Programs on speciality “General Medicine”

ANESTHESIOLOGY AND REANIMATOLOGY

“Anesthesiology - Reanimatology - is a science about anesthesia and control of the vital functions of organism and about regeneration and time their prosthetic repair in the acute situations in surgical practice at operative measures and trauma, and in wide clinical practice at infringements of the part of respiratory organs, circulation, endocrine system, processes of metabolism, etc., i.e. a science about resuscitation of organism, pathogenesis, prophylaxis and treatment of terminal states” - the citation from programs (page 3). Studying of this discipline lasts 30 hours (the 6th year). The program on Anesthesiology and Reanimatology consists of the following sections:

1. Basic and particular problems of Anesthesiology.
   - Definition of Anesthesiology as a discipline about the methods of anesthesia and protection of organism against surgical aggression, control or time replacement of the vital functions of the patient during operation and in the nearest postoperative period.
   - Physiology of pain.
   - Classification of the methods of anesthesia.
   - The constituents of General Anaesthesia.
   - Inhalation of narcosis. Inhalation of anesthetics (ether, nitrous oxide, trilenum, florotanum, ethrane). Procedure of application, the indication, contraindication, complication, their prophylaxis and treatment.
   - Muscular relaxants. The mechanism of activity, classification, clinical application.
   - Non- inhalational narcosis. Classification of types and methods
   - Combined methods of general anaesthesia.
   - The basic stages of general anaesthesia.
   - Local anaesthesia. Local anaesthetics, the mechanism of activity, the comparative characteristic of local anaesthetics. Chloroformium. Types of local anaesthesia - terminal, infiltrative, conduction, spinal, epidural.
   - Complications in general and local anaesthesia.
   - Safety of a patient during general and a local anesthesia. Monitoring of vital functions of an organism during anaesthesia and operations.
   - Clinical anaesthesiology.

2. General and particular problems of reanimatology.
   - Definition of Resuscitation as the part of medicine studying the theory and developing methods of regeneration of the vital functions of the organism at apnoea, at clinical mors, providing simulated replacement, control and regeneration of vital functions - treatment of the patients who are in terminal states.

Failure of circulation. Types of a cardiac failure, diagnostics.
Complex cardiopulmonary and cerebral reanimation.
Electroimpulsive therapy - a defibrillation, cardioversion, electrocardiostimulation.
«Cerebral death», indications to stop the reanimation management.
Deontological, ethical and social - legal questions, connected with reanimation. Concept about illness of a brisk organism. Methods of reanimation and an intensive care at acute respiratory failure.
Artificial ventilation of lungs, indications, methods of carrying out.
An intensive care in early postoperative period. Features of infusional-transfusion therapy.

The 6th year student should know:

1. History of an Anesthesiology and Reanimatology.
2. Physiology of pain. Theories of narcosis.
3. Types and methods of anesthesia.
5. Complex cardiopulmonary and cerebral reanimation.
6. The organization and principles of work of an anesthesiological, reanimation and intensive care department.
7. Features of anesthesia at various types of surgery.
8. Complications in anesthesiology at the early postoperative (postanesthetic) period.

The 6th year student should be able:

1. To define a state of a clinical death.
2. To carry out respiration "from a mouth into a mouth", "from a mouth into a nose", with the aid of artificial airways and an 8-shaped tube, manual respiratory apparatuses.
3. To carry out an indirect cardiac massage.
4. To define duration and the arrest of reanimation actions.
5. To define indications for electrical defibrillation and to be able to carry it out.
6. To carry out oxygen therapy by means of nasal catheters or masks.
7. To define a central venous pressure.
8. To assist at a pre-hospital stage at asphyxia, overflow, electric traumas.
9. To define indications to artificial ventilation of lungs.
10. To define medical management at cupping of a convulsive syndrome, asthmatic states, mechanical obstruction of trachea or bronchi.
11. To carry out an artificial diuresis.
12. To stop a pain syndrome.

**BIOCHEMISTRY**

1. **Physical-chemical properties of protein.**
   Amino acids. Acids, bases, pH, buffers and ionization of amino acids.

