility of acupuncture points in different diseases, schemes of complex application of different reflexology methods in different nosological forms of disease, creating test tasks for control survey, preparation of reports for scientific conferences, participation in interuniversity competitions in the course, etc.

Elimination of academic debt. Missed practical classes (both classroom and distance) are subject to mandatory completion. Practice is carried out either by the teacher of the group or by the teacher on duty, the remote form of practice is allowed (by prior arrangement). Missed classes for up to 1 month from the moment of admission are worked out free of charge, if the term exceeds 1 month - on request, with the permission of the dean's office, which decides the

form of practice (free or paid).

4. Discipline policy

The department accepts qualified students of any race, national or ethnic origin, gender, age, people with special needs, any religion, sexual orientation, veteran status or marital status for all rights, privileges, programs and activities, provided to university students.

It is expected that male and female students will attend all practical classes. If they have missed classes, it is necessary to work them out (according to the schedule on the information stand of the department).

Written and home assignments must be completed in a timely manner, and if students have questions, they can contact the teacher in person or by e-mail, which the teacher will provide at the first practical session.

During the practical lesson, students are recommended to keep a synopsis of the lesson and keep a sufficient level of silence. Asking questions to the teacher is perfectly normal.

Occupational Health

The first lesson of the course will explain the basic principles of labor protection by conducting appropriate training. It is expected that everyone should know where the nearest evacuation exit is, where the fire extinguisher is, how to use it, and so on.

Behaviour in the classroom

Basic "yes" and "no"

It is important for students to follow the rules of good behavior at the university. These rules are common to all, they also apply to all faculty and staff, and are not fundamentally different from the generally accepted norms.

During classes it is allowed:

- to leave the classroom for a short time if necessary and with the permission of the teacher;

- drink soft drinks;

- take photos of presentation slides;

- take an active part in the class

Forbidden:

- eating (except for persons whose special medical condition requires different - in this case, medical confirmation is required);

- smoking, drinking alcohol and even low-alcohol beverages or drugs;

- using obscene language or use words that offend the honor and dignity of colleagues and faculty;

- gambling;

- damaging the material and technical base of the university (damage inventory, equipment; furniture, walls, floors, litter the premises and territories);

- shouting or listening to loud music in classrooms and even in corridors during classes

Practical training

Active participation during the discussion in the classroom, students should be ready to understand the material in detail, ask questions, express their point of view, discuss. During the discussion it is important:

- to respect for colleagues,
- tolerate others and their experience,
- receptivity and impartiality,
- the ability to disagree with the opinion, but to respect the personality of the opponent / s,
- careful argumentation of his opinion and the courage to change his position under the influence of evidence,
- self-expression, when a person avoids unnecessary generalizations, describes his feelings and formulates his wishes based on their own thoughts and emotions,
- mandatory acquaintance with primary sources.

A creative approach in its various manifestations is welcome. Students are expected to be interested in participating in city, national and international conferences, competitions and other events in the subject profile.

5. Academic integrity

The Department of Neurology maintains zero tolerance for plagiarism. Students are expected to constantly raise their awareness of academic writing. The first lessons will provide information on what to consider plagiarism and how to properly conduct research and scientific research.

Students with special needs should meet the teacher or warn him/her before the start of classes, at the request of the student this can be done by the group leader. If you have any questions, please contact the teacher.

6. Recommended references

Educational literature

1. Neurology: a textbook / I.A. Grygorova [et.al.]; ed .: I. A. Grygorova, L.I. Sokolova. - K.: Medicine, 2013. - 640 p.
2. Clinical Neurology / Edited by Gryb V..A. - K .: Publishing house Medknyha, 2017.- 288p.
3. Neurology / Grygorova I.A., Sokolova L.I., Herasymchuk R.D. et al. - Kyiv: AUS Medicine Publishing, 2017. - 624 p.

Auxiliary:

1. Nervous diseases, edited by S.M. Vynychuk, E.G. Dubenko. - K .: Health. - 2001 – 696p.
2. Nikiforov A.S., Konovalov A.N., Gusev E.I. Clinical Neurology: Textbook. In three volumes. - I-II-III .: Medicine, - 2007. - 792p.
3. Skoromets A.A. Nervous diseases: textbook / A.A. Skoromets, A.P. Skoromets, T.A. Skoromets. - 4th ed. - M .: MEDpress-inform, 2010. – 560p with illustr.

