Khanty-Mansiysk Autonomous Okrug-Ugra
"Surgut State University"

Approved by
Deputy Rector for Academic Affairs

_____ E. V. Konovalova

"16" June 2022, Record No.6

Neurology, Medical Genetics, Neurosurgery

Syllabus

Department	**Cardiology**
Curriculum	s310501-ЛечДелоИн-21-1.plx 31.05.01 Specialty: General Medicine
Qualification	**General Practitioner**
Form of education	**Full-time**
Total (in credits)	**6**

Total academic hours	216	Control:
including:		Exam, 8th term
Classes	128	
Self-study	61	
Control hours	27	

Course outline in terms

Academic year (Term)	**7 (4.1)**		**8 (4.2)**		Total	
Weeks	17 2/6		17 2/6			
Types of classes	УП	РП	УП	РП	УП	РП
Lectures	16	16	10	10	26	26
Practical classes	56	56	32	32	88	88
Interactive	6	6	6	6	12	12
Total	108	108	108	108	216	216
Contact work	72	72	42	42	114	114
Self-study	36	36	30	30	66	66
Control hours			36	36	36	36
Total	108	108	108	108	216	216

The Syllabus is compiled by
candidate of Medical Sciences, Associate Professor, Smertina L. P. _____

The Syllabus of the discipline
Neurology, medical genetics, neurosurgery

Developed in accordance with the Federal State Educational Standard:
Federal State Educational Standard of Higher Education in the specialty 31.05.01 General Medicine (order of the Ministry of Education and Science of Russia from 12.08.2020г. №988)

Based on the Curriculum:
31.05.01 General Medicine
Specialization: General Medicine
Approved by the Academic Council of Surgut State University, "16" June 2022, Record No.6

The Syllabus was approved by the Department of
Cardiology

Head of the Department, Candidate of Medical Sciences, Associate Professor I. A. Urvantseva.

1. COURSE OBJECTIVES	
1.1	The **aim** of the course is mastering the main functions of the professional activity of a doctor, the formation and development of professional competence, the formation of professionally significant personal qualities in accordance with the requirements of the Federal State Educational Standard of Higher Education.

2. COURSE OVERVIEW	
Course code (in Curriculum):	Б1.О.04.28
2.1	**Assumed background:**
2.1.1	Biology
2.1.2	Hygiene
2.1.3	Pharmacology
2.1.4	Internal Diseases Propaedeutics
2.1.5	Microbiology, Virology
2.1.6	Biochemistry
2.1.7	Hominal Physiology
2.1.8	Human Anatomy
2.1.9	Histology, Embryology, Cytology
2.1.10	General Surgery
2.1.11	Pathologic Syndromes in Clinical Medicine
2.1.12	Immunology and Allergology
2.1.13	Pathologic Anatomy
2.1.14	Pathophysiology
2.1.15	Clinical Pathologic Anatomy
2.1.16	Biology
2.1.17	Human Genetics
2.1.18	Clinical Pathologic Anatomy
2.1.19	Clinical Pathophysiology
2.1.20	Topographic Anatomy, Operative Surgery
2.2	**Post-requisite courses and practice:**
2.2.1	Clinical Pharmacology
2.2.2	Medical Rehabilitation
2.2.3	Traumatology and Orthopaedics
2.2.4	Emergency Medicine
2.2.5	Anaesthesiology, Resuscitation, Intensive Care

3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

PC-1.1: Demonstrates knowledge in etiology, pathogenesis, diagnostic criteria (clinical - subjective, physical, laboratory, instrumental, identifies the patient's common pathological conditions, symptoms, disease syndromes and diagnoses nosological forms according to the International Statistical Classification of Diseases and Related Health Problems, X - XI revisions)
PC-1.2: Carries out diagnostics, evaluates the prognosis (short-, medium- and long-term course) of the disease, identifies acute complications and complications of chronic diseases
PC-3.1: Examines the patient (handle the patient's complaints, anamnesis, physical data based on the examination results, determines the necessary examination plan, evaluates the parameters of laboratory, instrumental, pathological and anatomical and other methods in order to diagnose diseases, assesses the prognosis (short-, medium- , long-term) of its course and outcomes
PC-3.2: Makes an initial and clinical diagnosis in accordance with the International Statistical Classification of Diseases and Health Problems X - XI revisions and current clinical classifications
PC-3.3: Carries out early and differential diagnostics of diseases
PC-3.4: Provides routing and management of patients based on the current legislation (standards, procedures for the provision of medical care, Clinical guidelines)
PC-5.1: Demonstrates knowledge of the mechanisms and methods applied in pharmacotherapy, medical nutrition, medical devices and methods of non-drug treatment, palliative and personalized medical care
PC-5.2: Provides various categories of patients with outpatient treatment, treatment in hospitals and high-tech medical care (HMC) centers applying drugs, medical devices and medical nutrition, according to clinical pattern and current procedures, standards of medical care, Clinical guidelines (treatment protocols)
PC-5.4 Demonstrates knowledge of side effects of drugs, methods and duration of their use; assesses the effectiveness and safety of pharmacotherapy, medical nutrition and non-drug treatment, medical nutrition of palliative care.
PC-8.2: Keeps medical records, including the electronic format

By the end of the course students must:

3.1	**know:**
3.1.1	the specificities of the discipline and the tasks of the discipline Neurology, Medical Genetics, Neurosurgery;
3.1.2	the role, place and connection with other sciences in the system of biological and medical disciplines;
3.1.3	the main historical stages of the development of Neurology, Medical Genetics, Neurosurgery;
3.1.4	the prospects of development and new directions in the study of Neurology, Medical Genetics, Neurosurgery;
3.1.5	basic concepts used in Neurology, Medical Genetics, Neurosurgery
3.1.6	etiology, pathogenesis and preventive measures of the most common diseases; modern classification of diseases
3.1.7	the clinical picture, features of the course and possible complications of the most common diseases that occur in a typical form in different age groups;
3.1.8	diagnostic methods, diagnostic capabilities of methods of direct examination of a patient with a neurological profile, modern methods of clinical, laboratory instrumental examination of patients (including endoscopic, X-ray methods, ultrasound diagnostics, clinical picture, features of the course and possible complications of the most common diseases occurring in a typical form in different age groups;
3.1.9	diagnostic methods, diagnostic capabilities of methods of direct examination of a patient with a neurological profile, modern methods of clinical, laboratory instrumental examination of patients (including endoscopic, X-ray methods, ultrasound diagnostics
3.2	**be able to:**
3.2.1	use the acquired knowledge of Neurology, Medical Genetics, Neurosurgery in the study of other biomedical and medical disciplines;
3.2.2	correctly interpret and apply the basic concepts of Neurology, Medical Genetics, Neurosurgery in the study of biomedical and medical literature and in collaboration with medical specialists
3.2.3	determine the status of the patient: (assessment of consciousness, meningeal symptoms, general brain, cranial innervation, motor system, extrapyramidal, etc.) collect anamnesis, conduct a survey of the patient and/or his relatives, conduct a physical examination of the patient
3.2.4	determine the patient's status: collect anamnesis, conduct a survey of the patient and / or his relatives, conduct a physical examination of the patient (assessment of consciousness, meningeal symptoms, general cerebral, cranial innervation, motor system, extrapyramidal, etc.)
3.2.6	determine the patient's status: collect anamnesis, conduct a survey of the patient and / or his relatives, conduct a routine neurological examination of the patient (assessment of consciousness, meningeal symptoms, general brain, cranial innervation, motor system, etc.);
3.2.7	assess the patient's condition to make a decision about the need for medical care;
3.2.8	provide first aid in emergency situations, first aid to victims in the affected areas in emergency situations
3.3	**have skills of:**
3.3.1	working with educational, scientific, popular science literature;
3.3.2	analysis of the contribution of neurological, medical-genetic and neurosurgical factors and processes to the pathogenesis of the most socially significant and common human diseases
3.3.3	methods of general clinical examination;
3.3.4	interpretation of the results of laboratory and instrumental diagnostic methods
3.3.5	proper management of medical records;
3.3.7	analysis of the contribution of immunopathological processes to the pathogenesis of the most dangerous and common human diseases
3.3.8	methods of clinical and immunological examination;
3.3.9	interpretation of the results of clinical and immunological examination;
3.3.10	methods of immunocorrection, immunoprophylaxis and immunorehabilitation

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

Class code	Topics /Class type	Term / Academic year	Academic hours	Competences	Literature	Interactive	Notes
	Section 1. General section						
1.1	Introduction to neurology. CSF. The liquor system. /Lecture/	7	2	PC-1.1; PC-1.2 PC-3.1; PC-3.2; PC-3.3; PC-3.4 PC-5.1; PC-5.2; PC-5.4 PC-8.2	L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	

1.2	Disruptions of consciousness /Lecture/	7	2	PC-1.1; PC-1.2 PC-3.1; PC-3.2; PC-3.3; PC-3.4 PC-5.1; PC-5.2; PC-5.4 PC-8.2	L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	
1.3	Acute disorders of cerebral circulation. Chronic cerebrovascular pathology./Lecture/	7	2	PC-1.1; PC-1.2 PC-3.1; PC-3.2; PC-3.3; PC-3.4 PC-5.1; PC-5.2; PC-5.4 PC-8.2	L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	
1.4	Acute infections of the nervous system. /Lecture/	7	2	PC-1.1; PC-1.2 PC-3.1; PC-3.2; PC-3.3; PC-3.4 PC-5.1; PC-5.2; PC-5.4 PC-8.2	L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	
1.5	Introduction to medical genetics. Heredity and pathology /Lecture/	7	2	PC-1.1; PC-1.2 PC-3.1; PC-3.2; PC-3.3; PC-3.4 PC-5.1; PC-5.2; PC-5.4 PC-8.2	L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	
1.6	Semiotics and principles of clinical diagnostics of hereditary diseases. General principles of treatment of hereditary diseases. /Lecture/	7	2	PC-1.1; PC-1.2 PC-3.1; PC-3.2; PC-3.3; PC-3.4 PC-5.1; PC-5.2; PC-5.4 PC-8.2	L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	
1.7	Chromosomal and gene diseases. /Lecture/	7	2	PC-1.1; PC-1.2 PC-3.1; PC-3.2; PC-3.3; PC-3.4 PC-5.1; PC-5.2; PC-5.4 PC-8.2	L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	

1.8	Organization of medical and genetic services./Lecture/	7	2	PC-1.1; PC-1.2 PC-3.1; PC-3.2; PC-3.3; PC-3.4 PC-5.1; PC-5.2; PC-5.4 PC-8.2	L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	
1.9	Motor system, central and peripheral paralysis /Practical classes/	7	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4;	L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	oral quiz, test, essays, case-studies,
1.10	Sensory system, surface and deep sensitivity /Practical classes/	7	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4;	L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	2	oral quiz, test, essays, case-studies,
1.11	Extrapyramidal nervous system, cerebellum /Practical classes/	7	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2	L1.1 L1.2 L1.3 L2.1 L2.2 L2.3 L2.4 L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	2	oral quiz, test, essays, case-studies,
1.12	Cranial nerves. I-VI pairs of cranial nerves /Practical classes/	7	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	2	oral quiz, test, essays, case-studies,
1.13	Cranial nerves. I-VI pairs of cranial nerves /Practical classes/	7	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	2	oral quiz, test, essays, case-studies,

1.14	CSF. Cerebrospinal fluid syndromes /Practical classes/	7	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	2	oral quiz, test, essays, case-studies,
1.15	Higher cortical functions./Practical classes/	7	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	oral quiz, test, essays, case-studies,
1.16	The autonomic nervous system. Vegetative dysfunction./Practical classes/	7	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	oral quiz, test, essays, case-studies,
1.17	Neuromuscular diseases./Practical classes/	7	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	oral quiz, test, essays, case-studies,
1.18	Mononeuropathy, polyneuropathy. /Practical classes/	7	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	oral quiz, test, essays, case-studies,
1.19	Introduction to medical genetics. Heredity and pathology /Practical classes/	7	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	oral quiz, test, essays, case-studies,

1.20	Semiotics and principles of clinical diagnostics of hereditary diseases. General principles of treatment of hereditary diseases. /Practical classes/	7	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	oral quiz, test, essays, case-studies,
1.21	Chromosomal and gene diseases./Practical classes/	7	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	oral quiz, test, essays, case-studies,
1.22	Organization of medical and genetic services./Practical classes/	7	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	oral quiz, test, essays, case-studies,
1.23	Motor system, central and peripheral paralysis /Self-study/	7	2	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	
1.24	Sensory system, surface and deep sensitivity /Self-study/	7	2	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	2	
1.25	Extrapyramidal nervous system, cerebellum /Self-study/	7	2	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	2	

1.26	Cranial nerves. I-XII pairs of cranial nerves /Self-study/	7	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	2	
1.27	CSF. Cerebrospinal fluid syndromes /Self-study/	7	2	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	
1.28	Higher cortical functions./Self-study/	7	2	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	
1.29	The autonomic nervous system. Vegetative dysfunction./Self-study/	7	2	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	
1.30	Neuromuscular diseases./Self-study/	7	2	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	
1.31	Mononeuropathy, polyneuropathy./Self-study/	7	2	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	

1.32	Demyelinating diseases of the nervous system./Lecture/	8	2	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	
1.33	Osteochondrosis of the spine. Neurological complications./Lecture/	8	2	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	
1.34	Craniocerebral and spinal injuries. Brain and spinal cord tumors /Lecture/	8	2	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	
1.35	Epilepsy./Lecture/	8	2	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	
1.36	Neuromuscular diseases./Lecture/	8	2	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	
1.37	Acute disorders of cerebral circulation /Practical classes/	8	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	oral quiz, test, essays, case-studies,

1.38	Chronic cerebrovascular insufficiency./Practical classes/	8	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	2	oral quiz, test, essays, case-studies,
1.39	Acute neuroinfections – meningitis, encephalitis, myelitis./Practical classes/	8	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	2	oral quiz, test, essays, case-studies,
1.40	Chronic neuroinfections./Practical classes/	8	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	2	oral quiz, test, essays, case-studies,
1.41	Demyelinating diseases of the nervous system. Multiple sclerosis. Acute multiple encephalomyelitis /Practical classes/	8	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	oral quiz, test, essays, case-studies,
1.42	Epilepsy /Practical classes/	8	4	PC-1.1; PC-1.2; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	oral quiz, test, essays, case-studies,
1.43	Osteochondrosis of the vertebral column. Vertebrogenic neurological syndromes./Practical classes/	8	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	oral quiz, test, essays, case-studies,

1.44	Craniocerebral and spinal cord injury Brain and spinal cord tumors /Practical classes/	8	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	oral quiz, test, essays, case-studies,
1.45	Acute disorders of cerebral circulation /Self-study/	8	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	
1.46	Chronic cerebrovascular insufficiency. /Self-study/	8	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	
1.47	Acute neuroinfections – meningitis, encephalitis, myelitis./Self-study/	8	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	
1.48	Chronic neuroinfections. /Self-study/	8	2	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	
1.49	Demyelinating diseases of the nervous system. Multiple sclerosis. Acute multiple encephalomyelitis /Self-study/	8	4	PC-1.1; PC-3.1; PC-3.2; PC-3.3; PC-3.4; PC-5.1; PC-5.2; PC-5.4; PC-8.2;	L1.1 L1.2 L1.3L2.1 L2.2 L2.3 L2.4L3.1 L3.2 L3.3 L3.4 L3.5 E1 E2 E3	0	

1.50	/Exam/	8	36			0	

5. ASSESSMENT TOOLS
5.1. Tests and tasks
Supplement 1
5.2. Topics for written papers
Supplement 1
5.3. Assessment tools
Supplement 1

5.4. List of types of evaluation tools
oral quiz, test, essays, case-studies, oral quiz on the exam

6. COURSE (MODULE) RESOURCES

6.1. Recommended literature

6.1.1. Core

	Authors, compilers	Title	Publisher, year	Quantity
L1.1	Shchipkov V. P., Krivosheina G. N.	General and Medical Genetics: A textbook for medical university students	Moscow: Akademiya, 2003	90
L1.2	Gusev E. I., Konovalov A. N., Skvortsova V. I.	Neurology and neurosurgery. Vol. 1	Moscow: GEOTAR-Media, 2015, http://www.studentlibrary.ru/book/ISBN9785970429013. html	1
L1.3	Gusev E. I., Konovalov A. N., Skvortsova V. I.	Neurology and neurosurgery. Vol. 2	Moscow: GEOTAR-Media, 2015, http://www.studentlibrary.ru/book/ISBN9785970429020.html	1

6.1.2. Supplementary

	Authors, compilers	Title	Publisher, year	Number of
L2.1	Martynov Yu. S.	Neurology: textbook	Moscow: Publishing House of the Peoples ' Friendship University of Russia, 2006	8
L2.2	Smertina L. P., Bogdanov A. N.	Chronic neuroinfections: educational specializations	Surgut: Publishing Center of Surgut State University, 2015	59
L2.3	Mozhaev S. V., Skoromets A. A., Skoromets T. A..	Neurosurgery: Vulture of the Ministry of Education And Science of Russia.	Moscow: GEOTAR-Media, 2009, http://www.studentlibrary.ru/book/ISBN9785970409220.html	1

L2.4	Bochkov N. P., Asanov A. Yu., Zhuchenko N. A., Subbotina T. I., Filippova M. G., Filippova T. V.	Medical genetics	Moscow: GEOTAR-Media, 2014, http://www.studentlibrary.ru/book/ISBN9785970429860.html	1
6.1.3. Methodological manuals				
	Authors, compilers	Title	Publisher, year	Number of
L3.1	Barashnev Yu. I.	Perinatal neurology	Moscow: Triad-X, 2005	2
L3.2	Skoromets A. A., Skoromets A. P., Skoromets T. A.	Topical diagnostics of diseases of the nervous system: a guide for doctors	Saint Petersburg: Politechnika, 2007	2
L3.3	Newssbaum R. L., McInnes R. R., Willard H. F.	Medical genetics: 397 visual illustrations, diagrams and tables, 43 clinical cases	Moscow: GEOTAR-Media, 2010	3
Л3.4	Smertina L. P.	Private neurology: an educational and methodological guide	Surgut: Publishing Center of Surgut State University, 2010	35

	Authors, compilers	Title	Publisher, year	Number of
Л3.5	Triumfov A.V.	Topical diagnostics of diseases of the nervous system: a brief guide	Moscow: MEDpress-inform, 2014	1
6.2. Internet resources				
Э1	Electronic Library of the Russian National Library: the fund of dissertations ' abstracts			
Э2	Scientific electronic Library "CyberLeninka"			
Э3	VINITI			
6.3.1 Software				
6.3.1.1	Microsoft Office			
6.3.2 Information referral systems				
6.3.2.1	http://www.garant.ru Information and legal portal			
6.3.2.2	http://www.consultant.ru Legal reference system Consultant Plus			

7. MATERIAL AND TECHNICAL SUPPORT OF THE DISCIPLINE (MODULE)	
7.1	The premises for conducting lectures and practical classes are located on the basis of the Surgut District Clinical Hospital and are equipped with the necessary specialized educational furniture and educational medical equipment and tools: a medical examination couch , a 3-section polycarbonate screen, a tonometer, a phonendoscope, a thermometer, medical scales, an anti-shock kit, a set and laying for emergency preventive and therapeutic measures, neurological hammers.