2. **Structure of a protein molecule.**

3. **Methods of protein purification.**

4. **Enzymes. Structure and properties. Kinetics of enzymatic reactions.**

5. **Enzyme inhibition. Regulation of enzyme activity.**

6. **Medical enzymology.**

7. **Methods of estimation of protein metabolism.**

8. **Biological membranes. Introduction in a metabolism. Biochemistry of power supply and digestion.**

9. **Bioenergetics.**
   Free energy is useful energy in a system. Biologic systems conform to the general laws of thermodynamics. Endergonic processes proceed by coupling to exergonic processes. High-energy phosphates play a central role in energy capture and transfer. The intermediate value for free hydrolysis energy of ATP compared to other organophosphates has important bioenergetic significance. High-energy phosphates act as “energy currency” of the cell. ATP allows the coupling of thermodynamically unfavorable reactions to favorable ones.

10. **Biologic oxidation. Organization of the electron transport (respiratory) chain. Oxidative phosphorylation.**
Structure of the mitochondrial membranes and organization of the electron transport (respiratory) chain. Oxidative phosphorylation of ADP. Hypotheses of oxidative phosphorylation mechanism. Oxidative systems are not developing with energy production.

11. **Common catabolism ways**
   Citric acid cycle (sequences of reactions, energy yield, enzymes, regulation). The oxidation of pyruvate to acetyl-CoA (sequences of reactions, enzymes, regulation).

12. **Carbohydrate metabolism. Glycolysis under anaerobic and aerobic condition.**
   The main carbohydrate in tissues of a human, biologic role. Digestion of carbohydrate. Glucose is a major metabolite of carbohydrate metabolism. Glycolysis under anaerobic condition (sequences of reactions, energy yield, enzymes, regulation). Glycolysis under aerobic condition. Fats of pyruvate (entry into the citric acid cycle, conversion to fatty acid or ketone bodies, conversion to lactate, conversion to ethanol).

13. **Pentose phosphate pathway. Gluconeogenesis.**

14. **Metabolism of glycogen, fructose and galactose.**

15. **Methods of carbohydrate metabolism estimation.**

16. **Lipids metabolism. Digestion of lipids. Transport and oxidation of fatty acids.**

17. **Biosynthesis of lipids.**

18. **Biochemistry of atherosclerosis.**

19. **Digestion of proteins, transamination and deamination of amino acids.**

20. **Amino acids metabolism. Urea cycle. Amino acids decarboxylation.**

21. **Metabolism of amino acids. Transmethylation. Metabolism of phenylalanine and tyrosine.**

22. **Methods of carbohydrates lipids and protein metabolism estimation.**

23. **Colloquium “Metabolism of carbohydrate and lipids”.**


Structure, metabolism, biological functions, recommended dietary allowance, deficiency.

29. **Water-soluble vitamins**: C, P, B₁, B₂, B₆, niacin.
Structure, metabolism, biological functions, recommended dietary allowance, deficiency.

30. **Water-soluble vitamins**: biotin, folic acid, B₁₂, pantothenic acid.
Structure, metabolism, biological functions, recommended dietary allowance, deficiency.

31. **Methods of express-diagnosis.**

32. **Colloquium “Integration of metabolism. Regulation of metabolism”.**


34. **Cancerogenesis. Oncogenes. Growth factors. Metabolism of xenobiotics. Biochemistry of liver.**

35. **Partial control of practical skills.**


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**BIOORGANIC CHEMISTRY**

   Electronic structure of chemical bonds in organic compounds. σ and π-bonds, types of element atom hybridization – organogens (sp³, sp²-, sp-hybridization).
   Covalent bond formation. Covalent carbon-carbon bonds (single bonds, double bonds and triple bonds). Inductive and resonance effects.


reagents in organic reactions. Substitution, adding and eliminating reactions. Classification of the hydrocarbons.


Dicarboxylic acids. Carboxylic acid decarboxylation.