4. Shevaga V.M. Neurology: textbook / V.M.Shevaga, A.V.Payenok, B.V.Zadorozhna. - 2nd ed., revised and supplemented..-K .: Medicine, 2009.-. 656p.
5. Yakhno N.N., Shtulman D.R. Diseases of the nervous system. - Volume 1-2 - M .: Medicine, 2007 - 744p. and 480 p.

7. Learning outcomes

As a result of studying the course the student should be able to:

1. Examine the number of active and passive movements.
2. Examine muscle tone and strength.
3. Examine tendon, periosteal, skin reflexes (carpo-radial, biceps, triceps, knee, Achilles, abdominal, plantar).
4. Examine pathological reflexes (Babinsky, Oppenheim, Gordon, Schaeffer, Rossolimo, Bekhterev, Zhukovsky and others) and synkinesis.
5. Examine the coordination of movements (finger-nose, knee-heel tests, diadochokinesis, tests for dysmetry), detect static and dynamic ataxia.
6. Examine all types of sensitivity (superficial, deep and complex types).
7. Examine the symptoms of root tension.
8. Examine the state of smell and taste.
9. Examine visual acuity, field of view, color perception.
10. Examine the functions of the oculomotor nerves.
11. Examine the functions of the V nerve.
12. Examine the functions of the VII nerve.
13. Examine the functions of the IX-X nerves.
14. Examine the functions of the XI-XII nerves.
15. Examine the autonomic nervous system.
16. Examine meningeal symptoms (rigidity of the occipital muscles, symptoms of Kernig, Brudzinski), reactive pain phenomena: Mendel, Platau, the exit of the small and large occipital nerves.
17. Examine the level of language, praxis, gnosis, writing, reading, arithmetic.
18. Interpret the main indicators of auxiliary methods of examination in the neurological clinic (electrophysiological, ultrasound, X-ray, computed tomography).
19. Independently examine patients with neurological pathology with a history.
20. To determine the leading neurological syndrome in a patient.
21. Justify the topical diagnosis of the patient being examined.
22. Carry out differential diagnosis.
23. Justify the clinical diagnosis.
24. To determine the etiology of the disease, features of pathogenesis, the course of the disease and its complications in the examined patient.
25. Justify the treatment prescribed to the patient.
26. Determine the prognosis of the disease in this patient.

List of questions to the differential test

1. Main stages of development of neurological science.
2. Main stages of development of the nervous system.
3. Anatomical and topographic divisions of nervous system.
4. Basic principles of nervous system functioning.
5. Spinal cord reflex apparatus. Reflex, reflex arc. Unconditioned reflexes.
6. Tendon and periosteal reflexes, arcs of their closure.
7. Cortico-spinal and cortico-nuclear pathways.
8. Central (spastic) paralysis.