8. COURSE MANUALS OF THE DISCIPLINE (MODULE)
Supplement 1

Supplement 1

ASSESSMENT TOOLS

Syllabus

NEUROLOGY, MEDICAL GENETICS, NEUROSURGERY

Qualification	Specialist
Specialty	31.05.01 General Medicine
Form of education	Full-time
Designer Department	Cardiology
Graduate Department	Internal medicine

Sample tasks and tests

Stage I: Formative assessment.

1.1 List of topics No. 1.9 - 1.17, 7th term

Topic 1.9 Motor system, central and peripheral paralysis

Points for oral quiz:

1. Functions and anatomy of the central motor neuron.
2. Functions and anatomy of a peripheral motor neuron.
3. Signs of damage to the central motor neuron.
4. Signs of damage to the peripheral motor neuron.
5. Semiotics of various level leisons of the central motor neuron (cortex, radiant crown, internal capsule, trunk, spinal cord).
6. Semiotics of damage to the peripheral motor neuron at its various levels (anterior horn, anterior root, plexus, peripheral nerves).
7. What additional methods are used in the study of the motor system?
8. What methods can be used to identify paresis?
9. How to test muscle tone?
10. What is the level of segmental closure of physiological deep reflexes?
11. What pathological reflexes are evoked from the hands and feet?

Test. Motor system, central and peripheral paralysis

Select all correct answers

1. Specify the localization of the motor zone in the cerebral cortex:
1 **.** Frontal lobe
2. Cerebellum
3. Occipital lobe
4. Chorea
5. Temporal lobe
The answer is 1.

2. Name the characteristic sign of lesion of the central motor neuron:
1. Hyperkinesis
2. Increased muscle tone by the type of "gear"
H. Increasing muscle tone like a "folding knife"
4. Athetosis
5. Peripheral paresis
The answer is 3.

H. Name the main symptom of a peripheral motor neuron lesion:
1. Protective reflexes
2. Pathological reflexes
Z. Synkinesia
4. Clonuses
5. Hypotension
The answer is 5.

4. List the characteristics of an irritation of the cortex anterior precentral gyrus:
1. Sensory aphasia
2. Simple visual hallucinations
H. Hemianopsia
4. Motor Jacksonian (local, partial) seizures
5. Hemihypesthesia
The answer is 4.

5. Signs characteristic of lesions of the motor area of the cerebral cortex:
1. Atrophy of the nipples of the visual nerves

2. Anosmia
3. Monoparesis (spastic)
4. Semantic aphasia
5. Chorea
The answer is 3.

6. At what level does the partial intersection occur in the cortical-spinal bundle of the pyramidal tract?

1. Inner capsule
2. Supernuclear
3. Lower level of the medulla oblongata
4. Midbrain
5. Segment of the spinal cord
The answer is 3

7. List the features characteristic of unilateral damage to the pyramidal pathway in the brain stem:

1. Amaurosis
2. Paraplegia
3. Aphasia
4. The presence of an alternating syndrome
5. Autotopognosy
The answer is 4.

8. The features characteristic of damage to the anterior horn spin - marrow:

1. Spastic hemiparesis
2. Flaccid lower paraplegia
3. Hemihypesthesia
4. Dysfunction of the pelvic organs
5. Segmental flaccid paresis
The answer is 5.

9. List the signs characteristic of lesions of the anterior root of the spinal cord:

1. Radicular pain
2. Paresthesias
3. Flaccid hemiplegia
4. Fascicular twitching in the affected muscles
5. Jacksonian epilepsy
The answer is 4.

10. Signs of lesion of the pyramidal pathway in the inner capsule:

1. Upper flaccid paraparesis
2. Fibrillar twitching
3. Contralateral hemiplegia
4. Jacksonian motor seizures
5. Bulbar paralysis
The answer is 3.

Case-studies. <u>Motor system, central and peripheral paralysis</u>

Case study 1. In patients with lower paraparesis, the following symptoms are determined: spastic paresis in the legs with increased tendon reflexes, and a positive Babinsky reflex. Abdominal reflexes are absent.
1. What is the nature of paraparesis?
2. Where is the lesion calibrated?
Answer:
1. central paraparesis
2. bilateral lesion of the pyramidal tract at the level of the thoracic spinal cord Th 7-12.

<u>Essay topics for 1.9 Motor system, central and peripheral paralysis :</u>

1. The role of native scientists in the development of neurology.
2. The history of the discovery of pathological reflexes as signs of damage to the cortical-spinal path.
3. Movement disorders in focal lesions of the brain and spinal cord at different levels.

4. Conversion and organic paralysis - differential diagnosis.
5. Anatomical and functional maintenance of muscle tone.

Topic 1.10 Sensory system, superficial and deep sensitivity

Points for oral quiz:
1.Classification of types of sensitivity.
2. Name the pathways providing sensitivity .
3. What types of surface sensitivity do you know?
4.How is surface sensitivity investigated?
5. What kinds of deep sensitivity do you know?
6.How is deep sensitivity explored?
7. What kinds of complex sensitivity do you know?
8. How is complex sensitivity investigated?
9. What types of sensory disorders do you know?
10. What is the significance of the law of eccentric arrangement of long conductors for topical diagnostics?
11. What type of sensory disorder is called neural?
12. What type of sensitivity disorder is called polyneuritic?
13. What type of sensory disorder is called radicular?
14. What type of sensory disorder is called segmental?
15. What type of sensory disorder is called dissociated?
16. Types of pain.
17. Symptoms of tension.

Test. Sensory system

Select all correct answers

1 . Conditions required to determine proprioceptive sensitivity:
1. Vertical position
2. Closed eyes
3. Open eyes
4. Walking
5. Horizontal position
The answer is 2.

2 . Sensitive ataxia occurs in:
1. Frontal lobe cortex
2. Temporal lobe cortex
3. The posterior columns of the spinal cord
4. Brain stem
5. Lateral pillars of the spinal cord
The answer is 3.

3. Symptom indicating a violation of deep sensitivity:
1. Sensitive ataxia
2. Finger-nose test miss
H. Intentional tremor
4. Memo hit
5. Nystagmus
The answer is 1.

4. When does the segmental-dissociated type of sensory impairment occur?
1. With damage to the anterior horn of the spinal cord
2. With the defeat of the anterior root
3. In case of damage to the intervertebral spinal ganglion

4. With damage to the posterior horn of the spinal cord

5. With the defeat of the posterior central gyrus

The answer is 4.

5. With a polyneuritic type of sensitivity disorders in the feet

1 **.** Contralateral hemianesthesia

2. Anesthesia of all types of sensitivity from the level of the affected segment to the segment

3. Homolateral hemianesthesia

4. Anesthesia of all types of sensitivity such as "gloves" or "socks"

5. Contralateral monoanesthesia

The answer is 4.

6. What are the beginning of the second neuron path surface sensitivity - sequence:

1**.** Intervertebral spinal ganglion

2.The nuclei of Gaulle and Burdach in the medulla oblongata

3.Ventrolateral nuclei of the thalamus

4 dorsal horn cells of the spinal cord

5.Ventral nuclei of the optic tubercle

The answer is 4.

7. The defeat of the upper part of the posterior central gyrus gives the following:

1. Contralateral anesthesia of the foot

2. Contralateral hemianesthesia

3. Contralateral flaccid paresis of the foot

4. Contralateral Jacksonian epilepsy in the hand

5. Conduction disturbances of sensitivity

The answer is 1.

8. The beginning of the second neuron of deep sensitivity:

1. Anterior horns of the spinal cord

2. The posterior horns of the spinal cord

3. The nuclei of Gaulle and Burdach in the medulla oblongata

4. Nucleus of the optic hillock

5. Posterior central gyrus

The answer is 3.

9 . What symptom occurs when the upper part of the posterior central gyrus is irritated?

1. Contralateral anesthesia of the foot

2. Homolateral foot anesthesia

3. Lower paraanesthesia

4. Contralateral sensory Jacksonian seizures

5. Homolateral motor Jacksonian seizures

The answer is 4.

10 . The most characteristic feature in front of the - there soldering of the spinal cord:

1. Inferior flaccid paraplegia

2. Lower spastic paraplegia

3. Hemiplegia in the central type on the right

4. Severe pain syndrome in this segment

5. Segmental-dissociated sensory disorder in the area of the affected segment symmetrically on both sides

The answer is 5.

Case-studies. **<u>Sensory system, superficial and deep sensitivity</u>**

Case-study 1

A 53-year-old man suffering from chronic pancreatitis came to the clinic with complaints of numbness, "burning" in the feet, pain in the muscles of the legs, uncertainty when walking, especially in the dark, paresthesia in the fingers. These phenomena appeared about 5 weeks ago. Observed by a narcologist in connection with the abuse of alcoholic beverages. The doctor revealed: a decrease in the strength of the extensors of the feet, hypotension of the calf muscles, Achilles reflexes are not evoked, and carporadial reflexes are reduced. Decreased surface sensitivity on the feet and hands. Decreased muscle-joint feeling in the toes.

Tasks:
1) what type of sensory impairment does the patient have?
2) how to check muscular-articular feeling?
3) make a topical diagnosis.
Answers:
1) Polyneuropathic type.
2) The patient is asked to guess the direction of the passive movement of the distal phalanges with the eyes closed.
3) Multiple damage to the nerves of the upper and lower extremities.

Essay Topics for 1.10 Sensory system, superficial and deep sensitivity

1. The role of native scientists in the study of the functional anatomy of the sensitive system.
2. Types of pain. Nociceptive and neuropathic pain.
3. Dissociated disturbances of sensitivity.
4. Methods for studying the function of sensitivity, routine and instrumental.
5. Scales for measuring pain, history of their occurrence and practical significance.
6. Symptoms of tension , research methodology and practical significance.
7. The role of electroneuromyography in the study of sensitive portions of peripheral nerves.

Topic 1.11 Extrapyramidal nervous system, cerebellum

Points for oral quiz:
1. What is included in the extrapyramidal system?
2. Syndromes of damage to the nervous system.
3. Syndromes of damage to the striatal system.
4. List all hyperkinesis that are characteristic of lesions of the neostriatum.
5. Anatomical and physiological features of the cerebellum.
6. What are the parts of the brain linked to the cerebellum?
7. Tell us about the tests that detect dynamic ataxia.
8. List the samples that show static ataxia.
9. What is a test for diadochokinesis?
10. What does the Stuart-Holmes test (counterblow) say?
11. Is there a test indicating the defeat of the cerebellar vermis?
12. What methods are used to detect dyssynergy?

Test. Extrapyramidal nervous system, cerebellum

1. Specify the sample that determines the intentional jitter:

1. Finger-nose
2. Diadochokinesis
3. Romberg's test
4. Memo hit
5. Shockproof

The answer is 1.

2. Sign, which is not related to the defeat of the worm mozzhech - ka:

1. Intentional jitter

2. Hyporeflexia
3. Atactic gait
4. Fibrillar twitching
5. Chanted speech

The answer is -4.

3. Cerebellar test, which detects static ataxia:

1. Romberg test
2. Finger-nose
3. Knee-heel
4. Shock
5. Missed hit

The answer is 1.

4. Movement disorders arising from damage to the cerebellum :

1. Paresis
2. Plegia
3. Ataxia
4. Hyperkinesis
5. Rest tremor

The answer is 3. ,

5. Where is the lesion located, if cerebellar symptoms are detected in the right limbs:

1. Parietal lobe of the brain
2. Cerebellar worm
3. The left hemisphere of the cerebellum
4. The right hemisphere of the cerebellum
5. Cerebellar nuclei

The answer is 4.

6. The defeat of a part of the brain is slowed down - hydrochloric, small steps walk with difficulty in starting and the end of the movement?

1. Pallidary
2. Striar
3. Cortex
4. Cerebellum
5. Brain stem

The answer is 1.

7. Which of the following syndromes is characteristic of the lesion of the pallidary part of the extrapyramidal system?

1. Hemisyndrome
2. Amyostaitic syndrome
3. Burdenko-Kramra
4. Brown-Sequara
5. Akinetic-rigid

The answer is 5.

8. Extrapyramidal hyperkinesis occurs when:

1. Striatal department
2.Pallidary department
3.Stem of the brain

4. Corpus callosum

5. Cerebellar worm

The answer is 1.

9. What muscle tone is observed with a lesion of the pallidary region?

1. Hypotonic

2. Atonic

3. Spastic

4. Plastic

5. Normotonic

The answer is 4.

10. One-sided, sweeping, tossing movements of the proximal limbs are typical for:

1. Torsion spasm

2. Choreic hyperkinesis

3. Hemiballism

4. Parkinsonism

5. Athetosis

The answer is 3.

11. Indicate what symptom is typical for Parkinson's disease.

1.decrease in muscle tone;

2. gait type steppage;

3.propulsion;

4. hyperkinesis;

5. chorea.

The answer is 3.

Case-studies. <u>Extrapyramidal nervous system, cerebellum</u>

Case-study 1

A welder came to the clinic with complaints of stiffness and slowness of movements. 22 years of experience in the specialty, worked at a shipyard, welded parts of ship hulls. Objectively, the general practitioner revealed: hypomimia, increased muscle tone evenly at all stages of the study, small-amplitude tremor of the head and fingers. During psychometric testing, moderate cognitive impairment was found.

The questions:

1) Topical diagnosis?

2) What type of muscle tone is increased?

3) What option for increasing muscle tone is still possible here?

Answers:

1) Basal ganglia

2) By plastic type

3) By the type of "cogwheel"

<u>Essay topics for 1.11 Extrapyramidal nervous system, cerebellum</u>

1. The history of the discovery of the functional significance of the basal ganglia.

2. The history of the development of ideas about Parkinson's disease.

3. Hyperkinesis in Tourette's syndrome.

4. Chorea Sydengama.

5. Chorea of Huntington. Genetics, clinical picture, therapy possibilities.

6. Tardive dyskinesia.

7. Types of tremors.

8. Miclonia - types, clinical features, diagnostic methods, treatment.

9. Hereditary cerebellar degeneration.

Topic 1.12 Cranial nerves. I-XII pairs of cranial nerves

Points for oral quiz:

1. Tell us about the features of the anatomical structure of the 1st pair of CN.
2. Where is the cortical olfactory center located?
3. How do the fibers go in the chiasm?
4. What are the symptoms of damage to the medial parts of the chiasm?
5. What are the symptoms of damage to the lateral parts of the chiasm?
6. Where are the nuclei of the III pair of PNs located?
7. What signs are characteristic for the disruption of the III pair of CNs?
8. What signs are characteristic for the disruption of the IV pair of CNs?
9. What signs are characteristic for the disruption of the VI pair of CN?
10. What is the name and where is the nucleus of deep sensitivity of the V nerve located?
11. Where is the motor nucleus of the V nerve located?
12. What does the "bulbous" type of sensitivity disorder on the face speak about?
13. What is the peculiarity of the innervation of the nuclear group of the VII nerve?
14. What are the clinical signs of unilateral lesion of the upper nuclear group of the VII nerve?
15. What are the clinical signs of unilateral lesion of the lower nuclear group of the VII nerve?
16. What are the clinical signs of facial nerve damage?
17. Syndrome of damage to the area of the internal auditory opening?
18. What are auditory hallucinations talking about?
19. What does a positive Rinne test indicate?
20. Decipher the Babinski-Weil star test.
21. Decipher the syndrome of the cerebellar pontine angle.
22. Decipher bulbar syndrome.
23. Decipher the pseudobulbar syndrome.
24. What should be the conditions for the development of pseudobulbar syndrome?
25. What muscles are innervated by the accessory nerve?
26. What are the symptoms of a unilateral lesion of the hypoglossal nerve?

