

Federal State Autonomic Educational Institution of Higher Education
 «Peoples' Friendship University of Russia»»

Faculty of Humanities and Social Sciences

ABSTRACT EDUCATIONAL DISCIPLINE

Educational program

31.05.03 Dentistry

Name of the discipline	Bioethics
The scope of the discipline	2 credits (72 Hours.)
The course contents	
Title of the unit	Unit's content
Ethics is a philosophical science	Concept of morality and structure of moral thinking. Ethics is philosophy science. Ethics' types. Main categorical concepts of Morality. Applied ethics: its concept and structure.
Bioethics: its status, range of problems	Concept of bioethics, its place in philosophy and science. Main models of medical ethics throughout the History. Main principles of bioethics.
Modern biomedical ethics.	Main models of medical ethics throughout the History. Main principles of bioethics. Historical development of biomedical ethics. Medical ethics. General Issues. Hippocratic Oath and modern biomedical ethics. Rights and moral responsibility of medical personnel. Patients' rights. Ethics and epidemiology.
Abortion. Ethical aspects of reproductive technologies.	Moral problems of reproductive technologies. Genetic engineering. Medical ethics. General Issues. Hippocratic Oath and modern biomedical ethics. Rights and moral responsibility of medical personnel. Patients' rights.
Ethical issues of biotechnology (cell studies, gene therapy, gene engineering, cloning).	Rights and moral responsibility of medical personnel. Patients' rights. TU -14. Defining death. Dying, dementia, aging. Main principles of bioethics.
Death and Dying. End of Human Life.	Defining death. Dying, dementia, aging. Main principles of bioethics. Medical ethics. General Issues. Hippocratic Oath and modern biomedical ethics. Rights and moral responsibility of medical personnel. Patients' rights.
Organ transplantation	Main models of medical ethics throughout the History. Main principles of bioethics. Rights and moral responsibility of medical personnel. Patients' rights. Defining death. Dying, dementia, aging. Defining death. Dying, dementia, aging. Organ transplantation.

Moral problems of physical and mental integrity of patient	Main models of medical ethics throughout the History. Medical ethics. General Issues. Hippocratic Oath and modern biomedical ethics. Rights and moral responsibility of medical personnel. Patients' rights. Defining death. Dying, dementia, aging. Defining death. Dying, dementia, aging. Mental medicine and antipsychiatry.
Experiments involving Human being and animals: legislative and moral background	Research ethics. Animals' rights. Main principles of bioethics. Historical development of biomedical ethics. International documents protecting humans and animal involved in the research.

Developers:

Associate Professor of the Department of Ethics

O. V. Savvina

Head of the Department

Ethics

V. A. Tsvyk

Medical institute

Annotation of academic disciplines

31.05.03 Dentistry

The discipline	Dermatovenerology
Duration of the discipline	3 CU (108 h.)
Content of the discipline	
Topics	Content of the discipline
1. General dermatology	
Anatomy, physiology, histology of the skin.	The contents of study: Blood network of the skin. Cutaneous receptors. The innervation of the skin. Appendages of the Skin: hair, nails, glands. Functions of the skin. The structure of the skin and oral mucosa. The structure of the epidermis. Structure of the dermis. The cellular structure of the skin. The fibers of the skin. Main histopathological processes in the skin.
Elements of the rash.	The contents of study: Primary elements of the rash. Evolution of the elements. The structure of the elements. Classification of the elements. Polymorphic and monomorphic rash. Secondary elements of the rash. The mechanism of formation. Classification. Tackling and regression.
Examination of dermatologic patients.	Course contents: Value of questioning. Allergies, history of the disease. Examination of the skin and visible mucous membranes. Evaluation of subjective sensations. Carrying out diagnostic tests and samples, revealing the pathognomonic symptoms. Laboratory and instrumental methods of diagnosis.
General principles of diagnosis and treatment. Means of external therapy	Course contents: The most commonly used groups of drugs. Means of external therapy. Physiotherapy treatments. Phytotherapy.
2. Special dermatology	
Bacterial infections, parasitic skin diseases.	Etiopathogenesis. The clinical picture. The main symptoms and syndromes. Specificities in children. Differential diagnosis. Principles of diagnostics, treatment and prevention.
Parasitic skin diseases	Etiopathogenesis. The clinical picture. The main symptoms and syndromes. Specificities in children. Differential diagnosis. Principles of diagnostics, treatment and prevention.
Viral skin diseases (herpes infections, HPV-infections, molluscum contagiosum)	Etiopathogenesis. The clinical picture. The main symptoms and syndromes. Specificities in children. Differential diagnosis. Principles of diagnostics, treatment and prevention

Fungal infections	Etiopathogenesis. The clinical picture. The main symptoms and syndromes. Specificities in children. Differential diagnosis. Principles of diagnostics, treatment and prevention
Lichen planus.	Etiopathogenesis. The clinical picture. The main symptoms and syndromes. Differential diagnosis. Principles of diagnosis, treatment and prevention
Dermatitis, eczema, toxicoderma, Angioedema, urticaria.	Etiopathogenesis. The clinical picture. The main symptoms and syndromes. Peculiarities in children. Differential diagnosis. Diagnostic principles of treatment and prevention.
Bullous skin diseases.	Etiopathogenesis. The clinical picture. The main symptoms and syndromes. Peculiarities in children. Differential diagnosis. Diagnostic principles of treatment and prevention.
Erythema multiforme	Etiopathogenesis. The clinical picture. The main symptoms and syndromes. Peculiarities in children. Differential diagnosis. Diagnostic principles of treatment and prevention.
Lupus erythematosus	Etiopathogenesis. The clinical picture. The main symptoms and syndromes. Differential diagnosis. Diagnostic principles of treatment and prevention.
Cheilitises. Precancerous diseases of the lips. Rossolimo-Melkersson-Rosenthal syndrome.	Etiopathogenesis. The clinical picture. The main symptoms and syndromes. Differential diagnosis. Diagnostic principles of treatment and prevention.
3. Venerology	
Syphilis	The general classification. Aetiological agent. Epidemiology. Contributing factors. The incubation period. Pathogenesis. Classification of primary syphilis. The main clinical manifestations of primary syphilis. The concept of decapitated syphilis. complications. Differential diagnosis. Classification of secondary syphilis. A variety of cutaneous manifestations. Differential diagnosis. Classification of visceral syphilis. Neurosyphilis. Cutaneous manifestations. Tertiary syphilis. Classification of congenital syphilis. Classification of early congenital syphilis. Possible signs of fetal syphilis. Significant signs of fetal syphilis. Possible signs of congenital syphilis in infants. Significant signs of congenital syphilis in infants. Significant signs of late congenital syphilis. The complex is the standard serological tests. Treponemal and non-treponemal tests. Modern tests. Types of treatment for syphilis. Immunity in syphilis. Reinfection and superinfection
Gonorrhoea	Determining of the disease, aetiological agent, ways of infection, the incubation period. Classification. Clinical manifestations. Complications of gonorrhoea in men. Gonorrhoea in women. The course of gonorrhoea among girls. Ophthalmia. Prevention methods. Laboratory diagnosis of gonorrhoea. Methods for the treatment of

	gonorrhea. The criteria for cure gonorrhea. Provocations. Prevention of gonorrhea.
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Developers:

Head of the Department of dermatovenerology and
allergology with immunology course, professor

Olga V. Zhukova

Assistant of the Department of dermatovenerology and
allergology with immunology course

Alexey L. Savastenko

*Federal State Autonomic Educational Institution for Higher Education
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MEDICINE INSTITUTE

ANNOTATION OF THE EDUCATIONAL DISCIPLINE

**Educational program
31.05.03 «Dentistry»**

Name of Discipline	Emergency conditions in outpatient dental practice
Volume of Discipline	2 points of credit (72 class hours)
The Brief Content of the discipline	
Name of sections(topics) of the discipline	Summary of sections (topics) of the discipline:
I. Organization of work of the dentist in case of emergency at the outpatient clinic	1. Definition of emergency conditions, especially dental and outpatient centres, medical history, the first aid kit for emergency with somatic complications in the dental offices.
II. First aid for emergency conditions and diseases	1. Emergency care in hypertension.
	2. Emergency care in coronary heart disease, stroke, myocardial infarction.
	3. Emergency care in faint, epiperipatus, shock, collapse.
	4. Emergency treatment of bleeding in hemorrhagic shock in case of accidental injecting corrosive liquids.
	5. Differential diagnosis of head (face) pain: neuralgia of the facial nerve, trigeminal neuralgia.
	6. Emergency aid at acute allergic diseases: urticarial, angioedema, anaphylactic shock.
	7. Emergency aid in bronchial asthma, status asthmaticus.
	8. Coma. Emergencies in diabetes. Hyperglycemic coma. Hypoglycemic coma.
III. Basics of cardiopulmonary resuscitation	1. Emergency care for airway obstruction and hypoventilation. CPR when stop breathing and blood circulation.

Developers:

Associate Professor of department
of General medical practice

E.I. Rusanova

Associate Professor of department
of General medical practice

E.V.Mitina

Head of department

of General medical practice

N.V.Sturov

*Federal State Autonomous Educational Institution of Higher Education "Peoples'
Friendship University of Russia"*

Faculty of Humanities and Social Sciences

ABSTRACT OF THE ACADEMIC DISCIPLINE

**Educational program
31.05.03 Dentistry**

Name of the discipline	History
Discipline scope	2 ZE (72 h.)
Discipline summary	
The name of the sections (topics) of the discipline	Summary of sections (topics) of the discipline
I. Theory and methodology of Historical Science	1. History as science
II. Ancient Rus in Medieval age	2. Ancient Rus' 3. Feudal fragmentation and struggle for independence 4. Formation of the Russian united state
III. Russia on the brink of New Age and in the New Age	5. Russia in the XVI century. Ivan the Terrible 6. Time of Troubles and the beginning of Romanov's reign 7. Peter I and his age 8. The age of Palace coups 9. The Russian Empire in the second half of the XVIII century 10. Russia in the first quarter of the XIX century. Paul I. Alexander I. Patriotic war of 1812 11. Decembrists movement. Reign of Nicholas I 12. Alexander II and the era of reforms 13. Russian Empire during the reign of Alexander III 14. Features of the development of capitalism in Russia (the last quarter of the XIX century.)
IV. Russia and USSR in contemporary times	15. Russian Empire in the beginning of XX cent. Nicholas II. 16. Revolutions in Russia 17. Domestic policy of Soviet Russia and the USSR in the prewar period 18. The USSR during the great Patriotic war (1941-1945)

	<p>19. Postwar years. The beginning of Khrushchev's rule.</p> <p>20. Thaw as a special stage of development of the USSR.</p> <p>21. USSR under L. Brezhnev</p> <p>22. USSR in 1985-1991. Perestroika.</p> <p>23. Collapse USSR and the creation of CIS</p> <p>24. Formation of modern Russia. Vladimir Putin.</p> <p>25. The role of RUDN as a "soft power" in the international relations</p>
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Developers:

Associate Professor of the
Department of Russian History



A.V. Mironova

Head of the Department
of Russian History



M.N. Moseikina

Federal State Autonomic Educational Institution of Higher Education
«Peoples' Friendship University of Russia»