Heterofunctional benzene derivatives as pharmaceutical substances. Para-aminobenzoic, sulphanilic ans salicylic acids and their derivatives.


   Stages of aminotransferase-catalyzed transamination reactions of amino acids.


15. Nucleic acids, Deoxyribonucleic acid (DNA) and ribonucleic acid (RNA). Nucleosides and nucleotides that can be obtained from DNA. Nucleosides and nucleotides that can be obtained from RNA. 3',5'-cyclic adenylic acid. Deoxyribonucleic acid: DNA. Primary and secondary structures. Nucleic acids and protein synthesis. Messenger RNA, genetic code. Ribosomes RNA. Transfer RNA.


**BIOPSY-SECTION COURSE**

Aim of the course - master method of clinical-anatomic analyses of biopsy, operational, sectional material, principles of diagnostics.

The main demands for students’ knowledge and skills:
- bases of legislation on Health care system and documents, regulating activities of health organizations;
- general questions of pathologic-anatomy service organization, directive, normative, methodic documents on the discipline “Pathological Anatomy”;
- judicial problems in pathologist’s activity;
- doctrine of disease, etiology, pathogenesis, nozology; organopathology, syndromologic and nozologic principles in disease research;
- analyses of clinic and pathologic diagnosis;
- principles of formulation of pathologic diagnosis; filling in death certification according the demands of International diseases classification;
- forms and methods of sanitary enlightenment.

Sectional work.
Biopsy work.
Steps of taking material for gystology research and sending it to prosectorium. Taking biopsy and filling in the documentation. Macroscopic description.

Hystology work.
Taking material for hystology research. Preparing of the main chemical substances used in hystology and cytology laboratories. Methods of painting the material. Getting acquaintance with contemporary methods of morphology research. Cytology diagnosis.

Preparing the result documents on section and biopsy.
Filling in and serving the documents.

CARDIOLOGY AND FUNCTIONAL DIAGNOSTICS

Rheumatic disease, the modern idea of its etiopathogenesis. A clinical pattern of the basic manifestations. Diagnostic methods.


Mitral stenosis (an etiology, a hemodynamics, clinic, diagnostics). Failure of the mitral valve (an etiology, a hemodynamics, clinic, methods of diagnostics). Mitral fault with predominance of failure or a stenosis, without precise predominance. Tricuspidal heart diseases.

Aortal stenosis (an etiology, a hemodynamics, clinic, diagnostics). Failure of the aortal valve (an etiology, a hemodynamics, clinic, diagnostics). Aortal fault with predominance of a stenosis or failure, without precise predominance.

Differential diagnostics of the got heart diseases with an atherosclerotic lesion of valves, cardiomyopathies, пролапсом the mitral valve.

Differential diagnostics of the got faults with congenital faults (the open arterial duct, a coarctation of an aorta, a stenosis of an ostium of a pulmonary artery, Fallot’s tetrad).

Classification of cardiomyopathies, hypertrophic, dilitative, restrictive. Abundance, the social significance. A pathogenesis of infringements of an intracardiac hemodynamics. The basic clinical exhibiting. Opportunities of diagnostics, информативность methods of diagnostics, a role echocardiographical examinations, biopsies of a myocardium. Flow and complications. Opportunities of conservative treatment, the indication to operative treatment.


Tactics of the doctor at revealing a pain set of symptoms in range of heart. Definition of angina pectoris, the idea of syndroms, its causes. Differential diagnostics of angina, cardialgia of a noncoronal origin.


Differential diagnostics of a myocardial infarction, a pericarditis, a stratifying aneurysm, etc.). Treatment of a uncomplicated myocardial infarction. Medical tactics during different periods of a myocardial infarction. Diet and motorial regimen.

Complications of a myocardial infarction. Treatment of complications, the emergency help. Prophylaxis of complications. Thrombolytic, anticoagulative, antiagrigative therapy, indications and contraindications, complications. Relapsing and repeated myocardial infarction. The physical
aftertreatment of patients with a myocardial infarction. A psychologic, social aftertreatment, deontological aspects. Indications and contraindications for a direction in abjoining an aftertreatment.