Test. 1.12 Cranial Nerves. I- XII pairs of cranial nerves

Choose one correct option

1. What nerve innervates the facial muscles of the face?

1.III

2. V

3. VII

4.VIII

5.IX

The answer is 3.

2. Cortical representation of the olfactory analyzer:

1. Frontal lobe

2. Parietal lobe

3. Temporal lobe (hippocampal gyrus)

4. Occipital lobe

5. Optic hillock

The answer is 3.

3. The roots of which nerves come out in the pontine-cerebellar angle?

1. I

2.III
3. V
4. VII
5.VIII
The answer is 3.4.5.

4 . A characteristic symptom of damage to the VI I nerve in the central type:

1. Diplopia
2. Contralateral asymmetry of the nasolabial fold
3. Dividing the tongue towards the focus
4. Lagophthalmos
5. Dysphagia

The answer is 2.

5 . Which nerve is affected which causes amblyopia or amaurosis?

1. V
2. VII
3.II
4.IX
5.VI

The answer is 3.

6 . Where are the nuclei of the bulbar group of cranial nerves located?

1. Legs of the brain
2. The optic hillock
3. Medulla oblongata
4. Bridge
5. Anterior central gyrus

The answer is 3.

7 . What cranial nerve is affected in Fauville syndrome?

1. VII
2.III
3.VII and VI
4.VIII
5.XII

The answer is 3.

8 . Where are the nuclei of the VII cranial nerve pair located ?

1. Transition of the medulla oblongata to the spinal cord
2. Bridge
3. Legs of the brain
4. Medulla oblongata
5. Optic hillock

The answer is 2.

9 . How many nuclei does the VII nerve have?

1. One
2. Two
3. Three
4. Four
5. Five

The answer is 2.

10 . What is anisocoria?

1. Decreased vision
2. The difference in the diameter of the pupils
3. Blindness
4. Constriction of the pupils
5. Pupil dilation

The answer is 2.

Case-studies. Cranial nerves. I- XII pairs of cranial nerves

Case-study 1
The patient has a paralysis of all facial muscles on the right: the corner of the mouth is lowered, the nasolabial fold is smoothed, the mouth is pulled to the left, expanded the palpebral fissure, the eye does not close (lagophthalmos), Bell's symptom.
Liquid food flows out of the corner of the mouth. The forehead does not wrinkle on the right. Lachrymation from the right eye. "Rattling" in the right ear.
The taste of salt on the front 2/3 of the right half of the tongue is not perceived.

1.The name of the disorder?
2. Localization of the lesion?

Answer:
1.Neuropathy of the facial nerve
2.The focus is above the discharge of the staped nerve, below the greater stony nerve, in the canal of the facial nerve

Essay topics for 1.12 Cranial nerves. I- XII pairs of cranial nerves

1. Symptoms of lesions of the cranial nerves in pathological processes at the base of the skull.
2.Alternating syndromes with damage to the brain stem.
3. Bulbar and pseudobulbar paralysis.
4. Central and peripheral vertigo.
5. Types of nystagmus, nystagmography, the value of the study of nystagmus.
6. Nystagmus and oculomotor disorders.
7. Cochleovestibular disorders.
8. Rinne's and Weber's probes and their clinical significance.
9. Symptoms of damage to the visual analyzer at different levels.
10. Diagnostic value of anisocoria.

Topic 1.13 CSF. CSF syndromes.

Points for oral quiz:

1. Describe the functions of the cerebrospinal fluid.
2. What are the main clinical and laboratory characteristics of the cerebrospinal fluid?
3. Describe CSF dynamics - tell us how the production of cerebrospinal fluid occurs, how it moves, circulates, where absorption occurs.
4. Describe the main CSF-containing spaces in the cranial cavity.
5. Tell us about the membranes of the brain, their structure, function. Tell us where the epidural, subdural hematoma is located in relation to the membranes of the brain.
6. Describe the meningeal symptoms: stiff neck, Kernig's symptom, Brudzinsky's symptom upper, middle, lower, Lesage's symptom, Gordon's symptom, Zygomatic Bechterew's phenomenon and others that you know.
7. Describe the research methodology for meningeal symptoms.
8. Describe the mechanism of occurrence of meningeal symptoms.

9. Are meningeal symptoms specific symptoms?
10. What are the indications for lumbar puncture?
11. What are the absolute contraindications for lumbar puncture?
12. Describe the clinical signs of the dislocation of the brain substance.
13. What methods of instrumental diagnostics can be used to exclude the presence of contraindications for lumbar puncture?

Test. 1.13 CSF. CSF syndromes.

1. Symptom of "wedging" during lumbar puncture in a patient with a volumetric spinal process is characterized by
a) increased radicular pain with compression of the cervical veins
b) an increase in neurological symptoms with pressure on the anterior abdominal wall
c) increased radicular pain when bending the head to the chest
d) an increase in neurological symptoms after puncture
2. With a complete blockade of the subarachnoid space on chest level an increase in cerebrospinal fluid pressure is noted during the sample
a) Kweckenstedt
b) Knocking
c) Pussep
d) b) and c) are true
e) a) and c) are true
3. Liquorological examination is contraindicated even in the absence of signs of intracranial hypertension, if suspected
a) neuroma VIII in I (otiatric) stages of clinical course
b) neuroma VIII to II (otoneurological) stages of clinical course
c) tumor of the temporal lobe
d) swelling of the frontal lobe
4. Normally, during the Stukey test, the cerebrospinal fluid pressure rises
a) 1.5 times
b) 3 times
c) 6 times
d) 8.5 times
5. The glucose content in the cerebrospinal fluid of a healthy person fluctuates within
a) 1.2-2.2 mmol / l
b) 2.5-4.4 mmol / l
c) 3.6-5.2 mmol / l
d) 2.6-5.2 mmol / l
e) 0.8-5.2 mmol / l
6. Ophthalmoscopic Foster-Kennedy syndrome characterized by the presence of signs
a) atrophy of the optic nerve head on the affected side in combination with a stagnant disc on the opposite lesion side
b) stagnant discs on both sides
c) atrophy of the optic nerve discs on both sides
d) stagnant disc in combination with atrophy on the side lesion focus
7. Liquorodynamics includes the following diagnostic tests, except
a) Kweckenstedt
b) Pussep
c) Knocking
d) McClure - Aldrich
8. Reducing the "halo of glow" during transillumination characteristically
a) for external hydrocephalus
b) for hydroanencephaly
c) for internal hydrocephalus at the initial stage
d) for communicating hydrocephalus
9. Strengthening of digital impressions on radiographs of the skull testifies
a) about occlusive open hydrocephalus
b) about occlusive closed hydrocephalus

c) about intracranial hypotension
d) a) and b) are true
e) all of the above is true

Answers. 1d 2d 3b 4a 5b 6a 7d 8c 9g

Case-studies. CSF. CSF syndromes.

Case-study 1. A conscript soldier has an acute development of a fever, temperature 39 C, vomiting, loss of consciousness. The doctor revealed reduced nutrition, asthenic physique, a small-point rash in the buttocks and popliteal fossae, pulse - 98 per minute, rhythmic. Neurologically: severe stiffness of the neck muscles, Kernig's symptom, upper and lower Brudzinski symptoms. Analysis of cerebrospinal fluid: pressure 300 mm water column, cloudy, whitish color, cytosis 15 12 in 1 mm3, neutrophils predominate. When questioning the soldiers of this company, it turned out that one of them constantly had a runny nose with purulent discharge.

The task:

1) Analyze the composition of the cerebrospinal fluid
2) How to investigate Kernig's symptom?
3) What is the normal cerebrospinal fluid pressure and how to measure it?

Answers:

1. Neutrophilic pleocytosis.
2. Flexion of the leg in the hip and knee joints, followed by extension in the knee (the impossibility of full extension is revealed).
3. In the supine position 120-180 mm of water column. The neck and legs are unbent before the measurement. The cannula of the needle is connected to a device for measuring cerebrospinal fluid pressure.

Essay topics for 1.13 CSF. CSF syndromes:

1. The role of domestic scientists in the development of ideas about cerebrospinal fluid circulation .
2. Lumbar puncture and liquorodynamic tests.
3. Increased intracranial pressure: the main pathogenetic mechanisms, clinical picture and diagnosis.
4. Hydrocephalus - classification, etiopathogenesis, clinical picture and treatment.
5. Normotensive hydrocephalus in adults.
6. Edema and swelling of the brain.
7. Meningeal symptoms - history of discovery.
8. Surgical treatment of hydrocephalus in children and adults. Indications. The principles of surgical treatment .

Topic 1.14 Higher cortical functions

Points for oral quiz:

1. Determine the localization in the cortex of the Broca and Wernicke centers. Describe what functions these centers are responsible for.
2. Describe the symptoms of aphasia - motor, sensory, sensorimotor.
3. Describe the methodology for studying speech function.
4. Describe the function of gnosis, types of gnosis and types of agnosia.
5. Describe the methodology for studying the function of gnosis.
6. Define praxis. Where is this higher cortical function localized?
7. What types of apraxia do you know?
8. Describe the research methodology for praxis.
9. Describe the symptoms of the psycho-emotional sphere in a patient with lesions of the frontal lobe.
10. Describe the methodology for the study of cognitive functions using the MMSE scale.

Test. 1.14 Higher cortical functions

1. Simple visual hallucinations indicate irritation of the cortex:

1.Frontal lobe

2.Occipital lobe
3.temporal lobe
4.Parietal lobe
5.Junction of the temporal and parietal lobes

The answer is 2.

2. Motor aphasia develops when:

1.Occipital lobe
2.Superior temporal gyrus
3.Precentral gyrus
4.Postcentral gyrus
5.Superior parietal lobule

The answer is 3.

3. Sensory aphasia develops when:

1.Precentral gyrus
2.Superior temporal gyrus
3.Inferior frontal gyrus
4.Postcentral gyrus
5.Parietal lobe

The answer is 2.

4. Amnestic aphasia develops when:

1 **.** Posterior: sections of the frontal lobe
2. Precentral gyrus
3.Upper temporal lobe
4.Junction of the temporal lobe with the inferior parietal region
5.Parietal lobe

The answer is 4.

5. Alexia occurs in case of disruption to:

1.Inner surface of the occipital lobe
2.Angular gyrus of the parietal lobe
3 Broca's Zones
4.Zones of Wernicke
5.Lingual gyrus of the parietal lobe

The answer is 2.

6. Agraphy occurs upon disruption to:

1. Posterior sections of the midfront gyrus
2. Precentral gyrus
3. Posterior temporal lobe
4. Lingual gyrus of the parietal lobe
5. Superior frontal gyrus

The answer is 1.

7. Akalculia is characteristic for the disruption to:

1. Frontal lobe
2. Occipital lobe
3. Temporal lobe
4. Corpus callosum
5. Parietal lobe

The answer is 5.

8. Visual agnosia occurs when:

1.The optic tract
2.Cortex of the occipital lobe
3.Optical nerve

4.The visual hillock
5 radiant crown

The answer is 2.

9. Auditory agnosia occurs when:

1.Frontal lobe
2.temporal lobe
3.Parietal lobe
4.Occipital lobe
5 corpus callosum

The answer is 2.

10. Patient with auditory agnosia:

1. Does not understand the addressed speech
2. Does not recognize objects by their characteristic sounds
3. Does not perceive high-pitched sounds
4. Does not perceive low sounds
5. Doesn't recognize objects by their name

The answer is 2.

Case-studies. 1.14 Higher cortical functions.

Case-study 1. A 68-year-old patient with a history of arterial hypertension and diabetes mellitus suddenly developed weakness in the left extremities. When examining a doctor, the patient cannot tell the circumstances of the disease, since he denies the presence of a defect. Objectively, in the neurological status, moderate hemiparesis on the left, Babinsky's symptom on the left.

Questions.

1. What is the name of the symptom observed in the patient?
2. Where is the lesion site located?
3. Is the patient described in the problem right-handed or left-handed?

Answers.

1. Anosognosia.
2.The cortex of the parietal lobe of the non-dominant hemisphere is responsible for anosognosia.
3. Since hemiparesis is on the left, the patient is right-handed - the non-dominant hemisphere in the right-handed person is right.

Essay topics for 1.14 Higher cortical functions :

1. Cognitive Investigation - Frontal Test Battery, Montreal Scale, Mental Function Brief Scale
2. Types of aphasias and methods of studying speech function.
3. Higher cortical functions are derived from speech.
4. Types of gnosis and methods of its research.
5. Types of praxis and methods of its research, symptoms of defeat.
6. Anosognosia as a clinical symptom of brain lesions in various diseases.

Topic 1.15 Autonomic nervous system. Vegetative dysfunction

Points for oral quiz:

1. Arc of the vegetative reflex (principles of construction)
2. Afferent structures of the autonomic nervous system
3. Efferent structures of the autonomic nervous system
4. Suprasegmental vegetative structures
5. Acute autonomic dysfunction, manifested by the extinction of autonomic reactions
6. Chronic autonomic dysfunction
7. Disorders of thermoregulation
8. Disorders of lacrimation
9. Violation of salivation
10. Sweating disorders

11. Disorders of the innervation of the cardiovascular system
12. Violation of the sympathetic innervation of the smooth muscles of the eye (Bernard-Horner syndrome)

Test. 1.15 Autonomic Nervous System. Vegetative dysfunction

1. The main function of the autonomic nervous system is:
1.the ability to perceive sensitive stimuli
2. voluntary motor activity
3.maintaining homeostasis
4.reflex-automatic motor activity
5.maintaining muscle tone
Answer: 3
2. The suprasegmental apparatus of the autonomic nervous system is represented by:
1.cranial nerves
2.spinal nerves
3.cortical-limbic-reticular complex
4.neurons of the lateral horns of the spinal cord
5. neurons n e Independent user spinal cord horns
Answer: 3
3. The segmental division of the autonomic nervous system is represented by:
1.cranial nerves
2.spinal nerves
3.cortical-limbic-reticular complex
4.neurons of the lateral horns of the spinal cord and brain stem
5. neurons n e Independent user spinal cord horns
Answer: 4
4. Location of the first neurons of the sympathetic division of the autonomic nervous system:
1.lateral horns of the sacral spinal cord
2.lateral horns of the thoracolumbar spinal cord
3.cervical and lumbar spinal cord thickening
4. intramural ganglia
5.sympathetic prevertebral and paravertebral ganglia
Answer: 2
5. The location of the first neurons of the parasympathetic division of the autonomic nervous system:
1.lateral horns of the sacral spinal cord and the nucleus of the brainstem
2.lateral horns of the thoracolumbar spinal cord
3.cervical and lumbar spinal cord thickening
4. intramural ganglia
5.sympathetic prevertebral and paravertebral ganglia
Answer: 1
6. For temporal lobe epilepsy, the following signs are characteristic:
1. the feeling of "already seen"
2.olfactory hallucinations
3.visceral crises
4.segmental type sensory disorders
5.lack of abdominal reflexes
Answer: 1, 2, 3
7. The disruption of the hypothalamic region is characterized by:
1.impaired thermoregulation
2.hemianesthesia
3.disorders of sleep and wakefulness
4.neuroendocrine disorders
5.hyperhidrosis
Answer: 1, 4, 5
8. The irritation of the parasympathetic division of the autonomic nervous system is characterized by:

1.hypersalivation
2. dry mouth
3.bradycardia
4.tachycardia
5.increase in blood pressure
Answer: 1, 3

9. Horner's syndrome is characterized by:
1.exophthalmos
2.ptosis
3.myosis
4.enophthalmos
5.mydriasis
Answer: 2, 3, 4

10. The irritation of the sympathetic division of the autonomic nervous system is characterized by:
1.hypersalivation
2. dry mouth
3.bradycardia
4.tachycardia
5.increase in blood pressure
Answer: 2, 4.5

Case-studies. 1.15 Autonomic nervous system. Vegetative dysfunction

Case-study 1. Patient, 17 years old , an entrant of a theater institute , during the examination period consulted a doctor with complaints of dizziness, darkening before the eyes, sometimes a short-term feeling of loss of consciousness when answering before the examination board, meteosensitivity. In the neurological status, no symptoms of focal lesions of the central nervous system were revealed.

Questions.
1. Leading neurological syndrome
2. What caused disturbances in consciousness and how they are evaluated.
3. Diagnostic tactics , principles of treatment.

Answers.
1. Vegetative dysfunction as a response to stress.
2. Lipotimic conditions.
3. To exclude somatic diseases (routine examination, laboratory tests) as a background against which the weakness of vegetative support is manifested. Psychotherapy, psychological assistance.

Essay topics for 1.15 Autonomic nervous system. Vegetative dysfunction:
1. Shai-Drager syndrome
2. Progressive vegetative insufficiency.
3 central autonomic disorders
4. Violations of thermoregulation of central origin.
5. Vegetative crises - sympathoadrenal, vago-insular, mixed. Panic attacks.
6. Segmental vegetative disorders. Etiology. Clinical manifestations. Research methods.
7. Sympatalgia. Clinical manifestations, etiology, treatment principles.