9. Peripheral (flaccid) paralysis. Pathogenesis of atony, areflexia, atrophy.
10. Topical diagnosis of voluntary movements pathology.
11. Alternating paralysis. Syndromes of cerebral peduncles involvement, a bridge-cerebellar corner, a variolium bridge.
12. Syndromes of damage of a motor pathway at different levels of a spinal cord.
13. Extrapyramidal system, anatomical features, functions.
14. Parkinson's syndrome, biochemical mechanisms of pathogenesis.
15. Types of hyperkinesia.
16. The cerebellum, anatomical and physiological features, lesions.
17. Types of ataxia.
18. Sensitivity. Kinds of sensitivity, types of sensitive disorders.
19. Types of sensitivity disorders. Brown-Séquard syndrome.
20. Anatomical and physiological data, methodology of examination, syndromes of I-XII cranial nerves lesion.
21. Central and peripheral paresis of facial nerve.
22. Bulbar and pseudobulbar syndromes.
23. Alternating syndromes.
24. Suprasagittal and segmental sections of the autonomic nervous system, their functions, lesions.
25. Bernard-Horner syndrome.
26. The bark of the large hemisphere, cytoarchitectonic fields, lesions.
27. Agnosia, apraxia, aphasia.
28. Speech disorders (dysarthria, aphasia).
29. Cerebrospinal fluid production, components of normal cerebrospinal fluid, their changes in meningitis, tumors, hemorrhagic stroke, tuberculosis.
30. Symptoms of meningeal syndrome.
31. Electrophysiological methods of research.
32. Methods of neuroimaging in the clinic of nervous diseases.
33. Ultrasound methods of examination in the clinic of nervous diseases.
34. Blood supply to the brain and spinal cord.
35. Classification of vascular diseases of the nervous system.
36. Options for cerebral vascular crises.
37. Syndromes of manifestation of transient ischemic attacks.
38. Transient disorders of cerebral circulation.
39. Hemorrhagic stroke (parenchymal and subarachnoid hemorrhage).
40. Ischemic (thrombotic and non-thrombotic) strokes.
41. Principles of undifferentiated and differentiated treatment of strokes.
42. Spinal strokes.
43. Stroke prevention.
44. Modern classification of paroxysmal conditions in the clinic of nervous diseases.
45. Pathogenetic nature of epilepsy, classification of seizures, principles of differential treatment.
46. Status epilepticus, clinic, diagnosis, treatment.
47. Non-epileptic paroxysmal conditions. Convulsive and nonconvulsive.
48. Paroxysmal sympathetic hyperactivity.
49. Syncopal conditions.
50. Cephalgia. Pathogenetic mechanisms of occurrence, clinic, diagnosis, treatment.
51. Migraine: pathogenesis, symptoms, treatment.
52. Insomnia, hypersomnia.
53. Basic clinical syndromes and treatment principles for exogenous intoxication.
54. Stages of damage of the nervous system in acute and chronic radiation sickness.
55. Vibration disease.
56. Closed traumatic brain injury, concussion, slaughter, brain compression. Emergency aid.
57. Spinal injury.
58. Classification, syndromes of manifestation of brain and spinal tumors. Changes in cerebrospinal fluid.
59. Brain abscesses, clinical syndromes, differential diagnosis.
60. Meningitis (purulent-primary, secondary; serous).
61. Arachnoiditis (adhesive, cystic, basal, convex).
62. Encephalitis (primary, secondary)

63. Nervous system lesions in influenza, rheumatism. Herpetic lesions.
64. Polio (clinical forms, stages, diagnosis, treatment, prevention).
65. Acute myelitis.
66. Lateral amyotrophic sclerosis.
67. Neurosyphilis, early and late forms.
68. Neurological disorders of polymyositis-dermatomyositis.
69. Nervous system lesions in the presence of HIV infection.
70. Tuberculosis of the nervous system.
71. Multiple sclerosis (etiopathogenesis, variants of disease trajectory, signs and symptoms, current methods of treatment).
72. Parasitic diseases of the nervous system (cysticercosis, echinococcosis, toxoplasmosis).
73. Prion infections. Neuroberreliosis.
74. Classification of diseases of the peripheral nervous system.
75. Reflexive vertebrogenic syndromes of cervical, thoracic, lumbar levels.
76. Radicular syndromes of cervical, thoracic, lumbar localization.
77. Trigeminal neuralgia.
78. Neuropathy of the facial nerve.
79. Kinds of shoulder plexopathy.
80. Elbow, radial, median, tibial, tibial nerves neuropathy.
81. Compression ischemic syndromes. Tunnel syndromes.
82. Polyneuropathies (infectious, toxic), current methods of treatment.
83. Hypoxic-ischemic encephalopathy.
84. Cerebral palsy, clinical options, treatment.
85. Somatoneurological syndromes in diseases of the digestive system, lungs, cardiovascular system, blood, endocrine diseases. Paraneoplastic syndrome.
86. Progressive muscular dystrophies-primary (myopathy) and secondary (amyotrophy).
87. Myotonia.
88. Myasthenia gravis. Myasthenic syndromes. Paroxysmal myoplegia.
89. Hepatocerebral degeneration (Konovalov-Wilson's disease).
90. Huntington's Disease.
91. Current biochemical aspects of Parkinson's disease and its treatment.
92. Muscular dystonia.
93. Dorsal cerebellar ataxia. Friedrich's hereditary ataxia.
94. Hereditary spastic paraplegia. Stumpel's disease.
95. Cranio-vertebral anomalies.
96. Syringomyelia (etiopathogenesis, clinic, diagnosis, treatment).
97. Groups of drugs used in neurology.

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