Bouveret's disease, etiopathogenesis, clinic, methods of diagnostics, treatment. Fibrrillation of auricles, the causes, clinic, diagnostics, treatment. Indications and contraindications to regeneration of a sinoatrial rate. A flutter and a ventricular fibrillation, an asystolia, the causes, clinic, diagnostics, treatment. Rendering of the emergency help at paroxysmal infringements of a cardiac rhythm.


Arterial hypertensions (AH), definition, methods of revealing. Classification of arterial hypertensions. The plan of examination of a patient with AH. Differential diagnostics of the symptomatic AH. Renal (renovascular, nephritic, renal tumors). Endocrine (illnesses and an Icenco-Cushing syndrome, B-¼ Con’s, a pheochromocytoma). Hemodinamical (atherosclerosis of aorta, a coarctation of an aorta). Characteristic of the treatment of the symptomatic AH.

Etiopathogenesis of AH. The role of the central infringements of a regulation of the arterial pressure, sympathetic nervous system, humoral and hormonal and depressive factors in development of AH. Classification, clinic, hemodinamical types. Complications of AH. The principles of treatment


“CHILDREN INFECTIONS”

4. Different diagnosis with infectious mononucleosis, peritonsillitis, purulent anginas.
7. Scarlatina. Chicken-pox.

CHILDREN SURGERY, TRAUMATOLOGY AND ORTHOPEDICS”
1. **Aims of the discipline. Its place in educational process.**
   Students are to be ready to render emergent assistance, are to know methods of clinic and special diagnostics, medical and surgical tactics used in general practitioner work.

2. **Contests of the discipline.**
   - Acquired intestinal obstruction of children: obstruction of an intestine, invagination strangulated inguinal hernia.
   - Ostomyelitis of children.
   - Inherent faults of development and disease of esophagus, stomach (ventriculus) and fine (thin) intestine. Combustions of esophagus and their complication.
   - Faults of development of thick intestine, anorectal range.
   - Traumatology and orthopedics of children’s age.

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**CLINICAL LABORATORY DIAGNOSTICS**

1. Laboratory examinations of physical, biochemical and microscopic properties of urine, feces, pleural contents.
   - Methods of protein, glucose, ketone particles determination in urine.
   - Microscopy of urine sediment.
   - Physical properties of feces. Diagnostic significance of macro- and microscopic research. Feces examination for latent blood.
   - Sputum examination. Diagnostic significance.
   - Diagnostic examination of pleural contents. Laboratory differences of exudates from transudate, their diagnostic significance.

   - Clinical significance of protein, glucose and bilirubin level determination in the blood serum.
   - Rules of taking blood for common analysis.
   - Erythrocytes determination, its clinical – diagnostic significance.
   - Leucocytes, erythrocytes, coloring index level determination and diagnostic significance.
   - Reticulocytes amount determination, diagnostic significance.
   - General rules of interpreting findings of glucose, protein and bilirubin examination.

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**CLINICAL LABORATORY DIAGNOSTIC**

1. Laboratory research and clinical commenting of the urine, mucus, sweaty liquids results.
   - Clinical significance of non-protein nitrogen compounds for kidney pathology estimation.
Clinical – diagnostic significance of sweaty liquid laboratory research. 
Main laboratory indications of urine and their clinical – diagnostic significance at diseases and pathologic conditions. 
Clinical estimation of the results of mucus laboratory research. 
Clinical – diagnostic significance of determination of non-protein nitrogen components in the blood serum and urine. 
Laboratory methods of estimation of filtrative and reabsorptive kidney function. 
Hyperazotemy (retentous, productive), hypoazotemy, pathogenesis, laboratory diagnostic. 