Topic 1.16 Neuromuscular diseases. Myopathies. Myasthenia gravis

Points for oral quiz:
1.Definition of myasthenia gravis.
2. Describe the classification of myasthenia gravis.
3. Describe the clinical picture of myasthenia gravis.
4. Explain the pathogenesis of myasthenia gravis. Tell us about the diagnostic measures for suspected myasthenia gravis. Proserin test.
5. Tell us what the phenomenon of "generalization of muscle weakness" means.
6. Tell us what is the importance of EMG in the diagnosis of myasthenia gravis.

7. Tell us what symptomatic and pathogenetic treatment is necessary for generalized myasthenia gravis.
8. Tell us how the myasthenic crisis proceeds.
9. Describe medical care for myasthenic crisis - what measures are needed, what medicines, their doses and methods of administration.
10. Describe the symptoms of progressive muscular dystrophy (PMD).
11. What forms of PMD are you aware of? Describe them.
12. What diagnostic measures are required for suspected PMD?
13. What changes in muscle biopsy support the diagnosis?
14. What clinical symptoms support spinal amyotrophy? How is spinal amyotrophy clinically different from ALS?
15. What is the role of EMG in suspected spinal amyotrophy? What are the typical EMG changes?

Test. Neuromuscular diseases.

1. For thyrotoxic myopathy, the most characteristic is:
   a) damage to the upper limbs and shoulder girdle
   b) damage to the lower extremities and lower parts of the trunk
   c) the steady progression of muscle weakness
   d) remitting course of a motor defect
   e) a) and c) are true
   f) true b) and d)

2. Movement disorders in hypothyroidism are caused by
   a) myodystrophy
   b) myasthenia gravis
   c) polyneuropathy
   d) paroxysmal myoplegia
   e) a) and c) are true
   f) all of the above

3. Typical neurological manifestation of hypoparathyroidism
   is the syndrome
   a) tetany
   b) myasthenia gravis
   c) myodystrophy
   d) all of the above
   e) true a) and b)

Case-studies. Neuromuscular diseases.

Case-study 1

Patient T., 20 years old. Ill for about 7 years. The disease began with weakness in the legs. When running, he often fell. Gradually, the weakness of the legs increased. It became difficult to walk, often fell even out of the blue. Three years later, weakness in the legs was joined by weakness in the arms. Objectively: Strength is reduced in the proximal arms and legs. Can't raise his hands up. Muscle atrophy in the proximal extremities, shoulder and pelvic girdles. The shoulder girdle is lowered and tilted forward. The scapulae are far removed from the spine ("pterygoid scapula"). The so-called symptom of "free shoulder girdles" is noted: when trying to lift the patient, holding him under the armpits, the shoulders and shoulder girdles first rise, so that the head is between them, and the body remains motionless. The lumbar lordosis is sharply increased. Wasp waist. He walks on toes with his stomach protruding forward and his chest thrown back, waddling from one leg to the other ("duck" gait). Tendon reflexes are low but uniform. There are no pathological reflexes. Sensitivity is preserved. The way that the patient uses when moving from a horizontal to a vertical position is characteristic: at first he gets on all fours, leaning on his knees and hands, unbending his leg in the knee joint, rests his hands on his hips and jerks himself up. Having done a squat, he cannot rise without the help of his hands. With electrodiagnostics, quantitative changes in excitability are determined.

Establish and substantiate topical and clinical diagnoses.

Answer: Duchenne myodystrophy is caused by mutations in the dystrophin gene, the largest human gene known to science, located at the Xp21.2 locus, and a severe absence (<5%) of dystrophin, a protein in the membrane of muscle cells.

Essay topics for 1.16 Neuromuscular diseases. Myopathies. Myasthenia gravis

1.Local forms of myasthenia gravis. Clinical picture, diagnosis, treatment.
2. Differential diagnosis of myasthenia gravis.
3. Features of clinical (routine) examination for suspected myasthenia gravis.
4. MASK - myasthenia gravis. Features of the clinical picture, diagnosis, treatment.
5. Clinical picture, diagnosis and treatment of myasthenic crisis.
6. Pathogenetic therapy of severe generalized myasthenia gravis.
7. Spinal amyotrophy. Clinical forms. Diagnostic methods. Symptomatic therapy.
8. Progressive muscular dystrophy. The clinical picture. Diagnostics. Differential diagnosis with polymyositis. Treatment.
9. Myasthenic syndromes in other diseases.

Topic 1.16 Neuromuscular diseases . Myopathies. Myasthenia gravis

Points for oral quiz:

1.Definition of myasthenia gravis.
2. Tell us the classification of myasthenia gravis.
3. Tell the clinical picture of myasthenia gravis.
4. Explain the pathogenesis of myasthenia gravis.
Tell us about the diagnostic measures for suspected myasthenia gravis. Proserin test.
5. Tell us what the phenomenon of "generalization of muscle weakness" means.
6. Tell us what is the importance of EMG in the diagnosis of myasthenia gravis.
7. Tell us what symptomatic and pathogenetic treatment is necessary for generalized myasthenia gravis.
8. Tell us how the myasthenic crisis proceeds.
9. Describe medical care for myasthenic crisis - what measures are needed, what medicines, their doses and methods of administration.
10. Describe the symptoms of progressive muscular dystrophy (PMD).
11. What forms of PMD are you aware of? Describe them.
12. What diagnostic measures are required for suspected PMD?
13. What changes in muscle biopsy support the diagnosis?
14. What clinical symptoms support spinal amyotrophy? How is spinal amyotrophy clinically different from ALS?
15. What is the role of EMG in suspected spinal amyotrophy? What are the typical EMG changes?

Test. Neuromuscular diseases

1. Motor neuron disease is characterized by a characteristic electromyographic picture, including:

Answer options:

a) the presence of spontaneous activity in the form of fibrillation;

b) signs of axonal damage to peripheral nerves;

c) signs of demyelinating damage to peripheral nerves;

d) signs of mononeuropathy;

e) signs of radiculopathy.

Answer: a

2. In motor neuron disease, which neuron is specifically damaged?

Answer options:

a) sensitive neuron;

b) motor neuron;

c) spinal ganglion;

d) spinothalamic pathway;

e) Gaulle and Burdach kernels.

Answer b

3. Specify a clinical symptom characteristic of a motor neuron disease.

Answer options:

a) muscular plastic hypertension;

b) fibrillation;

c) hyporeflexia of deep reflexes;

d) increased abdominal reflexes;

e) hemiballism

Answer: b

6. Which of the following symptoms is characteristic of myopathy?

Answer options:

a) wasp waist;

b) Friedreich's foot;

c) increased knee reflexes;

d) fibrillar twitching;

e) hemihyposthesia.

Answer: a

7. Which of the following symptoms are characteristic of hereditary sensorimotor polyneuropathy?

Answer options:

a) deformation of the legs in the form of inverted bottles, stork legs;

b) pseudohypertrophy;

c) muscle atrophy of the shoulder and pelvic girdle;

d) pterygoid scapula;

e) increased deep reflexes.

Answer: a

8. Indicate what symptom is typical for progressive muscular dystrophy.

Answer options:

a) an increase in the level of creatinine in the blood;

b) gait of the steppage type;

c) increased deep reflexes;

d) spastic hemiparesis;

e) hemihyposthesia.

Answer: a

9. Indicate what symptom is typical for spinal amyotrophy.

Answer options:

a) atrophy of the muscles of the feet and hands;

b) conduction disorders of sensitivity;

c) cyanosis, marble coloration of the limbs;

d) increased muscle tone;

e) the presence of pathological reflexes.

Answer: a

14. Indicate what symptom is typical for myasthenia gravis.

Answer options:

a) impaired coordination of movements;

b) pathological fatigue and pathological muscle weakness;

c) hyperreflexia;

d) hypertension;

e) the presence of pathological reflexes.

Answer: b

15. Indicate what symptom is characteristic of progressive muscular dystrophy.

Answer options:

a) "duck" gait;

b) increased deep reflexes;

c) disorder of deep sensitivity;

d) the appearance of pathological reflexes;

e) chorea.

Answer: a

Case-studies. <u>Neuromuscular diseases</u>

Case-study 1

A 27-year-old woman, after suffering an acute viral disease, began to notice increased fatigue, double vision appeared when reading. During the day, the severity of complaints increases, after rest it decreases. She went to the local doctor, she was advised to rest more and drink the “soothing” medicine “ novopassit ” . However, the symptoms did not go away, and the woman noticed that her eyelids were "heavy". She turned to a neurologist she knew. Neurological examination: 2-sided uneven partial ptosis, weakening of convergence. The doctor gave the task to read a page of the text, after which double vision and a very slight divergent squint appeared. No other focal neurological symptoms were found.

The task:

1) Topical diagnosis
2) Make a presumptive clinical diagnosis.
3) What tests are required to confirm the diagnosis?

Answer:

1) neuromuscular synapse
2) Myasthenia gravis, g lazy form
3) Clinical tests for pathological muscle fatigue (fixed look up), pharmacological test (with proserin).

<u>Essay topics: Neuromuscular diseases</u>

1. Local forms of myasthenia gravis. Clinical picture, diagnosis, treatment.
2. Differential diagnosis of myasthenia gravis.
3. Features of clinical (routine) examination for suspected myasthenia gravis.
4.MASK-myasthenia gravis. Features of the clinical picture, diagnosis, treatment.
5. Clinical picture, diagnosis and treatment of myasthenic crisis.
6. Pathogenetic therapy of severe generalized myasthenia gravis.

7. Spinal amyotrophy in adults. Clinical forms. Diagnostic methods. Symptomatic therapy. Pathogenetic therapy.
8. Progressive muscular dystrophy. The clinical picture. Diagnostics. Differential diagnosis with polymyositis. Treatment.
9. Myasthenic syndromes in other diseases.
10. Comorbidity of myasthenia gravis.
11. Immunological examinations in myasthenia gravis and their role in the diagnosis of the disease.

Topic 1.19 Introduction to medical genetics. Heredity and pathology

Points for oral quiz:

1. The history of the development of medical genetics.
2. The development of medical genetics in our country.
3. The tasks of medical genetics.
4. The value of knowledge of hereditary syndromes in clinical practice.
5. Axioms of medical genetics, their rationale
6. Features of a person as an object of genetic analysis.
7. Human hereditary information.
8. Classification and diversity of human genes.
9. The concepts of gene, genome, genotype.
10. Classification of human genes.
11. Features of the organization of the nuclear and mitochondrial human genomes.
12. Replication and DNA repair mechanisms.
13. The main stages of gene expression, the nature and mechanisms of transcription, post-transcriptional processing, transport of mRNA from the nucleus to the cytoplasm, translation and post-translational transformations.
14. Principles of encoding hereditary information. The concept and essence of the genetic code.
15. Define concepts of congenital and hereditary pathology.
16. Methods used in the study of the manifestations of congenital and hereditary pathology.
17. Essence, indications and stages of clinical and genealogical analysis.
18. Essence, possibilities and significance of twin and population-statistical methods.
19. Define the concept of dysmorphogenesis as a symptom of hereditary and congenital pathology.
20. The essence and significance of the description of the phenotype in clinical practice.
21. What are the diagnostic computer programs used in the syndromological analysis.
22. The essence and possibilities of special methods for laboratory diagnosis of hereditary pathology: cytogenetic, fluorescent in situ hybridization - FISH analysis, direct and indirect DNA diagnostics, polymerase chain reaction - PCR, DNA sequencing and blot hybridization, enzyme diagnostics.
23. Describe the structure of the medical genetic service in Russia and the Khanty-Mansi Autonomous Okrug-Yugra, formulate the goals and objectives of institutions at each level.
24. Tell us about the main tasks of medical genetic counseling.
25. Tell us about the organization of the medical genetic consultation.
26. Give a definition of the concept of "medical genetic counseling", list the goals and objectives.
27. List the indications for medical genetic counseling.
28. What methods are used in medicine to study the manifestations of heredity and variability in humans?
29. List special methods of genetic analysis. Describe the distinctive features of hereditary pathology. Name the traditional and special research methods in the diagnosis of hereditary pathology.
30. Decipher the graphic symbols of the pedigree.
31. Basic principles of the treatment of hereditary diseases.

Test. 1.19 Introduction to Medical Genetics. Heredity and pathology

1. Hereditary diseases with an autosomal recessive type of inheritance include all of the above, except:

a) homocystinuria,
b) Marfan syndrome,
c) cystic fibrosis,
d) adreno-genital syndrome.

2. Hereditary diseases with an autosomal dominant type of inheritance include all of the above, except:
a) Marfan syndrome,
b) achondroplasia,
c) phenylketonuria,
d) osteogenesis imperfecta.

3. Hereditary diseases with an X-linked-recessive type of inheritance include all of the above, except:
a) von Willebrandt's disease;
b) Duchenne-Becker myopathy;
c) hemophilia A;
d) hemophilia B.

4. Transcription is:
a) the process of transferring information from DNA to RNA;
b) the process of transferring information from RNA to DNA;
c) the process of doubling RNA during the synthetic stage of interphase;
d) the process of preserving genetic information.

5. The translation is carried out by the following type of RNA:
a) mRNA;
b) tRNA;
c) rRNA;
d) everything is correct.

6. Characteristics of the X-linked-recessive type of inheritance:
a) vertical type of inheritance, both sexes are ill, manifested in heterozygotes;
b) horizontal type of inheritance, both sexes are ill, manifested in homozygotes;
c) mostly males are sick, the disease is never transmitted from father to son;
d) all statements are correct.

7. Extended neonatal screening in the Russian Federation is carried out to exclude the following diseases:
a) phenylketonuria, congenital hypothyroidism, amaurotic idiocy, cystic fibrosis, galactosemia;
b) phenylketonuria, trisomy on chromosome 21, congenital dysfunction of the adrenal cortex, congenital hypothyroidism, cystic fibrosis;
c) phenylketonuria, congenital hypothyroidism, congenital adrenal cortex dysfunction, cystic fibrosis, galactosemia;
d) congenital hyperplasia of the adrenal cortex, cystic fibrosis, phenylpyruvic oligophrenia, congenital hypothyroidism, fructosuria.

8. Name all the characteristics of the genetic code:
a) Specific, triplet, universal, overlapping;
b) Non-specific, universal, non-overlapping, degenerate;
c) Triplet, universal, non-overlapping, degenerate;
d) Universal, specific, triplet.

9. An RNA molecule consists of the following chemical compounds:
a) Amino acids ;
b) Sugars (ribose), phosphate groups and nitrogenous bases ;
c) Sugars (deoxyribose), phosphate groups and nitrogenous bases ;
d) amino acids, phosphate groups and nitrogenous bases;
e) Sugars (ribose), amino acids .

10. The main chemical bonds involved in the formation of interactions between complementary DNA strands :
a) Hydrogen bonds ;
b) Phosphodiester linkages ;
c) Polypeptide bonds ;
d) Donor-acceptor bonds;
e) Ionic interactions .

Answers : 1b, 2c, 3a, 4a , 5d, 6c, 7 a , 8c, 9b, 10a.

Case-studies. 1.19 Introduction to Medical Genetics. Heredity and pathology

1. A 25-year-old man consulted a neurologist with complaints of weakness in the legs, difficulty climbing stairs. He considers himself ill from the age of 18. The patient's maternal grandfather also suffered from a similar disease. The patient's waddling gait and hypertrophy of the gastrocnemius, brachioradial and deltoid muscles attracted attention. The results of the examination of this patient (increase in FD of aldolase by 2 times, and CPK by 4 times in blood serum compared to the norm; different caliber of muscle fibers in biopsy).

Diagnosis
Survey and control plan
Treatment
Forecast

Essay topics for 1.19 Introduction to medical genetics. Heredity and pathology:

1. Legal and regulatory framework governing the work of medical genetic counseling.
2. History of medical genetics in Russia.
3. Medical genetic counseling: goals and objectives, indications, methods.
4. Methods for the diagnosis of hereditary diseases.
5. Clinical and genealogical methods.
6. Gene mutations and their phenotypic manifestations in humans.
7. Features of the clinical manifestations of hereditary pathology.
8. Minor developmental anomalies and their importance in the diagnosis of hereditary diseases.
9. General principles of the treatment of hereditary diseases.

Topic 1.20 Semiotics and principles of clinical diagnosis of hereditary diseases. General principles of the treatment of hereditary diseases.

Points for oral quiz:

1. The history of the development of medical genetics.
2. Development of medical genetics in our country.
3. The tasks of medical genetics.
4. The value of knowledge of hereditary syndromes in clinical practice.
5. Axioms of medical genetics, their rationale
6. Features of a person as an object of genetic analysis.
7. Hereditary information of a person.
8. Classification and diversity of human genes.
9. The concepts of gene, genome, genotype.
10. Classification of human genes.
11. Features of the organization of the nuclear and mitochondrial human genomes.
12. Mechanisms of DNA replication and repair.
13. The main stages of gene expression, the nature and mechanisms of transcription, post-transcriptional processing, transport of mRNA from the nucleus to the cytoplasm, translation and post-translational transformations.
14. Principles of encoding hereditary information. The concept and essence of the genetic code.
15. Define concepts of congenital and hereditary pathology.
16. Methods used in the study of the manifestations of congenital and hereditary pathology.
17. Essence, indications and stages of clinical and genealogical analysis.
18. Essence, possibilities and significance of twin and population-statistical methods.
19. Define the concept of dysmorphogenesis as a symptom of hereditary and congenital pathology.
20. The essence and significance of the description of the phenotype in clinical practice.
21. What are the diagnostic computer programs used in the syndromological analysis.
22. Essence and possibilities of special methods of laboratory diagnostics of hereditary pathology: cytogenetic, fluorescent in situ hybridization –FISH-analysis, direct and indirect DNA diagnostics, polymerase chain reaction - PCR, DNA sequencing and blot hybridization, enzyme diagnostics.
23. Describe the structure of the medico-genetic service in Russia and the Khanty-Mansi Autonomous Okrug-Yugra, formulate the goals and objectives of institutions at each level.
24. Tell us about the main tasks of medical genetic counseling.
25. Tell us about the organization of the medical genetic consultation.