Medical Institute

ABSTRACT EDUCATIONAL DISCIPLINE¹

Educational program

31.05.03 Dentistry

Name of the discipline	Medical Genetics in Dentistry
The scope of the discipline	3 credits (108 acad. hour.)
Summary of the discipline	
Name of sections (subjects) of discipline	Summary of sections (subjects) of discipline:
Heredity and Pathology.	Medical genetics in the structure of the biomedical sciences about man. Heredity and health. Mutations as the etiological factor of hereditary diseases. Classification of hereditary diseases. Heredity and pathogenesis. Heredity and clinical picture. Heredity and disease outcomes
Semiotics of hereditary pathology and principles of clinical diagnostics	General and private semiotics of hereditary pathology. Morphogenetic variants of development and their importance in the diagnosis of hereditary pathology. Anthropometry. Congenital malformations. Family approach in the diagnosis of hereditary pathology. Clinical and genealogical method for the diagnosis of hereditary diseases. Clinical features of the manifestation of hereditary diseases. Graphic image of the pedigree. Pedigree analysis. Genealogical analysis for monogenic diseases. Genealogical analysis in multifactorial diseases. Risk groups depending on the type of possible hereditary pathology
Chromosome abnormality	Classification of chromosomal diseases. Frequency, pathogenesis and clinical features of chromosomal diseases. Clinical characteristics of some chromosomal syndromes (trisomy syndromes, partial aneuploidy syndromes). Diseases with an unconventional type of inheritance. Diagnostic methods for chromosomal diseases. Treatment of chromosomal diseases
Monogenic disorders	Classification of monogenic diseases. Genetic heterogeneity and clinical polymorphism of monogenic diseases. Methods of laboratory diagnosis of monogenic pathology (biochemical methods, molecular genetic methods).
Multifactorial disorders	The most common nosological forms. General and private mechanisms for the implementation of hereditary predisposition. Factors and principles for identifying individuals at increased risk of developing diseases with a hereditary predisposition. Ecogenetic diseases
Congenital malformations of the maxillofacial area	General characteristics of the structure of the teeth. Genetic control of the normal development and formation of dental tissue. Genetic factors in the formation of tooth anomalies. Classification of anomalies of the development of teeth and the dentofacial region. Anomalies of the size and shape of teeth (macrodontia, microdontia, merged teeth, doubling, teeth invagination, abnormal tubercles and enamel pearls, taurodenism). Hereditary diseases and

	<p>syndromes with anomalies of the size and shape of teeth. Anomalies of the number of teeth (teeth anagenesis, complementary teeth). Hereditary disorders of the formation of the structure of teeth. Anomalies teething. Hereditary anomalies of malocclusion. Problems of genetic counseling and treatment of hereditary diseases in dentistry</p>
<p>Congenital and hereditary dental abnormality</p>	<p>Cleft lip and palate. The most common monogenic cleft lip and palate syndromes. Atypical crevices of the craniofacial region. Principles of treatment and rehabilitation of patients with congenital orofacial clefts. Problems of rehabilitation of patients with congenital orofacial clefts. Principles of prophylaxis of orofacial clefts</p>
<p>Dental disease multifactorial nature</p>	<p>Multifactorial defects of the craniofacial region and the dental-maxillary apparatus, syndromic forms Common dental diseases of multifactorial nature (genetic aspects of caries, genetic aspects of periodontal diseases)</p>
<p>Prevention of congenital and hereditary dental abnormality</p>	<p>Medical genetic counseling. Methods of prenatal diagnosis of hereditary diseases. Methods for the detection of chromosomal abnormalities and monogenic diseases. Problems of genetic counseling and treatment of hereditary diseases in dentistry.</p>

Developers:

Assistant professor of the department
of Paediatric Dentistry and Orthodontics

Loginopulo O.V.

Head of the Department

of Paediatric Dentistry and Orthodontics

Kosyreva T.F.

Medical Institute

ACADEMIC COURSE WORKING PROGRAM

**Educational program
31.05.03 «Dentistry»**

Discipline name	Health and Safety
Discipline volume	3 CU (108 hours.)
Discipline summary	
Sections name (topics) of the discipline:	Summary of the discipline sections (topics):
Discipline basic concepts «Life safety»	Definitions of basic concepts of the discipline. Importance of life safety in the development of Russia. Components of the study of life safety activities. Problems and prospects for the development of life safety.
Theoretical foundations of life safety	Characteristic systems «man-habitat». Industrial, urban, household, natural environment. Human interaction with the environment. Basics of optimal interaction.
Risk	Risk assessment. Damage. Risk concept.
Natural emergencies and protection of the population of the population from their consequences.	Geophysical, geological, meteorological, agrometeorological, marine hydrological hazards, natural fires. Characteristics of damaging factors of natural emergency sources. Characteristics of human environmental factors. The impact of negative factors on human activity. Ecological safety fundamentals. Principles for ensuring the safety of human interaction with the environment.
Emergency situations of man-made and protection of the population from their consequences.	Man-made hazards and protection from them. Anthropogenic hazards and protection from them. Sources of environmental problems and their impact on humans. Fires, explosions, the threat of explosions; accidents with release (threat of release) of radioactive substances; accidents with release (threat of release) of biologically hazardous substances. Damaging factors of emergency sources of man-made. Phases of emergency situations.
The world. Hazards in everyday life and safe behavior.	The world and man, the nature of their interaction. Man as an object and subject of security. Situations arising in the process of human life. Features of the city as a habitat. Zones of hanging danger in the city.
Life safety management	Organizational foundations of life safety management. Legal framework for environmental quality management. Environmental quality management. Rationing of environmental quality.

Monitoring as a basis for managing the safety human life.	Types of monitoring: environmental, biospheric, social and hygienic. The use of environmental monitoring data in environmental quality management.
Addiction and their social consequences.	Computer addiction. The effect of alcohol on the human body. Addiction and substances abuse. Smoking and its effect on human health.
Basic principles of legal support of life safety for medical workers.	The basic principles of legal security of life. The main laws and regulations to ensure the safety of the population. Legal basis of environmental safety. The legal framework of industrial safety, labor protection. Protection of public health and safety. Responsibility for violation of legal acts on the safety of life of the population.
Emergency first aid	Cardiopulmonary resuscitation, hemostasis, transport immobilization of the limbs of the victims.

Creators:

S.lecturer at the Department
of Technosphere Safety

S.E. Germanova

Assistant of the department
of Emergency Medicine

R.S. Sokov

Director of technosphere
Safety Department

V.G. Plyushikov

**Head of the Department
of Emergency Medicine**

V.A. Mitish

Medical Institute

ANNOTATION OF THE EDUCATIONAL DISCIPLINE

Educational program

31.05.03 «Dentistry»

Name of the discipline	Biological Chemistry - Biochemistry of the Oral Cavity
Volume of the discipline	6 3E (216 hours)
Discipline summary	
Name of the discipline section	Section content (topics)
Section 1. Basic molecules - components of living systems	<p>Topic 1. Introduction to biochemistry. Proteins: structure, properties, functions Introductory conversation. Subject, tasks and main directions of biological chemistry. The main chemical components of living systems. The concept of the structure of proteins. Amino acids are monomers of protein molecules and peptides. Proteinogenic amino acids. Classification of amino acids, their physical and chemical properties. Biologically active peptides (for example, oxytocin, vasopressin, glutathione, aspartame). The structure of proteins, the concept of domains in their molecules. Monomeric and oligomeric proteins. The concept of protein folding, chaperones, ubiquitin and proteasomes. The relationship between the structure of proteins and their function. Physicochemical properties of proteins.</p> <p>Topic 2. Complex proteins, nucleic acids, lipids Conjugated (complex) proteins: nucleoproteins, chromoproteins, phosphoproteins, glycoproteins, proteoglycans, lipoproteins, metalloproteins, complex enzyme proteins. Features of their chemical structure and biological role. Nucleoproteins: a role in the phenomena of heredity. The structure, biological functions of mononucleotides, the nature of their binding in nucleic acids. ATP is a phosphate donor during protein phosphorylation and the beginning of mineralization. Lipid chemistry, lipid formula. The main representatives of various classes of lipids, including bile acids, cholesterol, fat-soluble vitamins.</p> <p>Topic 3. Enzymes Active center of enzymes, their adsorption and catalytic sites; allosteric center. Coenzymes - the concept of their functional role and chemical diversity. Features of enzymes as biocatalysts. Enzyme classification. Enzyme activity measurement, international units of activity. Dependence of enzyme activity on substrate concentration, temperature and pH; substrate specificity and specificity of the reaction direction. Regulation of enzymatic activity. Enzyme inhibitors: irreversible and reversible; competitive, non-competitive; the concept of retroinhibition. Reversible enzyme inhibition - the mechanism of many drugs action.</p> <p>Topic 4. Vitamins Vitamins - essential factors of human nutrition. Distribution of vitamins in nature. Classification of vitamins, characteristics of individual vitamins - thiamine, riboflavin, niacin, pantothenic acid, pyridoxine, biotin, folic acid, cobalamin, ascorbic acid, vitamins A, D, E, K. Causes and patterns of hypo- and hypervitaminosis in the body. Antivitamins - concept. Coenzymes are derivatives of vitamins.</p> <p>Topic 5. Hormones Hormones are the coordinators of biochemical processes. Subordination of endocrine organs. Classification of hormones by chemical structure and place of synthesis. The main mechanisms of hormone action. The concept of hormones role in metabolism regulation.</p>
Section 2. Metabolism and energy	<p>Topic 1. Introduction to metabolism. Biological oxidation Stages of metabolism in the body. The central role of acetyl-CoA in metabolic processes. Concept of compounds with high group transfer potential. The tricarboxylic acid (TCA) cycle as the final stage in the catabolism of acetyl fragments formed during the breakdown of carbohydrates, lipids and amino acids; its connection with biological oxidation. Biological oxidation (tissue respiration) as a set of redox processes involving oxygen. Mitochondrial oxidation (the respiratory electron transport chain) is the main way of oxygen</p>

	<p>utilization in the body. Respiratory chain components. Nicotinamide and flavin dehydrogenases as the initial links of the respiratory chain. Oxidative phosphorylation of ADP. The concept of substrate phosphorylation of ADP.</p> <p>Topic 2. Metabolism of carbohydrates The biological role of carbohydrates. Classification of carbohydrates. The role of carbohydrates in metabolism, energy storage. The central role of glucose in carbohydrate metabolism. Possible pathways for the conversion of glucose-6-phosphate. Anaerobic conversion of glucose (glycolysis). Regulation and energy output of glycolysis. Synthesis (glycogenesis) and breakdown (glycogenolysis) of glycogen. Energy yield of glycogenolysis. Hormonal regulation of glycogen synthesis and breakdown. Features of carbohydrate metabolism in muscles and liver. The concept of gluconeogenesis and the starting for glucose synthesis. Stages of gluconeogenesis and its regulation. Cory cycle. Aerobic carbohydrate metabolism. Oxidative decarboxylation of pyruvate. Energy yield of aerobic breakdown of glucose. Oxidative stages and biological significance of the pentose phosphate pathway of glucose oxidation in different tissues. The consequences of thiamine deficiency in the body. Features of carbohydrate metabolism in erythrocytes. Glucose-6-phosphate dehydrogenase, NADPH, glutathione, and drug-induced hemolytic anemia. Disorders of carbohydrate metabolism (hypo- and hyperglycemia, their causes; type 1 and 2 diabetes, lactase deficiency, Von Gierke's disease). Diagnostic value of glucose tolerance test (sugar load) and determination of glycosylated hemoglobin in blood.</p> <p>Topic 3. Lipid metabolism Triacylglycerols (TAG) breakdown in adipocytes, hormone-sensitive lipase. Conversion of glycerol. Synthesis of TAG, sources of glycerol in various tissues. Beta-oxidation of fatty acids in mitochondria, the role of carnitine. Fatty acid biosynthesis (sources of acetyl-CoA and NADPH (H⁺) in various tissues. Acetone bodies (biological role). The central role of acetyl-CoA in lipid metabolism. Ways of cholesterol transformation in the body, regulation of its synthesis. The relationship between the metabolism of fats and carbohydrates. Regulation of lipid metabolism.</p> <p>Topic 4. Metabolism of amino acids and proteins. Complex protein metabolism Amino acid catabolism: transamination of amino acids, deamination of amino acids, decarboxylation of amino acids, biogenic amines, their physiological and pharmacological action, hydroxylation of amino acids, the mechanism of this process (the role of ascorbate, tetrahydrobiopterin). Glucose-alanine cycle. Conversion of a nitrogen-free amino acid residue. Glycogenic and ketogenic amino acids. Specific pathways for the exchange of individual amino acids: glycine, serine and methionine as donors of one-carbon fragments. Phenylalanine, tyrosine and tryptophan as starting molecules for the synthesis of catecholamines, serotonin and melatonin. Pathology of protein and amino acid metabolism: hyperammonemia, type I and II, phenylketonuria, alkaptonuria, albinism, Hartnup's disease, maple syrup disease. Initial molecules for the synthesis of nucleotides in the body. Rescue paths for nitrogenous bases. Decomposition products of pyrimidine and purine nucleotides. The role of xanthine oxidase. Uric acid as a final product of the purine nucleotides breakdown. Violation of the purine nucleotides exchange (gout, Lesch-Nyan syndrome).</p>
<p>Section 3. Biochemistry of body fluids</p>	<p>Topic 1. Biochemistry of blood and urine Buffer systems of blood and saliva. Factors that determine pH constancy. Dissociation constants, Henderson-Hasselbach equation. Indicators of the state of the buffer systems of the blood. Violations of acid-base balance: alkalosis and acidosis, metabolic and respiratory. Hyperammonemia and mechanisms of ammonia neutralization. Neutralization of ammonia in cells: sources of ammonia, mechanism of its toxic action, binding (neutralization) of ammonia: ornithine (urea) cycle, formation of glutamine (in the brain) and asparagine, reductive amination of α-ketoglutarate, synthesis of creatine, formation and excretion of ammonium salts through the kidneys.</p> <p>Blood composition. Protein composition of blood, fractions of blood proteins, dysproteinemia, paraproteinemia. The main proteins of blood plasma: albumin, globulins. Functions of the main proteins of blood serum. Methods for quantitative analysis of protein fractions of blood. Hemoglobin: structure, normal variants and pathological forms of hemoglobin (HbA, HbA₂, HbF, HbA_{1C}, MetHb, HbCO, HbS), the concept of thalassemia. Regulation of the hemoglobin binding with oxygen. Bohr effect. Features of iron absorption and transport in the body. Initial and final stages of heme synthesis. Regulation of heme synthesis. Heme breakdown. Indirect and direct bilirubin. The concept of porphyria and jaundice.</p>