26. Give a definition of the concept of "medical genetic counseling", list the goals and objectives.
27. List the indications for medical genetic counseling.
28. What methods are used in medicine to study the manifestations of heredity and variability in humans?
29. List the special methods of genetic analysis. Describe the distinctive features of hereditary pathology. Name the traditional and special research methods in the diagnosis of hereditary pathology.
30. Decipher the graphic symbols of the pedigree.
31. Basic principles of treatment of hereditary diseases.

Test. 1.20 Semiotics and principles of clinical diagnosis of hereditary diseases. General principles of the treatment of hereditary diseases.

1. Prenatal diagnosis is classified as:
a) invasive - non-invasive;
b) 1,2,3 stages;
c) three-level;
d) everything is correct.
2. The total duration of spermatogenesis in humans is:
a) 90 days;
b) 72 days;
c) 74 days;
d) 66 days.
3. Oocyte maturation is completed:
a) antenatally;
b) perinatally;
c) after fertilization;
d) there is no correct answer.
4. Screening:
a) is a diagnostic test;
b) is not a diagnostic test,
c) serves to select a part of the population with an increased risk of a certain pathology;
d) b and c are true.
5. Ultrasound screening:
a) is a diagnostic test;
b) is not a diagnostic test,
c) serves to select a part of the population with an increased risk of a certain pathology;
d) a and c are true.
6. The risk of having a baby with trisomy 21:
a) all families have;
b) is 1: 700;
c) increases with the age of the mother;
d) everything is correct.
7. Age risk is typical for the following chromosomal abnormalities of the fetus:
a) Down syndrome;
b) Edwards syndrome;
c) Klinefelter's syndrome;
d) Shereshevsky-Turner syndrome;
e) a and b are true.
8. Specify the year of biochemical screening for Down syndrome:
a) 1870,
b) 1984,
c) 1990,
d) 1972.
9. Obtaining blood from the umbilical cord is called:
a) cordocentesis;
b) choriocentesis,

c) placentocentesis;
d) amniocentesis.
10. Obtaining afterbirth cells is called:
a) cordocentesis;
b) choriocentesis,
c) placentocentesis;
d) amniocentesis;
e) b and c are true.

Answers: 1 d , 2 b , 3 c , 4 d , 5 d , 6 d , 7 e , 8 b , 9 a , 10 e .

Case-studies. Semiotics and principles of clinical diagnosis of hereditary diseases. General principles of the treatment of hereditary diseases.

1. The mother of a one-year-old girl reports that she used to pay attention to the sluggish fetal movement. Immediately after birth, the girl has a muscular weakness. By the age of one, the girl does not hold her head, does not roll over on her stomach, when viewed on back - "frog pose" with breeding and external rotation of the hips, muscular weakness in all muscles, muscle hypotonia, lack of tendon reflexes.

Neurological syndromes?
Localization of the lesion?
Preliminary clinical diagnosis?
Additional examinations?
Disease prognosis?

Essay topics for 1.20 Semiotics and principles of clinical diagnosis of hereditary diseases. General principles for the treatment of hereditary diseases:

1. Gaucher disease. Clinic, diagnosis, prognosis, treatment.
2. Phenylketonuria. Clinic, diagnosis, prognosis, treatment.
3. Chorea of Huntington. Clinic, diagnosis, prognosis, treatment.
4. Spinal muscular atrophy. Clinic, diagnosis, prognosis, treatment.
5. Williams Syndrome. Clinic, diagnosis, prognosis, treatment.
6. Tuberous sclerosis. Clinic, diagnosis, prognosis, treatment.
7. Marfan syndrome. Clinic, diagnosis, prognosis, treatment.
8. Retinoblastoma. Clinic, diagnosis, prognosis, treatment.
9. Angelman Syndrome. Clinic, diagnosis, prognosis, treatment.
10. Wilson-Konovalov's disease. Clinic, diagnosis, prognosis, treatment.
11. Hereditary metabolic disorders. Clinic, diagnosis, prognosis, treatment.
12. Diseases of carbohydrate metabolism disorders. Clinic, diagnosis, prognosis, treatment.
13. Diseases of amino acid metabolism disorders. Clinic, diagnosis, prognosis, treatment.
14. Diseases of lipid metabolism disorders. Clinic, diagnosis, prognosis, treatment.

Topic 1.21 Chromosomal and gene diseases.

Points for oral quiz:

1. Principles of classification of monogenic diseases.
2. The clinical picture of the most common genetic diseases.
3. Modern approaches to the diagnosis of monogenic diseases.
4. Medical genetic counseling for monogenic diseases.
5. Tell us about the concept of genetic risk; on the principles of calculating genetic risk.
6. Tell us about the risk calculations for monogenic diseases, if the genotypes of the parents are known.
7. Tell us about the risk calculations for monogenic diseases if the genotypes of the parents are unknown.
8. Tell us about the concepts of penetrance and expressiveness.
9. Modern approaches to the treatment of monogenic diseases.

10. The value of hereditary predisposition in general human pathology.
11. Genetic polymorphism of populations as the basis of hereditary predisposition.
12. The polygenic nature of the predisposition.
13. Monogenic predisposition.
14. Ecogenetics and pharmacogenetic reactions.
15. Chemical composition and structure of chromosomes.
16. Features of the morphology of chromosomes in the human karyotype.
17. Principles of classification of chromosomal diseases.
18. The clinical picture of the most common chromosomal diseases.
19. Modern approaches to the diagnosis of chromosomal diseases.
20. Medical genetic counseling for chromosomal diseases.
21. List the indications for the use of the cytogenetic method in the diagnosis of chromosomal diseases and syndromes.
22. Describe the methodology and stages of obtaining preparations of mitotic and interphase chromosomes for fluorescence in situ hybridization (FISH).
23. Indicate the methods of staining chromosomes, their features and principles of chromosome classification.
24. Read and describe the karyotype formula.
25. Describe the common features of chromosomal syndromes.
26. Describe the clinical picture of the most common chromosomal syndromes. Autosomal aneuploidy syndromes - trisomy 13, 18, 21.
27. Describe the clinical picture of aneuploidy syndromes by sex chromosomes - XO, XXX, XXY, XYU.
28. Describe the clinical picture of partial mono- and trisomy syndromes: 4p-, 5p-.

Test. 1.21 Chromosomal and gene diseases.

In classical trisomies, the number of chromosomes in a diploid set is:
a) 46;
b) 47;
c) 48;
d) 45.
2. What method allows you to establish the presence of chromosomal abnormalities in the fetus:
a) ultrasonic;
b) biochemical;
c) cytogenetic;
d) molecular.
3. Chromosomal diseases include all of the above, except:
a) Wolf-Hirschhorn syndrome,
b) Edwards syndrome,
c) Noonan syndrome,
d) Shereshevsky-Turner syndrome.
4. The founder of the chromosomal theory of heredity is:
a) G. Mendel;
b) T. Morgan;
c) K. Correns;
d) G. de Vries.
5 . What is aneuploidy?
a) change in the number of chromosomes, a multiple of the haploid set;
b) change in the number of chromosomes, not a multiple of the haploid set;
c) change in the number of chromosomes, a multiple of the diploid set;
d) change in the number of chromosomes, not a multiple of the diploid set.
6. The stage of mitosis, which begins with a sudden separation and subsequent divergence of sister chromatids in the direction of opposite poles:
a) telophase;
b) metaphase;
c) prometaphase;
d) anaphase.

7. The process of exchange of regions of homologous chromosomes during conjugation in prophase I of meiosis is called:
a) leptonema;
b) crossing over;
c) pachynema;
d) everything is correct.
8. The type of inheritance of traits linked to the Y chromosome is called:
a) mitochondrial;
b) Dutch;
c) sex-linked;
d) there is no correct answer;
e) everything is correct.
9 . The X chromosome refers to:
a) metacentric chromosomes;
b) submetacentric with chromosomes;
c) acrocentric chromosomes;
d) is allocated in a separate group together with the Y-chromosome.
10. Malformation is:
a) morphological defect of an organ, part of an organ or a large part of the body as a result of an internal violation of the developmental process;
b) morphological defect of an organ, part of an organ or a large part of the body as a result of an external obstacle or impact on the initially normal developmental process,
c) violation of the shape, type or position of a part of the body due to maternal mechanical influences
d) everything is wrong.

Answers : 1 b , 2 c , 3 c , 4 b , 5 b , 6 d , 7 b , 8 b , 9 a , 10 a .

Case-studies. 1.21 Chromosomal and gene diseases:

Case-study 1
A 39-year-old woman has the 5th pregnancy, which proceeded with gestosis and the threat of termination, ended in childbirth at the 36th week. A newborn girl, weighing 2700 g, body length 48 cm, screamed at once. On examination, there is swelling of the hands and feet, a short neck with excessive skin folds, and general muscular hypotension. On auscultation, a systolic murmur is heard along the sternum on the left.
1. What kind of disease can you think of in this situation?

Answers to tasks:
1. Shereshevsky-Turner syndrome.

Essay topics for 1.21 Chromosomal and gene diseases:

1. Down's disease. Cytogenetic variants. Clinic, diagnostics, prognosis.
2. Edwards syndrome. Clinic, diagnostics, prognosis.
3. Patau Syndrome. Clinic, diagnostics, prognosis.
4. Clinical syndromes with sex chromosome abnormalities. Clinic, diagnostics, prognosis.
5. Dis syndrome of Y -hromosome. Clinic, diagnostics, prognosis.
6. Klinefelter's Syndrome. Clinic, diagnosis, prognosis, treatment.
7. Shereshevsky-Turner syndrome. Clinic, diagnosis, prognosis, treatment.
8. Trisomy X syndrome. Clinical picture, diagnosis, prognosis.

Topic 1.22 Organization of medico-genetic service.

Points for oral quiz:

1. The history of the development of medical genetics.
2. Development of medical genetics in our country.
3. The tasks of medical genetics.
4. The value of knowledge of hereditary syndromes in clinical practice.
5. Axioms of medical genetics, their rationale
6. Features of a person as an object of genetic analysis.
7. Hereditary information of a person.
8. Classification and diversity of human genes.
9. The concepts of gene, genome, genotype.
10. Classification of human genes.
11. Features of the organization of the nuclear and mitochondrial human genomes.
12. Mechanisms of DNA replication and repair.
13. The main stages of gene expression, the nature and mechanisms of transcription, post-transcriptional processing, transport of mRNA from the nucleus to the cytoplasm, translation and post-translational transformations.
14. Principles of encoding hereditary information. The concept and essence of the genetic code.
15. Define concepts of congenital and hereditary pathology.
16. Methods used in the study of the manifestations of congenital and hereditary pathology.
17. Essence, indications and stages of clinical and genealogical analysis.
18. Essence, possibilities and significance of twin and population-statistical methods.
19. Define the concept of dysmorphogenesis as a symptom of hereditary and congenital pathology.
20. The essence and significance of the description of the phenotype in clinical practice.
21. What are the diagnostic computer programs used in the syndromological analysis.
22. Essence and possibilities of special methods of laboratory diagnostics of hereditary pathology: cytogenetic, fluorescent in situ hybridization –FISH-analysis, direct and indirect DNA diagnostics, polymerase chain reaction - PCR, DNA sequencing and blot hybridization, enzyme diagnostics.
23. Describe the structure of the medico-genetic service in Russia and the Khanty-Mansi Autonomous Okrug-Yugra, formulate the goals and objectives of institutions at each level.
24. Tell us about the main tasks of medical genetic counseling.
25. Tell us about the organization of the medical genetic consultation.
26. Give a definition of the concept of "medical genetic counseling", list the goals and objectives.
27. List the indications for medical genetic counseling.
28. What methods are used in medicine to study the manifestations of heredity and variability in humans?
29. List the special methods of genetic analysis. Describe the distinctive features of hereditary pathology. Name the traditional and special research methods in the diagnosis of hereditary pathology.
30. Decipher the graphic symbols of the pedigree.
31. Basic principles of treatment of hereditary diseases.

Essay topics for 1.22 Organization of medical and genetic service :

1. Periconceptional prevention of hereditary diseases.
2. Prenatal diagnosis of hereditary diseases.
3. Invasive prenatal diagnostics - opportunities and limitations.
4. Neonatal screening in Russia.
5. Tandem mass spectrometry - the modern basis of neonatal screening

List of topics 1.34- 1.41, 8th term

Topic 1.40 Acute disorders of cerebral circulation.

Points for oral quiz:

1.Classification of acute cerebrovascular conditions.
2. Features of cerebral circulation : vascular basins, collateral circulation, circle of Willis at the base of the brain.

3. Autonomous regulation of cerebral circulation.
4.Cardiovascular risk factors.
5. Subtypes of ischemic stroke.
6. The clinical picture of ischemic stroke.
7. Principles of ischemic stroke treatment - pathogenetic and basic therapy.
8.P provision and contraindications to thrombolytic therapy.
9. Neurosurgical, angiosurgical treatment for ischemic stroke.
10. Etiology, pathogenesis of hemorrhagic stroke.
11. The clinical picture of hemorrhagic stroke.
12. Differential diagnosis of ischemic and hemorrhagic stroke.
13. Neuroimaging in the diagnosis of strokes.
14. Indications for surgical treatment of stroke.
15. Subarachnoid hemorrhage in aneurysmal disease. Clinical picture. Prevention of complications.
16. Prevention of acute disorders of cerebral circulation.

Test. 1.40 Acute disorders of cerebral circulation.

1. The method of the earliest diagnosis of ischemic stroke is
a) classical electroencephalography
b) echoencephaloscopy
c) computed tomography
d) magnetic resonance imaging
e) positron emission tomography
2. Computed tomography of the brain does not allow to
a) differentiate the histological structure of the focus
b) differentiate between gray and white matter of the brain
c) determine the state of the cerebrospinal fluid
d) identify areas of ischemia and hemorrhage
e) determine the area of perifocal edema
3. It is crucial to perform in the diagnosis of intracranial aneurysms
a) g-scintigraphy
b) angiography
c) computed tomography
d) doppler sonography
e) rheoencephalography
4. To monitor the dynamics of angiospasm in a patient with spontaneous subarachnoid hemorrhage it is most appropriate to use
a) angiography
b) rheoencephalography
c) computed tomography
d) transcranial Doppler ultrasound
5. Computed tomography reveals the area of hyposensitivity in the focus of ischemic stroke through
a) 1 hour from the onset of the disease
b) 2 hours from the onset of the disease
c) 4 hours from the onset of the disease
d) 6 hours or more from the onset of the disease
6. Computed tomography allows you to diagnose hyperdense sites of hemorrhagic extravasates with subarachnoid cerebral hemorrhage later
a) 1 hour from the onset of hemorrhage
b) 3 hours from the onset of hemorrhage
c) 6 hours from the onset of hemorrhage
d) 12 hours from the onset of hemorrhage
e) 24 hours from the onset of hemorrhage
7. Contrast enhancement in computed tomography of the brain used in cases where necessary
a) identify cerebral edema associated with stroke
b) establish hemorrhagic impregnation of the bruised focus
brain

c) determine hemorrhagic cerebral infarction
d) assess the state of the blood-brain barrier
regardless of the nature of the cerebral process

8. Unilateral pulsating exophthalmos is a sign of
a) retrobulbar tumor of the orbit
b) thrombosis of the orbital artery
c) carotid-cavernous fistula
d) suprasellar pituitary tumor
e) arachnoid endothelioma of the wing of the main bone

9. Hemorrhagic stroke is characterized by
a) acute development of cerebral and focal symptoms against the background of high blood pressure
b) the development of cerebral and focal symptoms in the morning upon awakening
c) the absence of cerebral symptoms in the presence of focal
d) development of cerebral and focal symptoms against a background of low blood pressure
e) Gradual development of focal and cerebral symptoms

10. For ischemic stroke in the basin of the middle cerebral artery on the left, a right-handed person is characterized by
a) sensorimotor aphasia
b) right-sided hemiparesis
c) paresis of the facial nerve in the central type on the right
d) deviation of the tongue to the right
e) all of the above is true

Answers . 1d 2a 3b 4d 5d 6a 7d 8c 9a 10d

Case-studies. Acute disorders of cerebral circulation.

Case-study 1: A 56-year-old man suddenly developed a Jacksonian seizure starting in the left leg. He was admitted to the clinic in a state of pronounced stunnedness. The patient's wife noted that her husband was a heavy smoker, had a chronic cough, during the last month when coughing in the sputum there was an admixture of blood.

Neurological examination revealed flaccid paralysis in the left leg, slight weakness in the left arm, Babinsky's symptom on the left. On examination the next morning, there was a disturbance in thinking, a lack of memory for current events in addition to the symptoms described.

Questions.

1.Where is the lesion site? Does the clinical picture fit into one focus?
2. Make a presumptive clinical diagnosis. What diseases should be used for differential diagnosis?
3. What research methods should be used to make a clinical diagnosis?

Answers.

1. Frontal lobe and temporal lobe on the right.
2. Acute cerebrovascular accident. Differential diagnosis with metastatic brain lesions in a patient with lung cancer.
3. Computed tomography of the lungs, computed tomography or magnetic resonance imaging of the brain with contrast.

Essay topics for 1.40 Acute disorders of cerebral circulation.

1. Transient disorders of cerebral circulation in the vertebro-basilar basin.
2. Transient global amnesia.
3. Acute hypertensive encephalopathy.
4. The history of the development of ideas about the possibilities of thrombolytic therapy in cerebral thrombosis.
5. Surgical treatment for ischemic strokes.
6. Pathogenetic subtypes of ischemic strokes.
7. Acute disorders of the venous circulation of the brain.
8. Basic therapy of ischemic stroke.
9. Organization of specialized medical care for patients with acute cerebrovascular accidents in the Russian Federation.

10. Background diseases complicated by strokes in childhood.
11. Acute violations in leg cerebral circulation in children.

Topic1.44 Demyelinating diseases of the nervous system. Multiple sclerosis. Acute disseminated encephalomyelitis.

Points for oral quiz:

1. Explain why the group of diseases on the topic is called "demyelinating diseases".
2. Expand modern ideas about the etiology and pathogenesis of acute disseminated encephalomyelitis.
3. Expand the topic of the clinical manifestations of acute disseminated encephalomyelitis.
4. Analyze the possibilities of diagnostic methods for acute disseminated encephalomyelitis: the role of CSF research, the role of MRI in the diagnosis of the disease.
5. Compare the course of the disease with the course of multiple sclerosis
6. Tell us about the outcomes of the disease "acute disseminated encephalomyelitis".
7. Expand the current understanding of the etiology and pathogenesis of multiple sclerosis. Tell us about the classification of multiple sclerosis.
8. What is the modern diagnosis of multiple sclerosis: reveal the concept of "dissemination of symptoms in time and space."
9. Tell us about the role of additional research methods in the diagnosis of multiple sclerosis: evoked stem potentials, CSF examination for oligoclonal antibodies, MRI examination. Tell us about the treatment of exacerbation of multiple sclerosis.
10. Indications for PITRS. Principles of action of different groups of PITRS.

Test. Demyelinating diseases of the nervous system. Multiple sclerosis. Acute disseminated encephalomyelitis.

1. Multiple sclerosis is
a) chronic demyelinating disease
b) acute disease of the peripheral nervous system
2 multiple sclerosis is more common
a) in the northern latitudes of both hemispheres
b) evenly across the globe
3. The main etiopathogenetic theories of multiple sclerosis are
a) viral
b) bacterial
c) genetic
d) dietary
e) defect in function or breakdown of the oligodendroglia
4. Sclerotic plaque, as a rule, is located
a) in the white matter of the central nervous system near the postcapillary venules
b) in the gray matter of the central nervous system
c) in peripheral nerves
5.Multiple sclerosis often affects
a) periventricular fibers
b) sciatic nerve
c) lateral ventricles and posterior cords of the cervical and thoracic spinal cord
d) cerebellum
e) brain stem
6.Spasticity in muscles increases with
a) full bladder
b) an empty stomach
c) cold
7.The earliest symptom of multiple sclerosis is
a) decreased skin reflexes (in particular, abdominal)
b) strabismus
8. When the cerebellum is affected, Charcot's disease occurs, including

a) nystagmus
b) strabismus
c) chanted speech
d) shuffling gait
e) intentional tremor
9. Typical symptoms of multiple sclerosis include
a) seizures
b) lesions of the posterior longitudinal bundle
c) hearing loss
d) retrobulbar neuritis
10. The pentad of Marburg includes
a) Charcot's triad (nystagmus, chanted speech, intentional tremor),
b) lack of abdominal reflexes
c) violation of pelvic functions
d) blanching of the temporal halves of the optic nerve head
e) radicular symptoms

Answers. 1a 2a 3abv gd 4a 5avgd 6av 7a 8avd 9a 10ab g

Case-studies. Demyelinating diseases of the nervous system. Multiple sclerosis. Acute disseminated encephalomyelitis.

1. A 33-year-old woman , 12 days after acute viral infection of the respiratory tract, felt numbness in her feet, staggering when walking, feeling an “insole” under her feet , difficulty climbing stairs, and getting up from a chair. After 3 days, these complaints were joined by numbness of the fingers, difficulty in raising the hands. After another 2 days, weakness in the arms and legs increased, the patient could not walk on her own, and she was hospitalized in the neurological department. On examination: moderately pronounced weakness of all facial muscles on both sides, weakness in the limbs up to one point in the legs and three points in the hands with a predominance in the proximal regions, muscle hypotonia, absence of tendon reflexes, positive symptoms of Lasegue and Wasserman, a decrease in all types of sensitivity according to type of "socks" and "gloves". Babinsky's symptom on both sides. Hypesthesia of pain sensitivity from the level of the umbilicus. When questioning complaints of urinary retention.
Questions.
1. Neurological syndromes
2. Determine the localization of the lesion
3.Postavte n ed preliminarily clinical diagnosis
4.Predlozhite etc. For more obsledo Bani
5.Printsipy l echenie, if confirmed preliminary clinical dia prognosis
Answers. 1. Syndromes of polyneuropathy, polyradiculopathy, myelopathy.
2. Peripheral nerves, spinal roots, conductors of the spinal cord.
3. Suspected acute disseminated encephalomyelitis.
4. Research of cerebrospinal fluid (cytosis, protein), MRI of the brain and spinal cord.
5.Pulse therapy with methylprednisolone.

Essay topics for 1.44 Demyelinating diseases of the nervous system. Multiple sclerosis. Acute disseminated encephalomyelitis.

1. Features of the course of multiple sclerosis in children.
2. The history of the development of ideas about PITRS.
3. Symptomatic therapy in the treatment of multiple sclerosis.
4. Post-vaccination encephalomyelitis in the experiment and in the clinic.
5. MRI criteria for multiple sclerosis in their development.
6. The role of additional research methods in the diagnosis of multiple sclerosis: evoked potentials, CSF study.
7. Differential diagnosis of demyelinating diseases.
8. Multiple sclerosis and heredity.

Topic 1.45 Epilepsy.

Points for oral quiz:

1. Give a definition of epilepsy.
2. Tell us the classification of epilepsy.
3. Tell us about the etiopathogenesis of epilepsy.
4. Tell us the classification of epileptic seizures.
5. Tell us about the principles of epilepsy diagnostics: the role of EEG and EEG monitoring.
6. Tell us about symptomatic epileptic seizures and differential diagnosis with epilepsy.
7. Tell us about the principles of epilepsy treatment.
8. Expand the principle of "individuality" in the treatment of epilepsy. Give examples.
9. Indications for cancellation of antiepileptic treatment.
10. Status epilepticus - concept, types of status epilepticus. Treatment.

Test. Epilepsy

1. Complex partial seizures differ from simple by
   a) a combination of motor and sensory symptoms
   b) a combination of autonomic and sensory symptoms
   c) violation of awareness of what is happening
   d) all of the above
   e) true a) and b)

2. Absolute electroencephalographic sign of epilepsy is the presence of paroxysmal
   a) rhythmic phenomena in the a- and b-bands
   b) rhythmic phenomena in the d-range
   c) rhythmic phenomena in the q-range
   d) peak - wave complex
3. Means of the first stage in pharmacotherapy status epilepticus at the site of the seizure and during transportation is the administration into a vein of
   a) mannitol
   b) diazepam
   c) sodium thiopental
   d) hexenal
4. During an attack of generalized epilepsy changes on the part of the pupils are characterized by
   a) anisocoria
   b) narrowing
   c) expansion
   d) none of the above
5. Stop treatment with antiepileptic drugs possible in case if there were no seizures for at least
   a) 1-2 years
   b) 1 year
   c) 1.5 years
   d) 2 years
   e) 3 years
6. The main neurophysiological mechanism of pathogenesis of epilepsy is the formation of a focus
   a) stimulation of the activating ascending system
   b) reduced threshold of excitability in the cortex
   c) generation of hypersynchronous discharges
   d) insufficient activity
      in antiepileptic subcortical structures
   e) all of the above
7. Anatomical structures through which it is realized with the spread of abnormal electrical activity with generalization of an epileptic seizure, are
   a) the reticular formation of the interstitial brain
   b) reticular formation of the midbrain
   c) commissural neuronal systems of the corpus callosum

d) all of the above
e) a) and c) are true

8. The most important neurophysiological property of the epileptic focus is the ability to
a) generate a hypersynchronous electric discharge
activity
b) impose the rhythm of their activity on other parts of the brain
c) by generalizing hypersynchronous impulses
generate secondary and tertiary foci
d) all of the above
e) a) and c) are true

9. To identify violations of the electrical activity of the brain for epilepsy the following is used
a) classical electroencephalography
b) compression-spectral method of EEG registration
(with Berg - Fourier transform)
c) the study of visual evoked potentials
d) study of auditory evoked potentials
e) all of the above
f) true a) and b)

Answers 1c 2d 3b 4c 5d 6d 7d 8d 9a

Case-studies. Epilepsy

Case-study 1

Schoolboy 8 years old. For 3 months, he suffers from seizures of a tonic-clonic nature, beginning in the muscles of the face, tongue, accompanied by hypersalivation, speech arrest, cessation of normal motor activity, loss of contact with others, automated hand movements are observed, then tonic-clonic generalized convulsions develop. Attacks appear once every 1-2 weeks, for no apparent reason, last 2-3 minutes, after the attack, the child falls asleep. The EEG reveals peaks in the frontotemporal areas with convex generalization. Previously, he could not tolerate head injuries or neuroinfections. Assignment: 1) First aid? 2) Action by an ambulance doctor? 3) Inspection? 4) Clinical diagnosis? 5) Treatment?

Essay topics for 1.45 Epilepsy

1. The history of the development of scientific ideas about epilepsy.
2. Indications for surgical treatment for epilepsy.
3.Epileptic status: diagnosis, emergency care, stages of treatment.
4. The role of EEG in the diagnosis of epilepsy.
5. Differential diagnosis of true epileptic seizures and "pseudo-seizures".
6. Antiepileptic drugs - mechanism of action.
7. Etiopathogenesis of symptomatic and presumably symptomatic epilepsy.
8. Epilepsy and pregnancy: contraindications for carrying pregnancy, treatment features, risk of decompensation.
9. Reflex epilepsy.
10. Lennox-Gastaut syndrome.

Topic 1.46 Vertebral diseases of the peripheral nervous system.

Points for oral quiz:

1. Describe the classification of polyneuropathies.
2. What syndromes are isolated in osteochondrosis?
3. What are the sensory and motor disorders in vertebral lesions of the peripheral nervous system?
4. What clinical symptoms are typical for polyneuropathies?
5. What changes on ENMG are characteristic of polyneuropathies?
6. Tell us what diseases cause complications in the form of polyneuropathy syndrome.
7. What are the features of acute inflammatory demyelinating polyneuropathy "Guillain-Barré syndrome"?
8. What research methods can confirm the diagnosis of Guillain-Barré syndrome?
9. Tell us about the treatment of Guillain-Barré syndrome.

10. What are the symptoms of neuropathy of the radial, ulnar, median nerves?
11. Describe the symptoms of sciatic nerve damage, peroneal, tibial.
12. Tell us about the principles of treatment of mononeuropathies of the nerves of the upper and lower extremities.
13. Tell us about the symptoms of facial nerve damage (Bell's palsy). Tell us about the treatment for this disease.
14. The role of medical genetic counseling for suspected neural amyotrophy (Charcot-Marie polyneuropathy).

Test. Vertebral diseases of the peripheral nervous system.

1. Clinical signs of damage to the peroneal nerve are
a) paresis of the extensors of the foot
b) hypesthesia along the inner surface of the lower leg
c) loss of the Achilles reflex
d) all of the above
e) true a) and b)
2. The neuropathy of the tibial nerve is characterized by
a) loss of the Achilles reflex
b) violation of sensitivity on the front surface
shins
c) paresis of the flexors of the foot
d) all of the above
e) a) and c) are true
3. Signs of neuropathy of the median nerve are
a) weakness of the IV and V fingers of the hand
b) decreased sensitivity on the palmar surface IV, V
fingers
c) weakness of I, II fingers
d) true b) and c)
e) true a) and b)
4. Signs of damage to the radial nerve are
a) "clawed brush"
b) inability to extend the hand
c) impossibility of abduction of the first finger
d) all of the above
e) true b) and c)
4. Ulnar nerve neuropathy is characterized by
a) "hanging brush"
b) violation of sensitivity in the area of I, II fingers
brushes
c) impossibility of bringing IV, V fingers
d) a) and c) are true
e) all of the above
5. The neuropathy of the femoral nerve is characterized by
a) Lasegue's symptom
b) weakness of the quadriceps femoris
c) lack of Achilles reflex
d) all of the above
e) true b) and c)
6. Clinical signs of external cutaneous neuropathy hip nerve are
a) decreased knee reflex
b) hypesthesia along the outer front surface of the thigh
c) hypesthesia along the outer posterior surface of the thigh
d) a) and b) are true
e) a) and c) are true
7. Sciatic nerve neuropathy is characterized by

a) Wasserman symptom
b) loss of the Achilles reflex
c) loss of the knee reflex
d) all of the above
e) true a) and b)

8. Along with neural Charcot-Marie amyotrophy, there is
a) distal amyotrophy of the limbs
b) proximal amyotrophy of the extremities
c) amyotrophy of the trunk
d) pseudohypertrophy of the calf muscles

9. Guillain-Barré polyneuropathy is characterized by
a) damage to the cranial nerves
b) severe pelvic disorders
c) persistent bilateral pyramidal symptoms
d) all of the above
e) true b) and c)

10. For Guillain-Barré polyneuropathy the appearance of protein-cell dissociation in liquor is characteristic
a) from the 1st day of illness
b) from the 3rd day of illness
c) from the 2nd week of the disease
d) from the 3rd week of the disease

Answers 1d 2d 3d 4c 5b 6b 7b 8a 9a 10c

Case-studies. Vertebrogenic and inflammatory diseases of the peripheral nervous system

Case-study 1

A 33-year-old worker developed a sharp, shooting pain in his lower back while lifting a heavy steel beam, radiating to the back of the thigh. Neurological examination revealed scoliosis of the lumbar spine to the right, weakness during extension of the left toes, decreased Achilles reflex on the left, hypalgesia on the outer surface of the left leg and foot. The pain was reproduced when turning the body to the right and bending forward, when raising the straightened leg to 60 degrees, when coughing and sneezing, when the V lumbar vertebra was percussed and the jugular veins were compressed on both sides.

Questions. 1. Make a topical and clinical diagnosis. 2.With what diseases should a differential diagnosis be made? 3. What research methods should be applied for this?

Answer.

1 LV-S disc herniation 1 SI radicular compression syndrome on the left. 2. Tumor of the cauda equina roots, tumor in the small pelvis, spondylolisthesis, spinal tuberculosis. 3.Myelography, KT, MRT.

Essay topics for 1.46 Vertebrogenic and inflammatory diseases of the peripheral nervous system

1. The history of the development of scientific ideas about Guillain-Barré syndrome. The role of scientists Landry and Strohl
2. Intravenous immunotherapy and plasmapheresis in the treatment of Guillain-Barré syndrome.
3. Polyneuropathies in endocrine diseases and diseases of internal organs.
4. EMG research in the diagnosis of polyneuropathies.
5. Polyneuropathy of critical conditions.
6. Compression-ischemic mononeuropathies of the upper and lower extremities.
7. Carpal tunnel syndrome.
8. Classification of Guillain Barre syndrome, diagnosis criteria, criteria excluding diagnosis.

Topic 1.46 Vertebrogenic diseases of the peripheral nervous system.

Points for oral quiz:

1.Degenerative changes in the spinal motion segment in osteochondrosis.
2. Pathogenesis of reflex and compression syndromes in osteochondrosis.
3. Describe the clinical symptoms of cervicalgia, brachialgia, cervicobrachialgia and cervicago.
4. Describe the clinical symptoms of radiculopathy C5, C6, C7, C8koreshkov.

5 . Describe the clinical symptoms of cervical myelopathy.
6. Compare the clinical symptoms of lumbago, lumbodynia, sciatica, lumbar ischialgia.
7. Describe the clinical symptoms of radiculopathy L 5, L 4, S 1 roots.
8. Describe the acute compression of the cauda equina roots.
9. What are the indications for emergency neurosurgical surgery for osteochondrosis compression syndromes?
10. Analyze the differences in the principles of treatment of acute and chronic vertebral pain in osteochondrosis.
11. Analyze the value of X-ray research methods for osteochondrosis of the spine. List the changes on the radiographs of the spine in osteochondrosis.
12. Tell us about the indications for CT and MRI - studies for pain syndromes of osteochondrosis.

Test . Vertebral diseases of the peripheral nervous system.