	<p>Coagulation system of the blood. Blood coagulation cascade. Fibrinous thrombus formation. Anticoagulant blood system. Fibrinolysis. Blood clotting disorders (coagulopathy). Urine composition. Relative density, acidity, inorganic components of urine. Introduction to laboratory diagnostics. Basic biochemical parameters in blood plasma and urine in diabetes mellitus, myocardial infarction, crush syndrome, hemolysis, liver dysfunction (cytolysis syndrome, hepatocellular failure syndrome), biliary obstruction, renal failure, pancreatitis. Bile pigments (total and direct bilirubin), hepatocyte enzymes (alanine and aspartate aminotransferases, alkaline phosphatase, γ-glutamyl transferase), indicators of protein-synthetic liver function (total protein, albumin, α1-antitrypsin, prothrombin, prothrombin index (PTI) and international normalized ratio (INR)). Isozymes, their role in enzyme diagnostics. The concept of immobilized enzymes. Indicators of biochemical analysis of urine and their diagnostic value: urea, creatinine, uric acid, urobilinogen, oxalate. Pathological conditions accompanied by proteinuria, glucosuria, ketonuria. Enzymes detected in urine: pancreatic amylase and its diagnostic value.</p> <p>Topic 2. Biochemistry of oral fluids</p> <p>Mixed saliva composition. Saliva secretion. Regulation of secretion and production of saliva. Inorganic and organic components of mixed saliva. Micellar structure of saliva. Gingival fluid.</p> <p>Saliva proteins: mucins; proteins rich in proline; histatins, lactoferrin, group-specific glycoproteins. Immunoglobulins: structure and function, types of immunoglobulins. Saliva enzymes: digestive enzymes, antioxidant enzymes, acid and alkaline phosphatases, carbonic anhydrase.</p> <p>Oxidative stress: reactive oxygen species, redox balance, respiratory burst, damage to proteins, lipids, nucleic acids by reactive oxygen species. The antioxidant system of the human body: a brief description of the enzymatic (catalase, peroxidase, superoxide dismutase) and non-enzymatic links of the antioxidant defense.</p> <p>Superdental formations: cuticle, pellicle, plaque, tartar. Features of the biochemical composition.</p> <p>Enzymes of microorganisms: bacterial urease, nitrate reductase and nitrite reductase. The role of bacterial metabolism in the development of oral diseases. Enzyme systems of bacteria. Decay of proteins, change in acid-base balance, digestive disorders in the oral cavity due to overgrowth of bacteria.</p> <p>Topic 3. Biochemistry of inflammation</p> <p>Inflammatory mediators. Eicosanoids. Interleukins. Acute phase proteins. Changes in the biochemical blood test during inflammation, markers of inflammatory processes. Influence of inflammation on the process of bone mineralization.</p> <p>The diagnostic value of the biochemical analysis of saliva. Changes in the analysis of saliva with periodontitis and caries. Changes in the composition of saliva in acute pancreatitis, renal failure, diabetes mellitus, hypothyroidism and Itsenko-Cushing's syndrome.</p> <p>Topic 4. Biochemistry of digestion</p> <p>Salivary enzymes: amylase, lysozyme, maltase, lingual lipase, DNase and RNase.</p> <p>The biological value of proteins. The completeness of protein nutrition. Protein norms in the diet. The rate of renewal of individual body proteins. Digestion of proteins. Digestive enzymes of the stomach and pancreas. Mechanisms of their activation. The role of hydrochloric acid. Conversion of amino acids in the intestine under the action of microflora enzymes.</p> <p>Digestion of fats. Lingual and pancreatic lipase. Activation mechanism. Bile. The composition of the hepatic bile. Bile functions. Bile acids: primary and secondary, conjugated bile acids. Enterohepatic circulation of bile acids. The role of bile acids in the digestion of fats. Features of absorption and transport of lipids; the role of bile acids and lipoproteins. Resynthesis of triacylglycerols (TAG) and other dietary lipids in enterocytes.</p> <p>Digestion of carbohydrates. Amylase lingual and pancreatic. Oligo-α-1,6-glycosidase. Enzymes of cavity and parietal digestion: sucrose-isomaltase complex, glycoamylase complex, lactase.</p>
<p>Section 4. Biochemistry of connective tissue</p>	<p>Topic 1. Biochemistry of the main proteins of connective tissue</p> <p>Collagens. Types of collagens, amino acid composition of type I collagen, levels of structural organization of type I collagen, collagen maturation process. Post-translational modification: hydroxylation of proline and lysine amino acid residues, glycosylation. Intermolecular cross-linking of collagen: the formation of allysin, lysine-norleucine. Desmозine and pyridinoline. Collagen breakdown process, matrix proteinases, biochemical markers of collagen breakdown: hydroxyproline, C- and N-telopeptides, their clinical significance. Regulation of</p>

	<p>collagen synthesis and breakdown. Diseases associated with collagen defects: Vrolik syndrome, Ehlers-Danlos syndrome, Alport syndrome, type II achondrogenesis. Collagen maturation disorders in vitamin C deficiency, diabetes mellitus, Menkes disease and systemic sclerodermia.</p> <p>Elastin. Structure and function. Changes in the structure of elastin in emphysema, Menkes disease, periodontitis and gingivitis. Fibronectin, laminins, fibrillin (functions and their defining features of the protein structure).</p> <p>Topic 2. Biochemistry of the main non-protein components of the connective Proteoglycans. The structure and function of glycosaminoglycans: hyaluronic acid, heparin, sulfated glycosaminoglycans. The structure of the disaccharide units of glycosaminoglycans. Stages of proteoglycan synthesis, the role of sulfation in the formation of functionally complete glycosaminoglycans. Small and large proteoglycans. Breakdown of glycosaminoglycans: sulfatase and glycosidase. Mucopolysaccharidoses: congenital enzyme deficiencies in mucopolysaccharidoses I (Hurler / Scheie), II (Hunter) type, clinical signs, principles of diagnosis and treatment. Enzyme replacement therapy.</p> <p>Topic 3. Biochemistry of mineralized tissues Organic components of mineralized tissues. Bone matrix proteins. Adhesive proteins: fibronectins, laminins, nidogens, osteopontin, bone sialoprotein, osteonectin. Biological functions. Calcium-binding proteins: osteocalcin, Gla-proteins, phosphorins. Gamma-carboxylation of glutamic acid residues, mechanism of binding of calcium ions by bone tissue proteins. Bone enzymes that regulate phosphate metabolism: alkaline phosphatase, acid phosphatase, pyrophosphatase.</p> <p>Mineral components of bone tissue. Hormonal regulation of calcium metabolism. The structure of hydroxyapatites, molar calcium-phosphate coefficient. Isomorphic substitutions of ions in the structure of hydroxyapatites. Fluorosis, Kashin-Beck syndrome, hydroxyapatite arthropathy.</p> <p>Bone tissue remodeling, stages. The process of mineralization of the protein matrix and its regulation. Calcification. Disorders of bone tissue remodeling: osteopetrosis, Paget's disease, osteoporosis, ostomalacia and rickets, hyperostosis, osteogenesis imperfecta.</p> <p>Biochemical markers of formation (C- and N-terminal propeptides, osteocalcin, bone alkaline phosphatase) and bone resorption (collagen breakdown products, osteoclast enzymes and markers of osteocyte activity), their clinical significance.</p> <p>Composite materials, implants and their changes in the oral cavity over time.</p>
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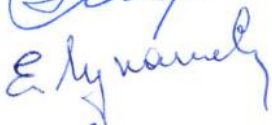
Developers

Head of T.T. Berezov biochemistry department



V.S. Pokrovsky

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M.D. Novichkova

*Federal State Autonomic Educational Institution of Higher Education
«Peoples' Friendship University of Russia»»*

Faculty of Physics, Mathematics and Natural Sciences

ABSTRACT EDUCATIONAL DISCIPLINE

Educational program

31.05.03 Dentistry

Name of the discipline	<i>Chemistry of Biogenic Elements</i>
The scope of the discipline	2 credits (72 Hours.)
The course contents	
Title of the unit	Unit's content
1. Complex compounds	Bioinorganic chemistry concept. The role of inorganic elements (metal cations) in vital processes. Complex compounds. Composition, electronic structure, nomenclature. Chemical reactions involving complex compounds. Examples of vital complex compounds: hemoglobin, chlorophyll, metalloenzymes.
2. Buffer solutions	pH concept. Change in pH in neutral, acidic and alkaline solutions. Buffer solutions. Mechanism of action and pH of buffer solutions of various compositions. Buffer capacity. Buffer solutions in living systems.
3. Colloidal solutions	Soluble and insoluble forms, including biometals. Stabilization of soluble forms due to micelle formation. The concept of colloidal solutions. The composition and structure of the micelle. Methods of obtaining and physicochemical characteristics of colloidal solutions.
4. Redox reactions	Oxidation and reduction concepts. Typical oxidizing and reducing agents. Changes in the oxidation states of typical oxidizing and reducing agents. Method of ion-electronic balance of redox reactions. Redox reactions in living systems.
5. Introduction to analytical chemistry	Qualitative analysis concept. Group and specific reactions of cations and anions. Quantitative titrimetric analysis and its application in bioinorganic chemistry

Developers:

Professor of the department
general chemistry,

Doctor of Chemical Sciences prof.

O.V. Kovalchukova

Head of the Department

general chemistry,

Doctor of Chemical Sciences prof.