1. Compression of the C6 spine is characterized by
a) painful hypesthesia of the 1st finger of the hand
b) decreased reflex from the biceps brachii
c) decreased carporadial reflex
d) painful hypesthesia of the V finger of the hand
e) true a) and b)
f) true c) and d)
2. Compression of the C7 spine is characterized by
a) pain and paresthesia in the area of the third finger of the hand, loss of reflex from the triceps muscle of the shoulder
b) pain and paresthesia in the area of the first finger of the hand, loss of reflex from the biceps brachii
c) pain in the area of the V finger of the hand, prolapse carporadial reflex
d) none of the above
3. Discogenic epicone syndrome is characterized by
a) lack of the Achilles reflex
b) lack of anal and cremasteric reflexes
c) lower flaccid paraparesis
d) urinary retention
e) all of the above
f) true a), c) and d)
4. Vascular cone syndrome is characterized by
a) urinary incontinence
b) anesthesia in the anogenital area
c) lower flaccid paraparesis
d) lack of Achilles reflexes
e) all of the above
f) true a) and b)
5. For vertebral cervical myelopathy the following are characteristic
a) severe disorders of pelvic functions
b) mixed upper paraparesis in combination with spastic inferior paresis
c) gross atrophy of the muscles of the lower extremities
d) dysarthria, dysphagia, dysphonia
e) all of the above
6. Indication for manual therapy with neurological manifestations of osteochondrosis of the spine is the presence
a) stage III spondylosis and spondylolisthesis
b) pain syndrome and vegetative-visceral disorders
c) osteoporosis of the vertebrae
d) all of the above
e) none of the above
7. L4 root compression syndrome is characterized by

a) pain in the area of the knee joint, internal
thigh
b) weakness of the quadriceps femoris
c) lack of knee reflex
d) a) and b) are true
e) true b) and c)

8. L5 root compression syndrome manifests itself by
a) pain along the inner surface of the lower leg and thigh
b) weakness of the extensors of the first toe
c) decreased Achilles reflex
d) true b) and c)
e) all of the above

9. S1 root compression syndrome manifests itself by
a) a decrease in the strength of the triceps muscle of the lower leg
and flexors of the toes
b) a decrease in the knee reflex
c) loss of the Achilles reflex
d) all of the above
e) true b) and c)

10. Indication for surgical treatment neurological manifestations of cervical osteochondrosis is
a) pronounced clinic of compression of the brachial plexus
with scalene syndrome
b) compression by osteophytes of the vertebral artery
c) severe spondylosis
all over the cervical spine
d) a) and b) are true
e) true b) and c)

Case-studies. Vertebral diseases of the peripheral nervous system.

Case-study 1

After lifting weights during the renovation of his apartment, a 38-year-old man developed severe pain in the lumbar spine with irradiation along the posterolateral surface of the left leg, decreased sensitivity along the posterolateral surface of the thigh and lower leg. Due to the persistence of pain for a week, I had to see a doctor. On examination: the Achilles reflex on the left is depressed, a sharp pain in the lumbar spine when coughing, a positive symptom of La Sega on the left from an angle of 30 °, hypesthesia along the posterolateral surface of the thigh and lower leg.

Questions. 1. Topical diagnosis?
2. Inspection?
3. Clinical diagnosis?
4. Consultation, what kind of specialists may be required?
5. Treatment?
6. Offer a rehabilitation plan.
7. What non-drug treatments can be used?
8. Suggest a regimen of physical activity and principles of exercise therapy.

Answers.
1. Spine S 1 on the left
2. CT of the lumbosacral spine.
3. Degeneration of the intervertebral disc L 5 - S 1. Compression of the root S 1 on the left.
4.Neurosurgeon
5. Non-steroidal anti-inflammatory drugs, local interventional therapy, muscle relaxants, movement rehabilitation. Opioid use is possible.
6. Exercise therapy in bed, then the expansion of the motor regime. If pain persists for more than 2 months, treatment with drugs for neuropathic pain.
7. Physiotherapy exercises with an instructor, massage, mechanotherapy.

Essay topics for 1.46 Vertebrogenic diseases of the peripheral nervous system.

1. Etiology and pathogenesis of osteochondrosis.
2. Treatment of chronic pain syndrome in neurological complications of osteochondrosis: drug and non-drug methods.
3. Types of drug blockades and their use for discogenic intense pain syndromes.
4. Differential diagnosis of radicular syndromes.
5. Indications for surgical treatment for neurological complications of osteochondrosis.
6. The history of the development of neurosurgical care for compression neurological syndromes.
7. Prevention of exacerbations of pain syndromes in osteochondrosis.

Topic 1.47 Traumatic brain and spinal cord injury

Points for oral quiz:

1.Classification of TBI.
2.Classification of PSMT.
3. Pathogenesis, clinical symptoms and diagnosis of concussion.
4. Brain contusion, the difference between a mild contusion of the brain and a concussion. The clinical picture of a brain injury, diagnostic methods.
5. Compression of the brain.
6. The clinical picture of acute subdural hematoma.
7. The clinical picture of an epidural hematoma.
8. The clinical picture of chronic subdural hematoma.
9. Describe the clinical picture of the temporo-tentorial insertion. Explain the symptoms from a topical point of view.
10. Name the long-term consequences of TBI and SCI.
11. Tell us about the principles of rehabilitation of patients with TBI and SCI.

Test. Traumatic brain and spinal cord injury.

1. According to the modern classification of craniocerebral injuries do not emit
   a) brain contusion of mild severity
   b) compression of the brain due to epidural hematomas
   c) severe concussion
   d) compression of the brain against the background of its contusion
2. Diffuse axonal brain injury with traumatic brain injury is characterized by
   a) prolonged coma from the moment of injury
   b) the development of coma after the "light" period
   c) lack of loss of consciousness
   d) short-term loss of consciousness
3. Open traumatic brain injury includes trauma
   a) with a contused wound of soft tissues without damage aponeurosis
   b) with damage to the aponeurosis
   c) with a fracture of the bones of the cranial vault
   d) with a fracture of the bones of the base of the skull without liquorrhea
4. Concussion combined with injury of soft tissue refers to traumatic brain injury
   a) light open
   b) light closed
   c) open medium severity
   d) closed medium severity
5. Intracranial hypertension is characterized by headache
   a) bursting character
   b) a bursting character in the back of the head
   c) a pulsating character throughout the head

d) squeezing character in the fronto-parietal region
6. Development of hemiparesis in traumatic brain injury testifies
a) about intracranial hematoma
b) about a brain injury
c) about a fracture of the bones of the skull
d) about all of the above
e) true a) and b)
7. Severity of traumatic brain injury determined by depth and duration
a) amnesia
b) disorders of vital functions
c) hemiparesis
d) all of the above
e) true a) and b)
8. Complication of traumatic brain injury by hemorrhage in brain ventricles is characterized by the appearance in the clinical picture
a) floating gaze
b) hormone syndrome
c) hypercatabolic type of vegetative functions
d) impaired consciousness
e) bilateral pyramidal foot marks
9. Positive diagnostic signs of subarachnoid hemorrhage can be obtained
a) with lumbar puncture
b) with angiography
c) with computed tomography
d) with all the listed methods
e) a) and c) are true
10. Acute subdural hematoma on a computed tomogram
characterized by a zone
a) homogeneous increase in density
b) homogeneous decrease in density
c) non-uniform increase in density
d) cerebral edema
Answers 1c 2a 3d 4b 5a 6d 7b 8b 9d 10a

Case-studies. Craniocerebral and spinal cord injury.

Case-study 1
A 56-year-old woman slipped on the ice on the way to the store, fell on her back, hit her head on the asphalt. She lost consciousness for a few seconds, does not remember well how she left the gate. There was a single vomiting. She was taken by ambulance to the nearest hospital. Complains of headache, dizziness. On examination: clear consciousness, subcutaneous hematoma in the posterior parietal region. Focal and meningeal symptoms are not determined. No bone pathology was revealed on craniograms.
Questions. 1. Make a presumptive clinical diagnosis. 2. Inspection of what specialists are needed in this case? 3. What additional survey methods need to be carried out? 4. Suggest treatment tactics
Answers. 1. Concussion of the brain.
2. Neurosurgeon. Traumatologist and neurologist .
3. Computed tomography of the brain to exclude mild contusions - while maintaining complaints of headache, nausea, vomiting.
4. Observation 24 hours to exclude cerebral compression. Strict bed rest for several days (5-7), painkillers, antiemetics, diuretics, vegetotropic.

Essay topics for 1.47 Craniocerebral and spinal cord injury:

1.Diffuse axonal brain damage.
2. Post-traumatic encephalopathy.
3. Acute traumatic spinal cord compression - clinical picture, diagnosis and treatment.

4. Contusion of the spinal cord - clinical presentation, diagnosis, treatment.
5. Long-term consequences of severe traumatic brain injury.
6. Rehabilitation after severe spinal cord injury.
7. Traumatic compression of the brain: clinical picture, diagnosis and treatment.
8.Brain contusion of severe degree - clinical picture, diagnosis, treatment.

Topic 1.48 Tumors of the brain and spinal cord.

Points for oral quiz:
1. Describe the classification of tumors of the nervous system.
2. Describe the clinical picture of a brain tumor: cerebral, focal symptoms, symptoms "in the neighborhood" and symptoms "at a distance".
3. Describe the methods of compensation for increased intracranial pressure due to an increase in tumor volume.
4. Describe the mechanism of cerebral edema in tumors.
5. Describe the symptoms of the cerebellar pontine angle tumor.
6. Describe the symptoms of a cerebellar tumor.
7. Describe the symptoms of a tumor in the anterior central gyrus.
8. Describe the symptoms of anterior fossa tumor.
9. Describe the symptoms of a spinal cord tumor with extra- and intramedullary growth.
10. Tell us what diagnostic methods can be used to confirm a suspicion of a tumor of the central nervous system.
11. Tell us what drugs can be used to reduce perifocal edema in a brain tumor.
12. Tell us about the focal symptoms of a brain stem tumor.
13. Indications for emergency neurosurgical care for brain tumors.

Test. Tumors of the brain and spinal cord.

1. Extramedullary tumors of the spinal cord are most often located on its
   a) anterolateral surface
   b) the back surface
   c) posterior and posterolateral surfaces
   d) front surface
2. The most significant increase in protein in the cerebrospinal fluid is observed
   a) with intramedullary tumors of the cervical thickening
   b) with extramedullary subdural tumors of the breast
level
   c) with intramedullary tumors at the lumbar level
thickening
   d) with tumors of the cauda equina
   e) with extramedullary subdural tumors
   at the level of the lumbar thickening
3. The most common epileptic seizures occur
   a) with meningiomas
   b) with astrocytomas
   c) with multiforme glioblastomas
   d) nothing of the above
4. Tumor of the anterior sections of the lateral ventricles is most often
   a) meningioma
   b) choroid papilloma
   c) ependymoma
   d) astrocytoma
5. The most common neuromas of the nerve are
   a) visual
   b) trigeminal
   c) auditory
   d) sublingual

e) additional

6. Generalized epileptiform seizures are more often when the tumor is localized in the following lobe of the brain
   a) frontal
   b) temporal
   c) parietal
   d) occipital
   e) equally often in any of the listed
7. Intramedullary spinal tumor is mostly characterized by the presence of
   a) segmental dissociated disorder sensitivity
   b) radicular position pain
   c) early blockade of the subarachnoid space
   d) X-ray symptom Elsberg - Dyck
8. Tumors of the spinal cord are most often localized
   a) intramedullary
   b) epidurally
   c) intramedullary, subdural
   d) equally often for all the listed localizations
9. Neurinoma of the VIII nerve differs from other tumors of the posterior fossa
   a) early development of hypertensive-hydrocephalic syndrome
   b) early loss of vision
   c) blanching of the optic nerve discs
   d) pronounced protein-cell dissociation
   e) increased symptoms with a change in head position
10. With a tumor of the temporal lobe, determine the side of the lesion
   a) large seizures
   b) absences
   c) visual hallucinations
   d) upper quadrant hemianopsia

Case-studies. Tumors of the brain and spinal cord :

Case-study 1

The wife of a 26-year-old man told a general practitioner that for three months he had been complaining of a nighttime headache, bursting. Inappropriate behavior, unmotivated actions, foolishness, followed by bouts of aggression appeared. Recently, she began to notice staggering while standing and sitting. Examination revealed revival of deep reflexes on the left. Examination by an ophthalmologist revealed signs of "stagnant" discs on the fundus, mostly on the right. Tasks: 1. Suggest the most likely diagnosis. 2. Topical diagnosis? 3.Consultations of which specialists are advisable to clarify the diagnosis? 4. What diagnostic methods can be recommended to clarify the diagnosis? 5. What possible methods of treatment can you inform the patient's relatives about?

Essay topics for 1.48 Tumors of the brain and spinal cord:

1.Mechanisms of cerebral edema in tumors.
2.Tumors of the Turkish saddle area - clinic, diagnosis, treatment.
3. Differential diagnosis of brain tumors.
4. Tumors of the spinal cord, differential diagnosis.
5. Chemotherapy in the treatment of brain tumors.
6. Symptomatic therapy for spinal cord tumors.
7. Neurinoma of the vestibulocochlear nerve - clinical picture, diagnostic methods.
8. Tumors on the base of the brain - focal symptoms, diagnosis.
9.Carcinomatosis of the meninges - clinical picture, diagnosis.

Test

The test is carried out in order to control the assimilation of the knowledge of the lecture course by students, to assess the knowledge and skills acquired in the course of practical training, as well as to test the ability to solve various kinds of problems that develop professional abilities in accordance with the requirements of the qualification characteristics of a specialist. The test work is carried out according to the schedule during the hours of training sessions in the amount provided by the work program for the discipline and the teaching load of the teacher. The time to prepare for the test is included in the number of hours of independent work of students and should not exceed 4 hours. Control work is assessed by a differentiated assessment. In case of an unsatisfactory mark received by a student, a new deadline for writing the test is assigned outside the classroom.

(Surgut State University Quality Management System QMS SURGU STO-2.12.5-15 Organization of current monitoring of progress and intermediate attestation of students Edition No. 2 p. 7 of 21)

Writing an educational (clinical) case history (7th, 8th terms)

The student independently chooses the nosological form, develops and protects the case history according to the proposed scheme:

The main stages of writing an educational history:

Title page (separate page)

1. **Passport part.**
2. **Complaints: basic and found during a survey of organ systems.**
3. **Anamnesis of the underlying and concomitant diseases.**
4. **Anamnesis of life.**
5. **Objective research data of the patient.**
6. **Neurological status data.**
7. **Justification of the preliminary diagnosis and its formulation.**
8. **Survey plan.**
9. **Data from laboratory and instrumental studies, the conclusions of consultants.**
10. **Final clinical diagnosis (justification and formulation).**
11. **Differential diagnosis.**
12. **Patient treatment and its rationale.**
13. **Forecast.**
14. **Prevention (primary and secondary).**
15. **Epicrisis.**
16. **Supervision diary.**
17. **List of used literature.**

Note:

In the fall semester, students write an educational case history, the purpose of which is to formulate a topical diagnosis (sections 10-15 are excluded), in the spring semester - an educational clinical case history, including all sections.

I. Stage: midterm assessment (8th term) - exam .

Exam points for oral quiz:

1. Focal symptoms with damage to the parietal lobe.
2. Neurological syndromes in HIV infection.
3. Osteochondrosis of the cervical spine. Compression syndromes, clinical picture, diagnostics, treatment.
4. Alternating syndromes in stem lesions at different levels.
5. BASS. Etiology, pathogenesis, clinical picture, diagnostics. Differential diagnosis with vertebral cervical myelopathy. Symptomatic therapy.
6. Facial nerve neuropathy. Pathogenesis, clinical picture, diagnosis, treatment.
7. Topical anatomy of the III cranial nerves. Innervation of the gaze. Symptoms of defeat.
8. Myelitis. Pathogenesis, classification, clinical picture, diagnosis, differential diagnosis, treatment.

9. Acute traumatic and non-traumatic compression of the spinal cord and cauda equina roots. Pathogenesis, clinical picture, diagnosis, treatment.
10. Bulbar and pseudobulbar paralysis. Clinic, topical diagnosis, differential diagnosis.
11. Subarachnoid hemorrhage (non-traumatic). Pathogenesis, clinical picture, diagnosis, treatment.
12. Guillain-Barré Syndrome. Clinical criteria. Diagnostics. Treatment.
13. Bulbar and pseudobulbar paralysis. Clinic, topical diagnosis, differential diagnosis.
14. Subarachnoid hemorrhage (non-traumatic). Pathogenesis, clinical picture, diagnosis, treatment.
15. Guillain-Barré Syndrome. Clinical criteria. Diagnostics. Treatment.
16. Central and peripheral paralysis of the facial muscles and tongue, differential diagnosis.
17. Parkinsonism. Mediator exchange, clinic, diagnostics, treatment. Parkinson's syndrome.
18. Status epilepticus. Classification. Treatment. Pupillary reflexes. Research methodology. Reflex arc structure.

19. Myasthenia gravis. Pathogenesis, classification, clinical picture, diagnosis, treatment. Myasthenic crisis. Cholinergic crisis.
20. Electromyography. Principles of the method. Indications for appointment.
21. Changes in visual fields at different levels of lesions of the visual analyzer.
22. Hypothalamic syndrome. Clinic, diagnostics.
23. Traumatic intracranial hematomas. Formation mechanisms. Clinic, diagnostics, treatment.
24. Differential diagnosis of neurogenic and somatogenic com.
25. Syndrome of complete transverse spinal cord injury. Brown-Séquard syndrome.
    a. Transient disorders of cerebral circulation. Etiology, pathogenesis, classification, clinical picture, diagnosis, treatment. Prevention.
    b. The motor system. Central and peripheral paralysis.
    c. Cerebral edema. Pathogenesis of edema in brain tumors. Pathogenesis, clinical picture, diagnosis, treatment.
    d. CT scan. Indications. Diagnostic information content.
26. Sensory system. Superficial and deep sensitivity. Sensitive ataxia.
27. Ulnar nerve neuropathy. Clinic, diagnostics, treatment principles.
28. Lumbar puncture, indications and contraindications. Diagnostic informativeness of changes in the color and pressure of the cerebrospinal fluid. Tests for patency of the subarachnoid space of the spinal cord.
29. Extrapyramidal system. Kernels. Functions. Parkinson's syndrome. Hyperkinesis.
30. Epilepsy. Pathogenesis, stages of the epileptic process. Classification of epilepsy, diagnosis criteria, treatment principles.
31. Ophthalmoscopy. Changes in the optic disc in neurological diseases.
32. Higher cortical functions: localization in the cortex, types of disorders, research methods.
33. Vegetative dysfunction, vegetative crises: clinic, emergency care.
34. The use of glucocorticoid hormones in the clinic of nervous diseases: indications, principles of prescription and withdrawal.
35. The autonomic nervous system. The structure is at the suprasegmental and segmental levels. Functions. Research methods, symptoms of impairment.
36. Epileptic seizures. Classification, clinical characteristics. Differential diagnosis with non-epileptic paroxicosis.
37. Cerebral angiography. Principles, methods, diagnostic informational content.
38. I pair of cranial nerves. Topical anatomy. Functions. Research methods. Symptoms of defeat.
39. Median nerve neuropathy. Clinic, diagnostics, treatment principles.
40. Electromyography. Principles of methods, diagnostic informational content.
41. II pair of cranial nerves. Topical anatomy. Functions. Research methods. Symptoms of defeat.
42. Spinal cord tumors. Classification, clinic, diagnosis, treatment.
43. Myelography. Principles of the method, diagnostic informational content.
44. I pair of cranial nerves. Topical anatomy. Functions. Research methods Symptoms of damage.
45. Lyme disease. Etiology, pathogenesis, clinical picture, diagnosis, treatment.
46. X-ray anatomy of the spine. Changes in spondylograms with osteochondrosis of the spine and fractures.
47. IV pair of cranial nerves. Topical anatomy. Functions. Research methods Symptoms of damage.

48. Tumors of the cerebellopontine angle. Clinic. Diagnostics. Differential diagnosis.
49. Indications for surgical treatment for compression discogenic syndromes.
50. V pair of cranial nerves. Topical anatomy. Functions. Research methods Symptoms of damage.
51. Damage to the nervous system in chronic alcohol dependence.
52. X-ray anatomy of the skull. Changes in craniograms with intracranial hypertension and cranial trauma.
53. VI pair of cranial nerves. Topical anatomy. Functions. Research methods Symptoms of damage.
54. Tumors of the brain in the area of the sella turcica. Clinic. Diagnostics. Treatment.
55. Myelography. Principles of the method, diagnostic informational content
56. VII pair of cranial nerves. Topical anatomy. Functions. Research methods. Symptoms of defeat.
57. Neuroborreliosis. Etiology, pathogenesis, clinical picture, diagnosis, treatment.
58. Antiepileptic drugs. Mechanism of action. Application principles.
59. VIII pair of cranial nerves. Topical anatomy. Functions. Research methods. Symptoms of defeat.
60. Cognitive Disorders. Classification. Diagnostics. Treatment.
61. Electroencephalography. Principles of the method, diagnostic informational content.
62. IX pair of cranial nerves. Topical anatomy. Functions. Research methods. Symptoms of defeat.
63. Meningitis, encyphalitis, classification. Differential diagnosis of purulent and serous meningitis. Diagnostic criteria for tuberculous meningitis.
64. Computed tomography, the essence of the method informativeness in neurological diseases
65. X pair of cranial nerves. Topical anatomy. Functions. Research methods. Symptoms of defeat.
66. Concussion, differential diagnosis with mild brain contusion. Treatment.
67. MRT . Principles of the method. Diagnostic information content.
68. XI pair of cranial nerves. Topical anatomy. Functions. Research methods. Symptoms of defeat.
69. Osteochondrosis of the lumbar spine. Reflex and compression neurological syndromes.
70. XII pair of cranial nerves. Topical anatomy. Functions. Research methods. Symptoms of defeat.
71. Brain contusion of moderate severity. Clinic. Diagnostics. Treatment principles.
72. Multiple sclerosis. Pathogenesis, classification, clinical picture, diagnostics, differential diagnosis with WECM, treatment.
73. Focal symptoms with lesions of the frontal lobe.
74. Neuralgia and neuropathy of the trigeminal nerve. Pathogenesis, clinical picture, diagnosis, treatment. Differential diagnosis with facial sympathies.
75. Tick-borne encephalitis. Pathogenesis, classification, clinical picture, diagnosis, treatment.
76. Focal symptoms with damage to the temporal lobe.
77. Acute subdural hematoma. Clinic. Diagnostics. Treatment.
78. Chronic cerebral ischemia. Binswanger encephalopathy. Etiology, pathogenesis, classification, clinical picture, treatment.
79. Focal symptoms with lesions of the occipital lobe.
80. Migraine. Classification. Etiology, pathogenesis, clinical picture, treatment.
81. Brain tumors. Classification, clinic. Diagnostic methods. Mechanisms for compensation of intracranial hypertension in tumors
82. Topical diagnosis for anisocaria.
83. Brain contusions. Classification, clinical picture, diagnosis, treatment in the acute period.
84. Ischemic strokes. Classification. Pathogenesis, clinical picture, diagnosis, treatment. Rehabilitation.

Methodological materials defining the procedures for assessing learning outcomes that characterize the stages of formation of competencies, a description of the assessment scales

Stage I: Formative assessment

The current certification is a regular check of the mastery of the educational material throughout the semester. It can be carried out orally or in writing in the form of surveys, abstracts, checking homework, writing a medical history and independent work of students, carrying out various works, colloquia, testing. In the course of monitoring progress, the teacher sets the real level of mastering by the students of

the curriculum at a given point in time in the form of identifying areas of ignorance, inability, misunderstanding.
The forms of current control are determined by the curriculum and described in the work program. All tasks of the current control are assessed in accordance with the criteria and the grading scale.

1. Recommendations for the assessment of oral quiz:

Assessment requirements: when giving an assessment, the teacher takes into account: • completeness of knowledge of the educational material on the topic of the lesson, • the degree of student activity in the lesson; • consistency of presentation of the material; • argumentation of the answer, the level of independent thinking; • the ability to connect theoretical positions with practice, including with future professional activities.
Evaluation criteria: **Based on the results of the interview, students receive quantitative assessment ("excellent", "good", "satisfactory" and "unsatisfactory").**
A student who has discovered a comprehensive, systematic and deep knowledge of the educational material of the lesson, who has mastered the basic literature and is familiar with the additional literature recommended for preparation for the lesson **,** deserves an **"excellent"** grade. As a rule, the mark "excellent" is given to students who have mastered the interconnection of the basic concepts of the discipline in their meaning for the acquired profession, who have shown creative abilities in understanding, presenting and using educational and program material.
The grade **"good"** deserves a student who has discovered a complete knowledge of the educational material, has mastered the basic literature recommended for the lesson. As a rule, the mark "good" is given to students who have shown the systematic nature of knowledge in the discipline and are able to independently replenish and update them in the course of further educational work and professional activity.
The grade **"satisfactory** " deserves a student who has discovered knowledge of the educational material in the amount necessary for further mastering the discipline, who is familiar with the main literature recommended for the lesson. As a rule, the mark "satisfactory" is given to students who have made mistakes, but have the necessary knowledge to eliminate them under the guidance of a teacher.
The mark **"unsatisfactory" is** given to a student who has discovered significant gaps in the knowledge of the basic educational material, who made fundamental mistakes in answering questions.

2. Recommendations for grading essay topics

Writing an abstract involves a deep study of the indicated problem.
An abstract (from Lat. Refero - I report, I report) is a special essay, which defines the goals, objectives and conclusions setting out the main provisions of the topic or problem.
The topics of the abstracts are presented in the Assessment Tools Funds and in the teaching aids for the independent work of the resident of the corresponding work program.
Abstracts are reported in the class according to the chosen topic and the calendar-thematic plan, they are handed over to the teacher strictly within the specified period.
Consolidation of the selected information should be embedded in the text in accordance with a certain logic. The abstract consists of three parts: introduction, main part, conclusion;
a) in the introduction, it will be logical to justify the relevance of the topic (why this topic was chosen, how it is related to modernity and science);
purpose (must correspond to the topic of the abstract);
tasks (ways to achieve a given goal) are displayed in the title of the paragraphs of the work;
b) in the main part, a description and analysis of the topic of the abstract as a whole is given, and then a concise presentation of the selected information in accordance with the tasks set. At the end of the chapter, a conclusion (sub-conclusion) should be drawn, which begins with the words: "So ...", "So ...", "So ...", "At the end of the chapter, we note ...", "All that has been said allows us to conclude ...", "Summing up …" etc.
c) the conclusion contains conclusions by chapters (1-1.5 sheets). It is appropriate to express your point of view on the problem under consideration.
The abstract can be presented in the form of a presentation, while it is necessary to fulfill the basic requirements for the abstract, including the correctness of the list of references!
Disclosure of the topic of the abstract assumes the presence of several specialized sources (at least 8-10 publications, monographs, reference books, tutorials) as a source of information. Preference is given to publications in specialized journals and monographs by recognized specialists in the relevant field of knowledge. The use of foreign literature is obligatory.

Assessment criteria for the essay

Assessment	Criteria for evaluation
"excellent"	All requirements for writing and defending an abstract have been met: - the problem is identified and its relevance is justified; - a brief analysis of various points of view on the problem under consideration is made and their own position is logically stated; - conclusions are formulated; - the topic is fully disclosed; - the scope of work has been met; - the requirements for the external design of the abstract are met; - the correct answers to additional questions are given.
"good"	The basic requirements for the abstract and its defense are met, but there are some shortcomings: - inaccuracies in the presentation of the material; - there is no logical consistency in judgments; - the volume of the abstract is not kept; - there are omissions in the design; - incomplete answers were given to additional questions during the defense.
"satisfactory"	There are significant deviations from the requirements for summarization: - the topic is covered only partially; - factual errors were made in the content of the abstract; - there are errors when answering additional questions; - there is no output during protection.
"unsatisfactory"	The abstract is absolutely not prepared. The topic of the abstract has not been disclosed, there is a significant lack of understanding of the problem.

3. Recommendations for case-study assessment:

"Excellent" - the student freely, with deep knowledge of the material, correctly and fully solved the situational problem. There are no errors in logical reasoning and decision, the problem is solved in a rational way. Correct answer received. The solution is clearly described. ;

“Good” - if the student is convincing enough, with minor errors in theoretical preparation and sufficiently mastered skills, essentially answered the questions correctly or made minor errors in the answer, while there are no significant errors in logical reasoning and decision;

“Satisfactory” - if the student is not confident enough, with significant errors in theoretical training and poorly mastered skills, answered the questions of the situational task; with difficulties, but still can, if necessary, solve a similar situational problem in practice; “Unsatisfactory” - if a student has a very poor understanding of the subject and made significant mistakes in answering most of the questions of the situational task, incorrectly answered additional questions asked to him, cannot cope with solving such a task in practice.

4. Recommendations for test assessment:

Test Assessment Criteria

Grade (standard)	Assessment (test norms)
"Excellent"	80 - 100%
"Good"	66 - 80%

"Satisfactory"	46 - 65%
"Unsatisfactory"	Less than 46%

5. Recommendations for (clinical) case history assessment

When assessing, the teacher takes into account:

• knowledge of factual material on the program;
• compliance of the structure of the case history with the requirements set out in the methodological recommendations of the department;
• literacy, logic and style of writing a medical history;
• validity of choice and interpretation of additional survey data,
differential diagnosis and / or its justification, choice of treatment, prescription of practical recommendations;
• level of independent thinking;
• the ability to connect theory with practice.

Medical history is assessed according to the following criteria:

1. Subjective research of the patient (collection of complaints, anamnesis).
2. Objective examination of the patient.
3. Planning and interpretation of additional research methods.
4. Differential diagnosis, clinical diagnosis, its rationale.
5. Prescribing treatment.
6. Epicrisis.

Criteria for assessing the educational history of the disease:

The grade "excellent" deserves a student who has discovered a comprehensive, systematic and in-depth knowledge of educational and program material, the ability to competently and fully collect complaints, anamnesis, to conduct an exhaustive objective study of the patient, prescribe additional examination methods for this pathology, reasonably carry out differential diagnostics and substantiate diagnosis, prescribe treatment in accordance with modern concepts of medical science, productively use the basic and additional literature recommended by the program.

The grade "good" deserves a student who, during the course of the medical history, found complete knowledge of the educational and program material, the ability to competently collect complaints, anamnesis, conduct an objective study of the patient in the required volume, prescribe additional examination methods for this pathology, conduct differential diagnostics and substantiate the diagnosis, prescribe treatment appropriate to the identified disease, use the basic and additional literature recommended by the program. As a rule, the mark "good" is given to students who are able to fully identify in the patient and state in the history of the disease the signs of the revealed pathology, who have shown the systematic nature of knowledge in the discipline, but who made single errors in the use of medical terminology, single stylistic errors and deviations from the sequential presentation of the text , inaccuracies of subjective or objective research of the patient, insufficient ability to effectively use the data of objective research in the formulation and solution of treatment and diagnostic problems.

The grade "satisfactory" deserves a student who, during the course of the medical history, discovered knowledge of the educational and program material in the amount necessary for further study and future work in the profession, coping with the collection of complaints, anamnesis, able to examine the patient in the amount necessary to identify the typical signs of the studied pathology, familiar with the principles of prescribing additional examination and treatment, using the main literature recommended by the program. As a rule, the grade "satisfactory" is given to students who have made multiple errors in the examination of the patient, the use of scientific medical terminology, multiple stylistic errors and deviations from the sequential presentation of the text, who do not know enough the methods of objective research of the patient and the interpretation of the results of additional research methods, but possess the necessary knowledge and abilities to eliminate them under the guidance of a teacher.

The grade "unsatisfactory " is given to a student who, when writing a medical history, found significant gaps in knowledge of the basic educational and program material, made fundamental mistakes in examining a patient, unable to make a differential diagnosis, prescribe diagnostic and therapeutic measures for this pathology.

Stage II: midterm assessment - exam

Methodological recommendations for preparing for the exam

The exam is conducted orally and consists of:
- oral questioning by the examination tickets am (ticket contains three exam question) .
For admission and successful passing of the intermediate certification (exam), the student must fulfill the following requirements:
1) regularly attend classroom discipline classes; skipping classes is not allowed without a good reason;
2) in case of missing a lesson, the student must complete the missed lesson during the working hours;
3) the student must submit written works for verification on time and make sure that they are credited by the next lesson;
4) the student must hand over to the teacher all the colloquiums provided for by the calendar-thematic plan.
5) if the student does not have a positive assessment on the colloquium, then he must approach the teacher during the hours of consultations and working hours and re-submit this material
6) In the credit week, the student is obliged to hand over the test work to the teacher in the form provided by the working curriculum - writing and protecting the educational history of the disease.

9.2. The admission of a student to the exams is carried out by the educational part of the institute at the end of the credit week, on the basis of the transcripts handed over by the teachers and, in some cases, the memos of the teachers.

9.3. Students who have fully completed the requirements of the curriculum of the current semester, as well as received all credits provided for by the curriculum and have no academic debts for the previous semester, are allowed to take all exams.

9.4. The following students are not allowed to take exams:

who have not received a credit in any discipline, for an exam in this discipline;

Those who systematically skip classes and have arrears in current control are not allowed to take the exam in this discipline (based on the results of the certification week and the teacher's memo to the educational department of the institute);

having 5 (five) or more arrears for the previous session;

having at least one annual debt for earlier sessions. (Surgut State University Quality Management System QMS SURGU STO-2.12.5-15 Organization of current monitoring of progress and intermediate attestation of students Edition No. 2)

Recommendations for the assessment of oral quiz:

A student who has discovered a comprehensive, systematic and deep knowledge of the materials of the studied discipline, the ability to freely perform tasks provided for by the program, who has mastered the basic and is familiar with the additional literature recommended by the program, deserves an "excellent" grade. As a rule, the mark "excellent" is given to a student who has shown creative ability in understanding, presenting and using the materials of the studied discipline, who flawlessly answered not only the questions of the ticket, but also additional questions within the framework of the main program of the exam discipline, who correctly completed the practical task;

The grade "good" deserves a student who has discovered complete knowledge of the material of the studied discipline, successfully completes the tasks provided for in the program, and has mastered the basic literature recommended in the program. As a rule, the mark "good" is given to a student who has shown a systematic nature of knowledge in the discipline, who answered all the questions of the ticket, who correctly completed the practical task, but made minor mistakes.

A student who demonstrates knowledge of the basic program material in the amount necessary for further study and future work in the profession, coping with the tasks provided for by the curriculum, and familiar with the main recommended literature deserves a "satisfactory" grade. As a rule, the mark "satisfactory" is given to students who made mistakes in the answer on the exam and when performing the exam tasks, but who have the necessary knowledge to eliminate them under the guidance of a teacher.

The mark "unsatisfactory" is given to the student who has found gaps in the knowledge of the basic program material, who made fundamental mistakes in performing the tasks provided for by the program.

(Surgut State University Quality Management System QMS SurGu SRT-2.12.5-15 Organization of ongoing monitoring of progress and interim atte e habitats students Issue №2).