V.V. Davydov

*Federal State Autonomic Educational Institution of Higher Education
«Peoples' Friendship University of Russia»»*

Faculty of Physics, Mathematics and Natural Sciences

ABSTRACT EDUCATIONAL DISCIPLINE

Educational program

31.05.03 Dentistry

Name of the discipline	<i>Chemistry</i>
The scope of the discipline	3 credits (108 Hours.)
The course contents	
Title of the unit	Unit's content
1. Substance structure	Wave corpuscle dualism of the material world. Wave function. Electronic configurations of atoms and ions. Periodic law D.I. Mendeleev. Chemical connection. The method of valence bonds. Hybridization of orbitals. Spatial configuration of molecules.
2. Thermodynamics and kinetics of chemical reactions	Basics of thermochemistry. Enthalpy. Hess law. Entropy. Gibbs free energy. The conditions of spontaneous reaction. The rate of chemical reaction. Reaction order Chemical equilibrium Speed constant and equilibrium constant. Displacement chemical equilibrium. The concepts of adsorption and catalysis.
3. Chemical reactions in solutions	General concepts of dispersed systems. Ways of expressing the concentration of solutions: mass fraction, titer, molar, normal concentration. Theory of electrolytic dissociation. The dependence of the acid-base properties of electrolytes on the nature of their dissociation. Amphoteric electrolytes (ampholytes). Ionic reactions. Conditions for the reactions of ion exchange.

4. Chemical equilibria in solutions	<p>Weak electrolytes. The law of dilution. The effect of a common ion. Strong electrolytes. Activity and activity ratio. Ionic strength. Ionic product of water. Hydrogen indicator. Buffer solutions. Hydrolysis of salts. Constant hydrolysis. Dependence of hydrolysis on temperature and concentration of solutions.</p> <p>Constant solubility. Solubility. Conditions of dissolution and sediment formation.</p> <p>Electrolytic dissociation and the constant instability of complex compounds.</p> <p>Colloidal solutions.</p>
5. Classes of inorganic compounds	<p>The main classes of inorganic compounds. Double oxides. Ceramic materials.</p>
6. General properties of metals	<p>General properties of metals</p>
7. Electrochemical processes	<p>Electrochemical processes. The emergence of the electric double layer at the metal-electrolyte interface. Electrode potential, methods of its measurement. Electrochemical series of voltages of metals. The principle of operation of galvanic cells. Electrochemical corrosion.</p>
8. Introduction to Organic Chemistry	<p>Organic chemistry as a field of science, studying the structure and mechanisms of functioning of biologically active molecules from the standpoint of organic chemistry. The main provisions of the theory of chemical structure. Isomerism Classes of organic compounds. Mechanisms of organic reactions. Saturated and unsaturated hydrocarbons: the main types of chemical reactions of alkanes and alkenes. Conjugated dienes. 1,2- and 1,4-Addition to conjugated diene. Polymerization of conjugated dienes.</p> <p>Aromatic compounds. Electrophilic substitution reactions in the aromatic nucleus.</p> <p>Alcohols (alcohols and alkanols). Atomicity of alcohols. Hydrogen bond Reactivity of alcohols. Phenol. Acidic properties of phenol.</p> <p>Aldehydes and ketones. Electronic structure of the carbonyl group. Oxo compound reactions at the carbonyl group and at the alpha position. Dialdehydes and diketones. Acetylacetone. Keto-enol tautomerism.</p> <p>Carboxylic acids. The structure of the carboxyl group. Carboxylic acid derivatives: salts, halides, anhydrides, amides, nitriles, esters. Methods of obtaining and properties. Natural higher fatty acids (HFA): palmitic, stearic, oleic, linoleic, linolenic, arachidonic. Lipids and phospholipids. Enzymatic hydrolysis of fats. Oxidation of acids in the body. Phosphoric acid fragments in nucleic acids and adenosine</p>

	<p>phosphates. Phosphatides. Lecithin and cephalin.</p> <p>Hydroxy Acids The structure and nomenclature of hydroxy acids. Lactic acid, formation during lactic fermentation and in muscles. The transformation of lactic acid into pyruvic acid during metabolism. Malic, tartaric and citric acids. Optical isomerism with examples of lactic and tartaric acids.</p> <p>Amines. The main properties of amines. Diamines Ethylenediamine, putrescine, cadaverine, hexamethylenediamine - their biological significance and use.</p> <p>Amino acids that make up proteins: classification, structure, nomenclature, stereoisomerism, acid-base properties (formation of a bipolar ion). Chemical properties of amino acids. Biologically important alpha-amino acid reactions: deamination (oxidative and non-oxidative), hydroxylation, decarboxylation of alpha-amino acids (formation of colamine, histamine, tryptamine).</p> <p>Peptides and proteins. The primary structure of proteins. Partial and complete hydrolysis. The concept of complex proteins. Glycoproteins, lipoproteins, nucleoproteins, phosphoproteins.</p> <p>Carbohydrates. Carbohydrates in nature. The value of carbohydrates. Photosynthesis.</p> <p>Monosaccharides. Cyclo-chain tautomerism. D- and L- series. Reactions of monoses by functional groups. Glucose, mannose, galactose, fructose, ribose and deoxyribose; being in nature and biological significance.</p> <p>Vitamin C. Reducing and non-reducing disaccharides: sucrose, maltose, cellobiose, lactose.</p> <p>Biologically important heterocyclic systems. Nucleic acids. Nucleic bases.</p>
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Developers:

Professor of the department
general chemistry,
Doctor of Chemical Sciences prof.

O.V. Kovalchukova

Head of the Department

general chemistry,
Doctor of Chemical Sciences prof.

V.V. Davydov

Medical Institute

ANNOTATION OF DISCIPLINE

**Educational program
31.05.03 "Dentistry"**

Name of the discipline	Clinical pharmacology
The scope of the discipline	2 credits (72 hours)
The course contents	
Title of the unit	Unit's content
1. General issues of clinical pharmacology.	<ul style="list-style-type: none"> 1.1. Subjects and tasks of clinical pharmacology. Clinical research. Principles of evidence-based medicine. 1.2. Fundamentals of clinical pharmacokinetics. 1.3. Fundamentals of clinical pharmacodynamics. 1.4. Drug interactions. 1.5. Drug safety. Adverse drug reactions.
2. Clinical and pharmacological approaches to rational pharmacotherapy in routine dentistry practice and in emergency situations.	<ul style="list-style-type: none"> 2.1. Clinical pharmacological approaches to choosing and prescribing antibacterial drugs in dentistry practice. 2.2. Clinical pharmacological approaches to choosing and prescribing antifungal and antiviral drugs in dentistry practice. 2.3. Clinical pharmacological approaches to choosing and prescribing antiseptic drugs and irrigants in dentistry practice. 2.4. Clinical pharmacological approaches to choosing and prescribing analgesic drugs in dentistry practice. 2.5. Clinical pharmacological approaches to choosing and prescribing anti-inflammatory, anti-allergic drugs and immunomodulators in dentistry practice. 2.6. Clinical pharmacological approaches to choosing and prescribing drugs in hemostasis disorders (bleedings and thrombosis). 2.7. Clinical pharmacology of drugs to treat phosphoric calcium metabolism disorders. 2.8. Clinical pharmacological approaches to choosing and prescribing drugs in urgent and life-threatening conditions in dentistry practice.

Developers:

Professor of Department
of General and Clinical Pharmacology
Associate Professor of Department
of General and Clinical Pharmacology
Associate Professor of Department
of General and Clinical Pharmacology
Head of Department
of General and Clinical Pharmacology

S.B. Fitilev

A.V. Vozzhaev

I.I. Shkrebniova

S.K. Zyryanov

Medical Institute

ANNOTATION OF THE EDUCATIONAL DISCIPLINE

**Educational program
31.05.03 "Dentistry"**

Name of the discipline	Disaster Medicine
Scope of discipline	3 ZE (108 hours)
Discipline summary	
The name of the sections (topics) of the discipline	A summary of the sections (topics) of the discipline:
The current state of the development of purulent surgery in Russia and the world.	The history of purulent surgery and its relationship to the surgical and therapeutic specialties. The contribution of F.V. Voino-Yasenetsky in the development of modern domestic pus surgery. The role of the school of the Institute of Surgery. A.V. Vishnevsky in the development and formation of the discipline. A method of active surgical treatment of purulent wounds. Features and principles of treatment of patients with wounds and surgical infections that have arisen during natural and man-made disasters.
Surgical treatment of a purulent focus during the provision of specialized care both in peacetime and in case of mass admission of victims.	The concept of surgical treatment of a purulent focus. Types of surgery: primary, secondary, repeated. Stages of the operation. Differences in the surgical treatment of a purulent focus from a PHO wound in traumatology. Preoperative management of patients.
Local treatment of wounds. Burn wound	Stages of the course of the wound process. Types of modern wound dressings. Modern antiseptics. The choice of a drug for local treatment, depending on the phase of the course of the wound process. Features of local treatment of burn wounds
Providing first aid, emergency and emergency medical care at the pre-hospital stage. Stopping blood circulation. Basic cardiopulmonary resuscitation.	Regulatory framework for first aid, emergency and emergency medical care. Professional standards and qualification requirements for doctors of various specialties in the provision of emergency and emergency medical care. Criteria for determining the moment of death of a person and carrying out resuscitation measures. Indications and contraindications for cardiopulmonary resuscitation (CPR). The regulatory framework of the Russian Federation. Basic cardiopulmonary resuscitation and automatic external defibrillation in adults. DBK algorithm with AED: Initial examination of the victim. Manual methods of ensuring temporary patency of the upper respiratory tract. Artificial ventilation of the lungs with a breathing bag Ambu / face mask. Compression of the chest. Basic CPR technique by one specialist and in a team, DBC using the method of isolated chest compressions. Algorithm for basic cardiopulmonary resuscitation using an automatic external defibrillator. Laying the victim in a "stable lateral position".

	<p>Causes of upper airway obstruction and methods of elimination of upper respiratory tract obstruction. Techniques for the removal of foreign bodies from the respiratory tract in various categories of victims. Laying the victim in a "recovery position". Algorithm of actions for anaphylactic shock.</p>
<p>Basic and advanced life support in adults and children. Simulation training.</p>	<p>Sudden cardiac death. Types of circulatory arrest (asystole, electromechanical dissociation, ventricular fibrillation, pulseless ventricular tachycardia). Corrected causes of circulatory arrest (rule "4H and 4T". Immediate interventions. Circulatory arrest in special cases. The volume of the basic resuscitation complex for children for medical workers. Initial examination of the child. Recognition of circulatory arrest. Immediate intervention. Technique of chest compressions and artificial respiration in children of different ages. Methodology for basic and extended resuscitation by one and two providers (health workers) in adults and children. Algorithm for basic cardiopulmonary resuscitation using an automatic external defibrillator in children. Medical manipulations. Temporary management of upper airways.</p>
<p>MK. General concepts of disaster medicine. Medical triage. Desmurgy.</p>	<p>Problems and prospects for the development of MC. Types of assistance, medical triage of victims, medical evacuation of victims. Medical and evacuation support for victims of emergencies. Desmurgy concept. Stopping bleeding, transport immobilization of the victims' extremities. Simulation of various emergency situations.</p>
<p>Reconstructive and plastic surgery in purulent surgery. Autodermoplasty. Wound plasty with local tissues.</p>	<p>The value of reconstructive and plastic surgery in purulent surgery. Classification of reconstructive and plastic surgery. The choice of the method of plastic wound closure. Autodermoplasty: types, technique, indications for use. Wound plasty with local tissues: types, technique, indications for use.</p>
<p>Reconstructive and plastic surgery in purulent surgery. Wound plasty using flaps. The strategy for performing high amputations of the lower extremities.</p>	<p>Classification of flaps. Indian plastic, Italian plastic. Reconstructive and plastic surgery in the surgical treatment of deep pressure ulcers. Microsurgical transplantation of tissue complexes: types, technique, indications for use.</p>
<p>Potent and toxic substances.</p>	<p>Toxicology. Within the framework of the lesson, issues related to the causes, consequences and elimination of various emergencies as a result of the release of chemical hazardous substances are considered. The most common hazardous chemicals are discussed in detail: their state of aggregation, chemical properties and human exposure. Organization of medical care for those affected by hazardous chemicals (in the outbreak, outside the outbreak of chemical damage).</p>
<p>Prehospital trauma emergency care</p>	<p>Secondary in-depth examination of the victim (ABCDE - approach). Immobilization of the cervical spine in the victim by manual methods, the use of a cervical collar, cervical blocks. Immobilization and splinting of long bones and joints. Immobilization on a long and short spinal board.</p>

	<p>Technique for planned and emergency movement of the victim:</p> <p>Demonstration of various methods of transferring the victim from the surface to various types of stretchers, spinal shields, vacuum means of immobilization, the technique of transferring and carrying the victim by one or more specialists.</p> <p>Demonstration of techniques for temporarily stopping external bleeding.</p> <p>The imposition of the main types of fixing bandages.</p>
<p>Mass defeat. Medical triage. Practical skills. Simulation game.</p>	<p>A simulation game is conducted to learn practical triage skills. Work in a playful way in a simulation environment according to clinical scenarios using standard medical equipment and improvised means for immobilizing and transporting victims. Methodological support: to fulfill a situational task, students are divided into small subgroups: into intellectual models of injuries of victims and a group of "rescuers".</p>

Developers:

Associate Professor of the Department of Disaster Medicine

Y.S. Paskhalova

Head of Department
disaster medicine

V.A. Mitish

Medical Institute

ANNOTATION OF DISCIPLINE

**Educational program
31.05.03 "Dentistry"**

Discipline	<i>Epidemiology</i>
Volume of discipline	2 CU (72 hours)
Summary of discipline:	
Parts (topics) of discipline	Summary of parts (topics) of discipline:
General epidemiology. Epidemiological method and evidence-based medicine. Epidemiological studies.	Short history of the epidemiology development. Epidemiological method (analysis). Establishing an epidemiological diagnosis. The kinds of epidemiological research.
Epidemic process. Epidemiological surveillance.	L.V. Gromashevsky's role in the study about the epidemic process – three interconnecting elements: a source of infection, a mechanism of transmission and a susceptible organism. Indicators of the epidemic process. Antiepidemic measures. The basis of preventive measures organization. Levels of prevention. The epidemiological surveillance as a subsystem of the social-hygienic monitoring (SHM).
The study about natural niduses. Sapronotic infections.	The definitions: "natural nidus", "anthropogenic nidus". The role of wild, semisanthropogenic and anthropogenic mammals (rodents, insectivores, ungulates, predators), birds in the formation of natural and anthropogenic nidi. The main principles of epizootological-epidemiological surveillance.
Disinfection, sterilization.	The definition of disinfection. Types of disinfection: prophylactic and nidal (current and final). Disinfection specificities for respiratory infections, enteric infections and extremely dangerous infections. Presterilization cleaning of medical, including stomatological, things. Control of presterilization cleaning. Sterilization. Control of sterilization quality.
Immunoprophylaxis of infectious diseases.	Definition of immunoprophylaxis. Theoretical basis of immunoprevention. The schedules of immunoprophylaxis in the world. Active and passive immunoprophylaxis. Post-exposure immunoprophylaxis.
Infectious disease epidemiology. Epidemiology of socially significant infections.	The content of this section is defined by the actual epidemic situation and calendar plan of study course of infectious diseases. Epidemiological characteristics of socially significant infections. Organization of antiepidemic and preventive measures in niduses of infection diseases.

Epidemiology and prophylaxis of nosocomial infections.	Definition of nosocomial infections. Epidemiological, economic and social significance of hospital infections. Contributors of hospital infection emergence and distribution. Antiepidemic regime in medical institutions. Prevention of nosocomial diseases in medical staff. Post-exposure prevention of HIV, hepatitis viruses (B, C, D).
Epidemiology of emergency situations.	Definition of the “emergency situation”. Classification of catastrophes. Basic principles of medical aid and epidemic control organization in the area affected by an emergency.

Developers:

Assistant Professor (Division of Infectious diseases)

K.C. Emerole

Assistant Professor (Division of Infectious diseases)

A.V. Eremeeva

Associate Professor (Division of Infectious diseases)

S.L. Voznesenskiy

H.O.D (Division of Infectious diseases)

G.M. Kozhevnikova

Medical Institute

Summary of the discipline

**Educational program
31.05.03 Dentistry**

The name of the discipline	Forensic medicine
The workload of the discipline	2 Units (72 hours)
The summary of the discipline	
The name of the discipline sections	The contents of the section
Module 1 Procedural and institutional issues of forensic medical examination. Forensic thanatology (general and particular aspects)	<p>Particular module - Definition of forensic medicine. Forensic medicine and forensic medical examination. The prominent scientists in forensic medicine in Russia and abroad, their contribution to the development of theory and practice of forensics. The structure of the forensic medicine in Russia.</p> <p>Particular module - The rights and responsibilities of a forensic expert. Types of forensic expertises. Objects of forensic medical examination. Forensic medical examination at the preliminary investigation and in court. Forensic documentation.</p> <p>Particular module - The definition of death. Terminal conditions. The definition of clinical and biological death. Diagnostics of death. Establishing of the time of death. Early cadaveric changes. Late cadaveric changes. Natural conservation of a cadaver. Artificial embalming of a cadaver. The destruction of a cadaver by insects, animals and plants. Deliberate destruction of a cadaver. Methods of body restoration. Forensic significance of cadaveric changes. The definition of cause of death. Competitive causes of death. Category of death, genus of death; violent death: murder, suicide, accident.</p> <p>Particular module - General issues of the cadaver examination on the accident scene (examination order, organization, stages and kinds of the examination of the accident scene). The task of forensic medical expert and the order of a cadaver examination on the accident scene. Procedural documentation of accident scene. The features of a cadaver examination in different kinds of death. The features of an unknown person examination. The features of examination of large-scale catastrophe scene.</p>

<p>Module 2. Forensic medical examination (the examination of a cadaver). Forensic diagnostics in cases of sudden death</p>	<p>Particular module - The reasons for forensic medical examination of a cadaver. The documentation of forensic medical examination. Principles of construction of a forensic medical diagnosis and conclusions based on forensic medical examination of a cadaver. The design of a death certificate. Particular module – Forensic medical examination in case of sudden death.</p>
<p>Module 3 General issues of forensic medical examination of mechanical damage (thanatogenesis of death due to different mechanical impacts). Injuries caused by blunt solid objects. Falling from height. Traffic accidents. Peculiar properties of maxillofacial region damages due to different traumatic impacts.</p>	<p>Particular module – General forensic traumatology. The main issues to be solved by forensic medical expert in case of mechanical damage. Particular module – Injuries caused by blunt solid objects. Particular module – Transport trauma. The mechanism of injury and morphological signs of injuries caused by cars and other vehicles.</p>
<p>Module 4. Laboratory methods in forensic medicine. Forensic medical identification</p>	<p>Particular module - Forensic examination of the evidences of biological origin (blood, sperm, saliva, hair). Particular module – Estimating the sex and age of a victim by teeth</p>
<p>Module 5. Forensic medical examination in case of damages by sharp objects. Gunshot wounds</p>	<p>Particular module – The mechanism of injury and morphological signs of injuries caused by sharp objects and firearms. Peculiar properties of maxillofacial region damages due to different traumatic impacts.</p>
<p>Module 6. Forensic medical examination of living persons. Forensic medical examination of the gravity of the health damage. Forensic medical examination of criminal and civil cases of medical practitioners' professional violations.</p>	<p>Particular module – Forensic medical examination of living persons. Legal qualification of the gravity of health damage (severe, medium, light). Ways to cause damage to health (beating, torment, torture). The examination of general and professional ability loss. Forensic documentation. Commission and complex forensic examinations. Particular module – Forensic medical examination of physical evidence of biological origin (blood, semen, saliva, hair). Methods of identification, removal and packaging of traces and physical evidence of biological origin.</p>

Developers:

Assistant lecturer of the Department of Forensic medicine

Asiya R. Bashhirova

The head of the Department of Forensic medicine

Dmitriy V.Sundukov

*Federal State Autonomic Educational Institution of Higher Education
«Peoples' Friendship University of Russia»»*

Medical Institute

ABSTRACT EDUCATIONAL DISCIPLINE

**Educational program
31.05.03 Dentistry**

Course name	Hygiene
General labor intensity	3 credits (108 hours)
Contents of the discipline	
Name of the discipline section	The summary of topics (topics) of the discipline:
Nutrition hygiene	Hygienic principles of rational nutrition and features of the requirements for rational nutrition of different population groups. Dietary, therapeutic and prophylactic, preventive nutrition. Sanitary-hygienic examination of products (principles, conclusions). Food and biological value, safety of products of animal and vegetable origin. Methods of preserving food products and sanitary-hygienic examination of canned food and concentrates. Food poisoning and their prevention. Sanitary and hygienic examination of projects of public catering establishments.
Communal hygiene	Hygienic significance of factors acting in populated areas. Water as a factor of the external environment, its hygienic and epidemiological significance. Hygienic assessment of sources of water supply and drinking water. Methods of cleaning, decontamination and methods for improving the quality of drinking water. Methods of fluorination and de-fluorination of water. The role of soil in the transmission of endemic, infectious and parasitic diseases. Hygienic assessment of soil quality. Hygienic bases and requirements for cleaning of populated areas. Hygienic assessment of the layout of populated areas. Hygienic assessment of the microclimate, chemical composition and microbial contamination of indoor air. Hygienic assessment of insolation, natural and artificial illumination of premises. Radioactivity. Sources and types of radiation. Natural background radiation. Methods of radiometry of environmental objects. The dose of ionizing radiation. Methods of dosimetry. Determination and hygienic assessment of the radiation dose. Protecting the public from exposure to ionising radiation.
Occupational hygiene	Basics of occupational hygiene. Physiological basis of the labor process. Hygienic assessment and prevention of physical factors in the production environment: aerosols, chemical and biological factors of the production

	environment. Hygiene of labor of medical workers in the dental profile.
Hygiene of medical organizations	Hospital hygiene. Features of structural and planning decisions of medical and preventive institutions, dental polyclinics. Prevention of nosocomial infections in dental practice.
Hygiene of children and teenagers. Hygienic basis of a healthy lifestyle	Hygienic assessment of the health and physical development of children and adolescents. Healthy lifestyle and personal hygiene.

Developers:

Associate Professor of Public Health
and Hygiene, Associate Professor

L.V. Maksimenko

Head of the Department of Public Health,
and Hygiene, Professor

A.V. Fomina

*Federal State Autonomous Educational Institution for Higher Education
Peoples' Friendship University of Russia (RUDN UNIVERSITY)*

Medical institute

ANNOTATION OF DISCIPLINE

Educational program

31.05.03 «Dentistry»

Name of the discipline	Infectious Diseases, Phthisiology
Total hours	3 educational units; 108 hours
Brief annotation of the discipline	
	Modern state of the problem of infectious diseases. Properties of the causative agents of infectious diseases. Modern methods of laboratory diagnostics of infectious diseases. Principles of treatment of infectious diseases. Tactics of a dentist if infectious disease is suspected in patient.
	Diphtheria. Etiology. Sources and routes of infection. Pathogenesis. Oral lesions. Outcomes. Differential diagnosis. Laboratory diagnosis. Principles of treatment. Prevention. Sepsis. Pathogenesis basis of prevention, diagnosis and treatment. Odontogenic sepsis, causes, prevention, diagnosis and treatment. Chlamydial infections. The clinic, diagnosis, treatment. Streptococcal infection: acute tonsillitis (angina), erysipelas of face, scarlet fever. Epidemiology. Pathogenesis. Clinic. Laboratory diagnosis. Complications. Principles of treatment. Tetanus. Etiology. Epidemiology. Pathogenesis. Clinical manifestations. Laboratory diagnosis. Treatment. Prevention. Etiology and pathogenesis of tuberculosis. Methods of diagnosis of tuberculosis. Clinical manifestations of tuberculosis. Extra pulmonary tuberculosis (tuberculosis of other organs and systems). Treatment of tuberculosis. Tuberculosis and related diseases. The fight against tuberculosis in the Russian Federation.

Virus diseases		<p>Influenza, adenovirus infection and other acute viral respiratory disease. Etiology. The source of infection, the ways of distribution. Pathogenesis. The clinical course. Oral complications. Specific rapid diagnosis. Principles of treatment. Prevention.</p> <p>Herpesvirus disease. Classification. Etiology. Sources of infection. Mechanism of infection. Pathogenesis. The persistence of the pathogen. Clinical manifestations. Lesions of the oral mucosa. Complications. Treatment. Immunotherapy.</p> <p>Epstein-Barr viral infection. The clinic, diagnosis, treatment.</p> <p>Mumps infection (epidemic mumps). Etiology. Epidemiology. Pathogenesis. Clinical manifestations. Symptoms lesions of the salivary glands. Complications. Treatment. Prevention.</p> <p>Infection caused by the human immunodeficiency virus (HIV) infection. Etiology. Sources and routes of transmission. Pathogenesis. Clinical manifestations at different stages of the disease. Manifestations of HIV infection from the oral mucosa. Laboratory diagnosis. Measures to prevent HIV infections in dental practice patients.</p> <p>Viral hepatitis with parenteral route of infection. The etiology of hepatitis B, C, D. The mechanism of transmission. Pathogenesis. Clinical course. Complications. Outcomes. Approach to the Patient. Preventing nosocomial infection when working with patients with hepatitis. Prevention.</p> <p>Enteric viral hepatitis (A, E). Clinic, diagnostic, treatment.</p> <p>Measles. Etiology. Epidemiology. Pathogenesis. The main symptoms of measles in different periods of the disease in adults. Complications. Treatment. Preventive measures.</p> <p>Rubella. Etiology. Epidemiology. Pathogenesis. Clinical symptoms in adults rubella. Laboratory diagnosis. Complications. Principles of treatment. Preventive measures. Rubella in pregnant women.</p>
Etiopathogenesis. Etiology of tuberculosis. Diagnosis of tuberculosis.		<p>Taxonomic characteristics of the MBT, its features and basic species qualities. Pathogenesis of tuberculosis. Pathomorphology of tuberculous inflammation. Ways and methods of TB infection. Primary and secondary TB.</p> <p>Classification of tuberculosis. Clinical manifestations of tuberculosis of the respiratory system. Physical features of pulmonary tuberculosis. Methods of diagnosing tuberculosis. The rules for sputum collection and the frequency of study in a patient with suspected tuberculosis. Methods for identifying the MBT, their diagnostic sensitivity, specificity, disadvantages and advantages. Classification of tuberculosis according to ICD-10. Clinical classification of tuberculosis. Primary tuberculosis (primary tuberculosis complex, tuberculosis of intrathoracic lymph nodes). Secondary tuberculosis (focal, infiltrative, disseminated, caseous pneumonia, tuberculoma, cavernous, fibrous-cavernous, cirrhotic). Tuberculous pleurisy / empyema</p>

	Tuberculosis in dentist practice.	Infectious anti-TB control in a medical institution. Oral tuberculosis. Tuberculosis (TB) Precautions for Outpatient Dental Settings
	Organization of prevention of tuberculosis	Logistics of health care delivery to tuberculosis patients in the Russian Federation. Regulations of health care for tuberculosis patients in the medical organizations. Antitubercular dispensary. Specific prevention of tuberculosis. Vaccination. Chemoprophylaxis. Social and sanitary prevention of tuberculosis.

Program developers:

Assistant Professor

K.C. Emerole.

Department associate professor

S.L. Voznesenskiy

Professor, department of infectious diseases
with the course of epidemiology

V.N. Zimina

Professor, Head of the department of infectious diseases
with the course of epidemiology

G.M. Kozhevnikova

Federal state budget institution of higher education
People's Friendship University of Russia

Institute of Medicine

ANNOTATION OF DISCIPLINE

**Educational program
31.05.03 Dentistry**

Name of discipline	Neurology
The discipline volume	3 Credits (108 hours)
Discipline Summary	
The general concept of the nervous system. Central and peripheral nervous system. Movement and its disorders. Extrapyramidal system and the cerebellum.	Anatomy and physiology of the pyramidal, extrapyramidal system, cerebellum. Study of the volume of active movements of muscle strength and tone, physiological and pathological reflexes. Signs of central and peripheral paralysis. Extrapyramidal system lesion syndromes Methods for studying the functions of the cerebellum and symptoms of damage.
Sensory system. Types of sensitivity. Pain sensation. Trigeminal system as part of the general sensitivity.	Pathways of superficial and deep sensitivity. Research technique for surface and deep sensitivity. Symptoms and types of sensory disorders.
The concept of the cranial nerves. Examination techniques. Clinical syndromes due to the cranial nerve lesions.	Anatomy and physiology 1,2,3,4,5,6,8,11 cranial nerves. Research technique and symptoms of lesion.
Trigeminal system, stomalgia and glossalgia. Clinics, diagnosis and treatments	Anatomy and physiology of the trigeminal nerve and autonomic ganglia of the head, research technique and symptoms of lesion. Anatomy and physiology 7,9,10,12 CN, research technique and symptoms of lesion. Bulbar and pseudobulbar paralysis. Alternating syndromes
The autonomic nervous system and its pathology. Basic manifestations in the autonomic nervous system disorders of face and head.	The autonomic nervous system. The main symptoms of damage to the ANS in the face and head. Innervation of salivation. Higher nervous activity. Study of speech, counting, memory, gnosis, praxis. Functional differences between the right and left hemispheres. Anatomy and physiology of the limbic system, symptoms of damage
Neuralgia of the trigeminal and glossopharyngeal nerve. Postherpetic	Neuralgia of the trigeminal and glossopharyngeal nerve Glossalgia and dental

neuropathy of the trigeminal nerve. Glossalgia and dental plexalgia.	plexalgia. Etiology, pathogenesis, clinical picture, diagnosis, differential diagnosis and treatment.
Myofascial pain dysfunctional syndrome of the face, Ganglionitis. Facial nerve neuropathy. Facial hyperkinesis	Myofascial pain dysfunctional syndrome of the face. Ganglionitis of the pterygopalatine, ciliary, submandibular, sublingual, nasal and ear-temporal, geniculate and upper cervical nodes. Facial nerve neuropathy. Facial hyperkinesis: hemifascial spasm, Meige's syndrome, blepharospasm, oromandibular dystonia.
Acute disorders of cerebral circulation. Closed craniocerebral trauma.	Stroke by ischemic and hemorrhagic type. Etiology, clinic, diagnostics. first aid measures at the prehospital stage, treatment, prevention. TBI, etiology, clinic, diagnosis, treatment.
Infectious diseases of the central and peripheral nervous system, meningitis, meningoencephalitis, polyneuropathy, neuro AIDS, neurosyphilis, multiple sclerosis.	Meningitis, meningoencephalitis, polyneuropathy, neuro-AIDS, neurosyphilis, multiple sclerosis. Etiology, clinical presentation, diagnosis and treatment
Syringomyelia, syringobulbia, brain tumors, epilepsy	Syringomyelia, syringobulbia, brain tumors, etiology, clinical picture, diagnosis and treatment. Epilepsy: etiology, clinical picture, types of seizures, diagnosis, first aid at the prehospital stage, treatment.

Developed by:

Associate professor of department of neurology and neurosurgery

N.V. Nozdryukhina

Associate professor of department of neurology and neurosurgery

N.I. Garabova

Head of department
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G.E. Chmutin

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Medical Institute

ANNOTATION OF THE EDUCATIONAL DISCIPLINE

Educational program

05.31.03 Dentistry

Name of the discipline	Normal physiology-physiology of the maxillofacial area
Scope of discipline	5 WE (180 hours)
Discipline summary	
The name of the sections (topics) of the discipline	Summary of sections (topics) of the discipline
Physiology of excitable tissues	General physiology and physiology of the cell. Cell membranes, transport of substances across the cell membrane. Excitability and its parameters. Membrane potential. Action potential. Physiology of the synapse. Physiology of the nerve fiber, nerve. Physiology of muscle contraction.
Physiology of the central nervous system. Physiology of higher nervous activity	Reflex and its characteristics. Inhibition in the central nervous system. Basic properties of nerve centers. Private physiology of the central nervous system. Sympathetic, parasympathetic, metasympathetic NS. The role of the ANS in the development of adaptive responses. Physiology of VND. Conditioned reflex. Dynamic stereotype. Memory. Sleep.
Physiology of sensory systems	General physiology of analyzers. Skin analyzer. Physiology of vision. Physiology of hearing and vestibular apparatus. Physiology of taste and smell.
Physiology of blood	Function and composition of blood. Corpuscular elements of blood. Blood groups. Buffer systems of blood. The system of regulation of the aggregate state of blood.
Digestive physiology	Digestive tract functions. Motor functions of the digestive tract. Secretory function and digestion in the oral cavity. Secretory function and digestion in the stomach, small and large intestines. The role of the liver in digestion. Absorption of nutrients in the gastrointestinal tract.
Excretion, renal physiology	Excretory system. Urine formation in the kidneys. The kidneys as an organ of homeostasis. Non-urinary functions of the kidneys. The role of the kidneys in the development of adaptive reactions of the body. Bladder and urination. Methods for studying renal function.
Physiology of the cardiovascular system	Physiology of the cardiovascular system. Cardiac cycle. Spread of excitement in the heart. Conductive system of the heart. Properties of the heart muscle. Nervous and

	humoral regulation of the heart. Physiology of blood vessels. Basic laws of hemodynamics. Microcirculation and lymph flow . Methods for the study of blood circulation.
Respiratory physiology	Respiration physiology. External respiration. Pulmonary volumes and capacities. Respiration regulation. Carriage of gases by blood.
Physiology of the endocrine glands	Endocrine regulation of physiological functions. General properties of hormones, the hierarchy in the activity of WBC. Private physiology of the endocrine glands.
Metabolism and energy. Thermoregulation	Human metabolism. Energy exchange. Determination of metabolic rate. Basal metabolism, daily energy consumption. Metabolism of proteins, fats and carbohydrates. Regulation of metabolism. Physiological foundations of nutrition. Basic principles of the preparation of food rations. Thermoregulation and thermoreception .
Physiology of the maxillofacial region	The composition and properties of saliva. Physiological significance of oral and gingival fluid. The structure and functions of the organs of the maxillofacial region. Sensory system of the maxillofacial area.

Developers:

Associate Professor of the Department
normal physiology



Yu.P. Starshinov

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normal physiology



E.B. Yakunina

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V.I. Torshin

Program Manager

S.N. Razumova

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Medical Institute

ANNOTATION OF THE EDUCATIONAL DISCIPLINE

**Educational program
31.05.03 Dentistry**

Discipline		Obstetrics
Volume of discipline		3 credits (108 hours)
Module №		Module name. Brief description of the program.
1.	Medical care in outpatient female centre. Structure and organization of the work of obstetric hospital.	The concept of "outpatient female center" (OFC). Tasks, functions and structure of OFC. The concept of "obstetric hospital". Levels of rendering obstetric Objectives, functions and structure of "obstetric hospital". Levels of rendering obstetric care in the Russian Federation.
2.	Normal menstrual cycle and its regulation. Family planning. Birth control.	The concept of "normal menstrual cycle" (NMC). Levels of regulation of the NMC. The concept of "family planning, "a board", "contraception". The tasks of the family planning institute. Abortion classification, indications, methods. Classification of contraceptive methods.
3.	Birth canal. Fetus as an object of labor. Obstetric terminology.	The structure of the bone pelvis (muscles and fascia of the pelvic floor). Pelvis planes. The concepts of "full-term" and "mature" fetus. Head dimensions. Obstetric terminology: lie; presentation; attitude; position; visus (type of position).
4.	Obstetric examination (methods of investigations of pregnant and parturient women). Diagnosis of pregnancy. Determination of gestational age	Pelvimetry. The concept of "true conjugate." Methods for determining the true conjugate. Amniocentesis, chorionic biopsy and cordocentesis - definitions. The gold standard for diagnosing pregnancy. Reliable signs of pregnancy. Negele's rule and its modifications.
5.	Mechanism of labor in occiput anterior and posterior presentation	The concept of "mechanism of birth." Fetal movements. The concept I "point of support" and "fixation point". The concepts of "right inner turn" and "wrong inner turn."
6.	Clinics and management of labor in vertex presentation Physiology of the postpartum period. Breech presentation of the fetus. Mechanism and management of labor in breech presentation.	The concepts of "childbirth", "contractions", "attempts." Causes of onset of labor. Periods of labor. The concept of "afterbirth." Determination of physiological blood loss in childbirth. The first toilet of the newborn. The duration of the postpartum period. Modern perinatal technology. The concept of "breech presentation" (BP). BP classification, risk factors, BP diagnosis. Features of labor in the BP.
7.	Multiple pregnancy	The concept of "multiple pregnancy" (MP). Risk factors, classification, diagnosis, complications of MP. Optimal delivery time and methods of delivery in patients with MP.
8.	Pre-eclampsia	The concept of "pre-eclampsia" (PE). Risk factors, classification, pathogenesis, clinic, diagnosis, treatment and prevention of PE.

Authors:

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Lebedeva M.G.

MD, Dr, assistant of the Department

Kretsu V. N.

MD, Dr, assistant of the Department

Zulumyan T.N.

Head of Department

Obstetrics & gynecology with perinatology course,
Professor

Radzinsky V.E.

*The Federal State Autonomous Educational Institution of Higher Education
Peoples' Friendship University of Russia*

Medical Institute

ANNOTATED PROGRAM ON DISCIPLINE

**Educational program
31.05.03 Dentistry**

Name of the discipline	<i>Ophthalmology</i>
General labour intensity	2 points of credits (72 Hours)
Abstract discipline	
Name of the discipline section	Content of the section
Anatomy. Methods of examination	1.1 Three parts of the visual analyzer. Anatomy of the orbit 1.2 Protective apparatus of the eye. Conjunctiva. 1.3 Lacrimal organs. Tear secretion and evocation. 1.4 Tunics of the eyeball. Vitreous body. 1.5 examination of the eye with the side light and in transmitted light. The basics of ophthalmoscopy. 1.6 Central and peripheral vision. 1.7 changing of the vision fields. 1.8 Light perception. Light adaptation.
Visual acuity. Refraction. Accommodation.	2.1 Opticsystem of the visual organ. 2.2 Visual acuity. 2.3 Physical and clinical refraction. 2.4 Accommodation and convergence. 2.5 refractive errors. Correction. 2.6 Astigmatism, its types, principles of correction. 2.7 Presbyopia, principles of correction. 2.8 refractive surgery.
Binocular vision. The strabismus.	3.1 Binocular vision. 3.2 Strabismus, types. Reasons. 3.3 Amblyopia. Classification. 3.4 treatment of strabismus.
Inflammatory eye diseases (conjunctivitis, keratitis, scleritis)	4.1. Acute infectious conjunctivitis. Classification. Treatment. Chronic conjunctivitis. Classification. Treatment. Allergic conjunctivitis. Classification. Treatment. 4.2. General symptoms of cornea diseases. Exogenous keratitis. Endogenous keratitis. Etiology, clinical symptoms, treatment. corneal ulcer. Etiology, clinical picture, treatment. outcomes of keratitis. Treatment of keratitis and their consequences. 4.3.Sclerites. The clinical symptoms.
Diseases of the vascular tunic	5.1 Iritis. Iridocyclitis. Clinical picture, diagnostics, treatment. 5.2 Chorioretinitis. Clinical picture, diagnostics, treatment. 5.3 Degenerative changes in the vascular tunic. Congenital anomalies. 5.4 Tumors of the vascular tunic. Diagnosis. Treatment.

Glaucoma cataract	6.1. Definition of glaucoma. Normal and elevated IOP, Etiology, pathogenesis and classification of glaucoma. Acute attack of glaucoma. Features of the clinical picture. Treatment. Methods of treatment of glaucoma 6.2. Definition of cataract. Classification of cataracts. Link cataracts development with systemic diseases. Modern principles of treatment of cataract.
Diseases of the retina and optic nerve	7.1. Retinite. Retinal changes in the cases of systemic diseases. The clinical picture. Treatment. Degenerative changes of the retina. The clinical picture. Treatment. 7.2. Inflammatory and not inflammatory diseases of the optic nerve. Features of the clinical picture. Treatment.
Damage to the organ of vision and their prevention. Organization of eye care. Eye diseases in tropical countries	8.1 the Causes and classification of eye injuries. Damage to the eyelids. 8.2 Blunt trauma of the eye-ball. Trauma of the orbit. Diagnosis. Treatment. 8.3 eye burns. Classification. The methods of treatment. 8.4 Organization of eye care. vision disability 8.5 features of ocular pathology in countries with a tropical climate. Classification of eye diseases in tropical countries. Ophthalmogerpesa (main types). 8.6 ophthalmomyiasis. Treatment, prevention. 8.7 Changes of the eye in general diseases. Treatment. 8.8 the eye diseases in cases of vitamins' deficiency, animals's and plants's poisons

Authors:

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M.A. Frolov

Associate Professor of the
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A.M. Frolov

Senior lecturer of the
Department of eye diseases
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Head of Department
Eye Diseases
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M.A. Frolov

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Medical Institute

DISCIPLINE ANNOTATION

Basic educational program

31.05.03 Dentistry

Name of the discipline	<i>Pathophysiology – Pathophysiology of Head and Neck</i>
Volume of the discipline	5 credit units (180 academic hours)
Summary of the discipline	
Names of chapters (topics) of the discipline	Summary of chapters (topics) of the discipline
<ol style="list-style-type: none"> 1. General nosology Ecologic pathophysiology 2. Cell pathophysiology 3. Standard pathological processes 4. Standard metabolic disorders 5. Extreme states 6. Blood pathophysiology 7. Pathophysiology of cardiovascular system 8. Pathophysiology of respiratory system 9. Pathophysiology of a gastrointestinal tract 10. Pathophysiology of secretory system 11. Pathophysiology of endocrine system 12. Pathophysiology of nervous system and higher nervous activity 	<ol style="list-style-type: none"> 1. Conception about health and disease; definition of patho- and sanogenesis. Civilization diseases; chronopathology. 2. Pathology of biomembranes and organelles of the cell; types and mechanisms of cellular death; violations of biorhythms of the cell. 3. Disorders of local blood circulation; inflammation; immunity, immunopathology; allergy. Features of allergic reactions to the materials used in dentistry. Pathophysiology of tumor growth. Hypoxia. Pathogenesis of parodont diseases due to the deficiency of oxygen in tissues. 4. Carbohydrate, fatty, proteinaceous, purine, pathology of a thermal exchange of an organism; pathology of a water-salt exchange, hypostases; acid and main condition of an organism. Disturbances of protein metabolism in cariogenesis. Influence of imbalance of carbohydrate metabolism on the course of diseases in the oral cavity. 5. Pain, stress; shock; collapse; coma; clinical and biological death. 6. Diseases of red blood; diseases of white blood; hemorrhagic diathesis. Oral manifestations and its pathogenesis. 7. Arrhythmias; coronary heart disease; complications of a myocardial infarction; heart diseases; cardiomyopathy; myocarditis; endocarditis; pericarditis; heart failure. Pathophysiology of a vascular wall. 8. Respiratory failure; asphyxia; emphysema of lungs; a swelled lungs; bronchial asthma; pneumothorax. 9. Stomach ulcer of a stomach and duodenum; pathophysiology of a liver and bile ducts;

	<p>pancreas pathophysiology; intestinal impassability.</p> <p>10. Nephrotic syndrome; the acute and chronic diffusion glomerulonephritis; pyelonephritis; renal lithiasis; chronic renal failure; uremia; renal coma.</p> <p>11. Pathophysiology of hypothalamic-pituitary-adrenal systems, thyroid and parathyroid glands, parathyroid glands, a thymus, an epiphyses, sexual glands. Oral manifestations and its pathogenesis.</p> <p>12. Pathophysiology of functional neurosis; pathological reflexes; pathophysiology of sleep disorders; pathophysiology of violations of memory.</p>
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Developers:

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M.L. Blagonravov

Associate professor of V.A. Frolov Department of
General Pathology and Pathological Physiology

V.A. Goryachev

Head of V.A. Frolov Department of
General Pathology and Pathological Physiology

M.L. Blagonravov

Medical Institute

ANNOTATION OF THE TRAINING DISCIPLINE

Educational program

31.05.03 "Dentistry"

Name of the discipline	<i>Psychiatry and Narcology</i>
The scope of the discipline	2 ZE (72 hours)
The summary of the discipline	
Title of topics (topics) of the discipline	The summary of topics (topics) of the discipline:
I.General psychiatry	Psychiatry: definition, branches of psychiatry, types of psychiatric care. Methods of treatment of mental illnesses. Classification of mental illnesses. Disorders of sensations, disorders of sensory synthesis. Perceptual disorders. Classification, clinical manifestations. Disorders of the associative process. Types of delusions according to content. Delusions, classifications. Overvalued ideas. Obsessions, classification. Delusions of persecution. Delusions of greatness. Depressive delusions. Symptoms of emotional (affective) disorders. Symptoms of memory impairment. Asthenic syndrome: symptomatology, stages. Delusional syndromes. The paranoid syndrome. Hallucinatory-paranoid syndrome. The Kandinsky-Clerambo syndrome. Paraphrenic syndrome. Cotard syndrome. Syndrome of dysmorphophobia-dysmorphomania. Emotional (affective) syndromes. Manic syndrome. Depressive syndrome. Types of depressions. Types of emotional syndromes. Apathic syndrome. Catatonic syndrome. Amnestic syndrome. Korsakov's syndrome. Catatonic-gebefrenic syndrome. Psycho-organic syndrome. Dementia: varieties. Disorders of consciousness. Depersonalization: varieties. Disorders of sensory synthesis. Paraphilias. Phobic syndrome. Types of obsessions.
II.Psychopathology. Categories of mental disorder.	Oligophrenia: definition, classification, methods of treatment and rehabilitation. Mental disorders in neurosyphilis: varieties, methods of diagnosis, treatment and rehabilitation. Epilepsy: definition, clinical manifestations, methods of diagnosis and treatment. Paroxysmal disorders in epilepsy: classification. Non-paroxysmal disorders in epilepsy. Mental disorders in the lesions of cerebral vessels: varieties, clinical manifestations, methods of treatment. Mental disorders in cerebral atherosclerosis, clinical manifestations, Mental disorders in hypertensive disease. Presenile (involutional) psychoses. Alzheimer's disease. Mental disorders in atrophic diseases of the brain. Alcoholism. Addiction. Substance abuse. Mental disorders in infectious diseases. Mental disorders in AIDS. Mental disorders in somatic diseases. Psychosomatics: definition. Varieties of psychosomatic pathology. Mental disorders in craniocerebral trauma. Schizophrenia: definition, the main symptoms and syndromes of mental disorders in schizophrenia. Bipolar affective disorder. Psychogenic disorders. Reactive psychosis. Neuroses. Post-traumatic stress disorder: definition, clinical manifestations, methods of treatment. Personality disorders (psychopathy). Anorexia nervosa and bulimia nervosa.
III.III. Treatment of mental disorders	Methods of treatment of mental illnesses. Psychotropic drugs: definition, classification. Psychotherapy: definition, basic methods of psychotherapy. Neuroleptics: definition, classification, spectrum of psychotropic action of neuroleptics. Varieties of psychomotor agitation. Methods of arresting psychomotor agitation. Tranquilizers. Definition, classification, spectrum of psychotropic effects, side effects. Antidepressants: Definition, classification. Complications and side effects in the treatment of antidepressants. Nootropics: definition, Mechanism of action, indications and adverse effects of basic nootropic drugs, side effects of nootropics. Psychostimulants, normotimics: Mechanism of action, indications and adverse effects and complications. Anticonvulsants. Epileptic status: definition, clinical manifestations, basic methods of treatment. Treatment of epilepsy: principles, basic anticonvulsants. Basic principles of treatment and rehabilitation of patients with schizophrenia. Basic principles of treatment and rehabilitation of patients with affective psychoses. Basic principles and stages of treatment of patients with chronic alcoholism. Treatment of patients with neuroses. Basic

	<p>psychotropic drugs, methods of psychotherapy. Treatment of patients with anorexia nervosa and bulimia nervosa. Treatment of post-traumatic stress disorders. Diagnosis, types of treatment and rehabilitation of patients with mental disorders due to craniocerebral trauma.</p>
IV. Medical psychology	<p>Tasks and goals of the work of a medical psychologist in the clinic of internal diseases, in a psychiatric clinic. Methods of pathopsychological study. Methods and types of psychological psychotherapy. Abnormalities in mental activity in organic diseases of the brain. Disorders of memory in organic diseases of the brain. Features of impairment thinking in schizophrenia. Features of the emotional sphere and thinking in personality disorders. Features of the work of a psychologist with oncological patients. Features of mental performance in patients with eating disorders. Features of thinking, emotions and memory in patients with epilepsy. Technique of memorizing 10 words. Method "Pictogram". Methodology "Classification of objects". Features and objectives of using psychometric scales in the clinic of internal diseases and psychiatric clinic. Methodology of "Exception of excess"</p>

Developers:

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Medical Institute

ABSTRACT EDUCATIONAL DISCIPLINE

Educational program

31.05.03 Dentistry

Course name	Public Health and Healthcare
General labor intensity	2 credits (72 hours)
Contents of the discipline	
Name of the discipline section	The summary of topics (topics) of the discipline:
Theoretical and methodical foundations of the discipline "Public Health and Healthcare ", state policy in the field of public health.	Public health and health care as a science and subject of teaching. Brief history of public health. Legal basis of public health in the Russian Federation. Methods of studying the patterns of the formation of public health and the activities of health services. Health care in foreign countries. International cooperation in the field of health.
Public health: the concept, study, assessment of indicators and determinants of public health.	Medical demography. Medico-social aspects of demographic processes. Morbidity, disability and physical development.
Fundamentals of medical statistics and organization of medical and social research. Statistical analysis.	Fundamentals of Medical Statistics. Organization (stages) of medical and social research. Statistical methods of processing the results of medical and social research.
The organization of medical and preventive care for the population and the functioning of the main health subsystems.	Organization of treatment and preventive care for the population. Primary health care. Out-patient assistance to the population. Organization of inpatient medical care. Emergency care. Basic principles of organization of dental care for the population. Organization of work of an independent dental clinic. Socio-hygienic importance of the major diseases and the organization of treatment and preventive care with them. Organization of health care for workers in industrial enterprises, construction and transport. Organization of medical care for the rural population. System of maternal and child health protection. Organization of state sanitary and epidemiological surveillance. The organization of sanatorium-and-spa help. Medicinal assistance to the population. Provision of health care facilities with medical equipment and instruments. Quality management of medical care. Examination of temporary and permanent disability.

The problems of health preservation, disease prevention, family health and medical ethics.	The problems of disease prevention and health promotion. Participation of public organizations in the protection of public health. Family as an object of medical and social research and primary health care. Medical ethics and deontology, bioethical problems of medicine.
Fundamentals of health economics and health insurance. Management of health care and medical personnel.	Fundamentals of health management. Fundamentals of Economics, Planning and Financing of Health. Marketing in health care. Fundamentals of social and health insurance. Training of medical personnel.

Developers:

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Medical Institute

Annotation of the academic discipline

Educational program

31.05.03 Dentistry

Name of the discipline: Diagnostic radiology	<i>Radiodiagnosis</i>
Duration of teaching	3 ZE (108 hours.)
Brief contents of the discipline	
The names of parts (topics) of the subject	Brief contents of the subject’s parts (topics):
1. X-ray methods of diagnostics	Physical basis for getting a diagnostic image in X-ray examination, methods of X-ray examination (radiography, fluorography, electro-radiography, fluoroscopy, TV fluoroscopy, digital radiography)
2. Ultrasonography	Physical properties of ultrasound, source and receiver of ultrasound, principles of modern ultrasonographic equipment, major methods of ultrasonography
3. Basis of radionuclide methods	Principles of radionuclide diagnostics, typical radionuclide diagnostic system, classification of radionuclide examinations, principles of radiopharmaceuticals choosing depending on radionuclear and pharmacological properties, classification of radiopharmaceuticals depending on the effective excretion half-life
4. X-ray computed tomography (CT) and magnetic resonance imaging (MRI)	CT and principles of getting images in CT. Distinctions from conventional tomography, areas of use, indications and contraindications. MRI and principles of getting images in MRI. Indications and contraindications.
5. X-ray methods for facial-jaw area	All methods of internal and external radiography of teeth, classification including general-view radiography, intra-mouth, external radiographs, radiography in oblique contact and tangential projections, indications for each of those methods.
6. Development and anatomy of teeth and jaws in radiography	Three periods of teeth development, X-ray variants and characteristics of each period (degree of mineralization, stages of radices’ formation). Reasons of dentition retardation and their detection.
7. Diagnostics of in-born and acquired deformities of facial-jaws region.	Various anomalies of teeth position and development: change of their number, size, shape and structure. X-ray picture and clinical signs in each kind of teeth anomaly, diagnostic value of X-ray methods.

8. X-ray diagnostics of caries, pulpitis, periodontitis, paradentium diseases.	X-ray features of caries depth depending on size and localization. Differential diagnostics of caries in X-ray examination. Algorithm of X-ray examinations in caries. Classification of pulpitis. X-ray examination in pulpitis. Classification of X-ray features of periodontitis (acute apical, chronic with granuloma formation, chronic fibrotic, exacerbation of chronic course). Algorithm of X-ray examinations in periodontitis.
9. X-ray diagnostics of traumas of the jaws and teeth	Classification of fractures of maxilla, mandibula, cheekbone. X-ray method and other methods in traumas of facial-jaws region.
10. X-ray diagnostics of malignant tumors of the jaws	The main groups of malignant tumors according to histology (cancer, sarcoma) and localization, all methods of diagnostic radiology in tumors of facial-jaw region, indication for and diagnostic value of each method.
11. X-ray diagnostics of benign tumors and cysts of the jaws. The main methods of radiation therapy.	The main groups of odontogenic and non-odontogenic cysts their X-ray features used for differential diagnostics. The main methods of X-ray diagnostics of those cysts. The main groups of benign tumors: odontomas, ameloblastomas, cementomas, myxomas, odontogenic fibroma, osteoclastoma, their X-ray features used for differential diagnostics
12. Diagnostic radiology in salivary glands' diseases	Anatomical features of parotid, submandibular and sublingual salivary glands, classification of their diseases depending on etiology and pathogenesis, characteristic X-ray features of various diseases. Contrast method of X-ray examination, contrast media; indications, contraindications and diagnostic value of sialography.
13. Radiation oncology.	Installations for radiotherapy. Topometry. Methods of radiotherapy. Radiotherapy from 1 field and multiple fields. Distant radiotherapy, intra-tissue irradiation.
15. Basic principles of radiotherapy for tumors of facial-jaw region.	Variants of radiotherapy and their use in the diseases of facial-jaw tumors, possible combination of radiotherapy with other methods of treatment.

Developed by:

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Kaprin A.D.

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Medical Institute

ANNOTATION

**Educational Programme
31.05.03 DENTISTRY**

<i>Discipline</i>	Russian Language and Speech Culture
General labour intensity	3 ZE (108 hours)
General content of the discipline	
Sections of the disciplines	Summary of sections
CULTURE OF ACADEMIC AND SCIENTIFIC COMMUNICATION	Russian language and speech. A culture of speech. Types of communication: academic, scientific etc. The basic concepts of the course. Literary language, literary and linguistic norm. Types of norms. Speech and its characteristics. Speech influence. The methods of persuasion. The basic norms and rules of non-verbal and verbal etiquette.
CULTURE OF PROFESSIONAL COMMUNICATION	Professional communication: the essence, features, innovative technology tools. Communicative portrait of a specialist. Oral professional communication: general concept, the basic communication forms and signs. Written speech of a doctor. Innovative informational and communicative technologies of a professional interaction. Tolerant intercultural professional communication: the basic principles and strategies.

Developers:

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M. A. Bulavina

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R. A. Arzumanova

**Head of the Department
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V. B. Kurylenko

Medical institute

SUMMARY OF ACADEMIC DISCIPLINE

**Educational program
31.05.03 Dentistry**

N	Topographic anatomy and operative surgery of the head and neck
General labour intensity	c
Course summary	
The name of the discipline sections	Summary sections of subjects:
Topographic anatomy of the head	<p>Topographic anatomy of the cerebral part of head. Cranial convex. Fronto-parietal-occipital, temporal region, the region of the mastoid process. Brain membranes and intermeningeal spaces. Venous sinuses of the dura mater. The blood supply to the brain. Topographic anatomy of the facial part of the head. Anterior face region. The region of the orbit. Infraorbital and zygomatic regions.</p> <p>Nose region. External nose. Nasal cavity. Paranasal sinuses. Pathways of pus at sinusitis.</p> <p>Topographic anatomy of the mouth region. Lips. The vestibule of the mouth. The teeth, gums. Oral cavity: hard palate, soft palate, tongue. The bottom of the oral cavity. Malformations of the lips, hard palate and operations at them. Incisions in phlegmon of the mouth floor.</p> <p>Topographic anatomy of the lateral superficial region of the face. Surgical anatomy of the facial nerve. Buccal region. Fat body of the cheek.</p> <p>Parotid-masseteric region. Surgical anatomy of the parotid salivary gland. Incisions at parotiditis. Surgical anatomy of the temporomandibular joint.</p> <p>Topographic anatomy of the deep lateral region of the face. Venous pterygoid plexus. Surgical anatomy of the maxillary artery and mandibular nerve. Cellular spaces and pathways pus spreading.</p>
Topographic anatomy of the neck	<p>Topographic anatomy of the neck. Fascias and cellular spaces of the neck. Middle region of the neck. Submandibular, carotic triangles. Submental and scapular-tracheal triangle.</p> <p>Sternocleidomastoid region. Scaleno-vertebral triangle. Lateral region of the neck.</p> <p>Surgical anatomy of the subclavian artery and vein, brachial plexus. Surgical anatomy of the larynx, trachea, pharynx, cervical esophagus and thyroid gland.</p>
Operative surgery of the head and neck	Surgical instruments. Suture material. The main

	<p>elements of operational techniques are: the separation of tissues, stop bleeding, technology application and removal of skin sutures, tying ligature knots. Equipment for suturing wounds on face (hidden, plate suture).</p> <p>Operations on the calvaria. Primary surgical treatment of wounds areas of the cranial vault. Ways to stop bleeding of damaged soft tissues, bones of the cranial vault, middle meningeal artery, venous sinuses. Trepanation of the skull: osteoplastic and resection (decompressive). Special instruments.</p> <p>Principles of surgical treatment of wounds of the maxillofacial region. Incisions in purulent processes.</p> <p>Incisions at purulent inflammation of the middle of the neck. Ligation operation facial, lingual, common and external carotid artery.</p> <p>Tracheostomy. Conicotomy.</p> <p>The operation on the thyroid gland.</p>
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Developers:

Associate Professor Department of operative surgery and clinical anatomy named for I.D. Kirpatovsky

D.L. Titarov

Head of Department

Department of operative surgery and clinical anatomy named for I.D. Kirpatovsky

A.V. Protasov