2. Hematologic laboratory research. Main indications of general blood analysis as laboratory criteria of general body state. Diagnostic laboratory signs of diseases of the blood forming system organs. 
2.1. Clinical – diagnostic information of general blood analysis laboratory indications. 
Anemias diagnostic according to the results of laboratory definition of hemoglobin in the blood, qualitative and quantitative erythrocytes composition. 
Clinical estimation of thrombocytes, reticulocytes and pathologic cell forms change in the blood. 
Clinical-diagnostic significance of changes in the blood of leucocytes amount, their cellular composition and qualitative properties. 
Clinical-diagnostic estimation of the results of cytochemical investigations of the blood and marrow at hemoblastoses. 
Cytochemical laboratory indications at anemias and their diagnostic information. 

3.1. Laboratory estimation of thyroid gland functions. 
Diagnostic significance of functioning system indices hypothalamus-hypophysis-adrenals. 
Clinical significance of laboratory indices of functioning system hypothalamus-hypophysigenitals. 
Laboratory diagnostic of disturbances of endocrine glands, regulating calcium and phosphorus level. 
Regulation of water-salt exchange, laboratory signs of regulation disturbance. 
Diagnostic meaning of mineral substances concentration definition (sodium, potassium, calcium, copper, iron). 

4.1. Enzymodiagnostic of heart diseases: myocardial infarction, myocarditis and others. 
Enzymodiagnostic of liver diseases. 
Enzymodiagnostic of bony tissue diseases. 
The role of changes of carbohydrate exchange laboratory indications in diseases diagnostic. 
Dislipoproteinemias laboratory types and their clinical-diagnostic significance at pathological states. 
Diagnostic and differentiated diagnostic of the main jaundice types. 
Clinical change significance of common protein contents in the blood. Hyper-, hypo-, para- and defectoproteinemias. 
Clinical-diagnostic significance of defining protein fractures and separate proteins in the blood serum. 
Proteins of acute phase and sediment samples as indications of inflammation and pathological processes.
CLINICAL PHARMACOLOGY

Distribution of academic load on seminars:

1. Introduction to clinical pharmacology. Medical, deontological, legal, social, economic, and organizational aspects of clinical pharmacology. Drugs development, clinical evaluation, and registration. – 1 hour.
2. Clinical pharmacodynamics and pharmacokinetics as a basis for rational drug choice. – 2 hours.
3. Drugs interaction. – 1 hour.
4. Side effects of drugs. – 2 hours.
5. Clinical pharmacology of drugs acting on central nervous system. – 6 hours.
6. Clinical pharmacology of drugs used in bronchial obstruction. – 6 hours.
7. Clinical pharmacology of drugs used for correction of blood vessels tone. – 6 hours.
8. Clinical pharmacology of drugs used for correction of main myocardial functions. – 6 hours.
9. Clinical pharmacology of drugs used in treatment of pathology of digestive system. – 6 hours.
11. Clinical pharmacology of antimicrobial drugs. – 8 hours.
12. Clinical pharmacology of anti-histamine preparations. – 3 hours.
13. Clinical pharmacology of drugs used for correction of homeostasis and hemostasis. - 3 hours.

Content of the program.

1. Clinical pharmacology, subject and tasks.
2. State regulation and clinical evaluation of drugs.
5. Drugs interaction.
7. Physiological and age aspects of clinical pharmacology.
8. Drugs acting on central nervous system:
   - neuroleptics
   - antidepressants
   - neuro-metabolic stimulants
   - tranquilizers
   - hypnotics
   - sedatives
   - psychostimulators
   - anticonvulsants
   - antiparkinsonic drugs
9. Drugs for general and local anesthesia.
   - general anesthetics
   - local anesthetics
   - analgetics of central action
   - opioid analgetics
   - non-opioid analgetics
10. Drugs acting on respiratory system:
   - expectorants
   - anti-cough preparations
   - broncholytics
   - mast-cell stabilizers
   - H1-histamine blockers
   - Glucocorticoids
   - Drugs facilitating surfactant production
   - Respiratory analeptics.

   - drugs affecting immunological stage of allergy
   - drugs affecting pathochemical stage of allergy
   - drugs affecting patophysiological stage of allergy
   - drug-induced anaphylactic shock.

12. Clinical pharmacology of cardiotonic drugs.
   - cardiac glycosides
   - non-glycoside cardiotonic drugs

   - Antihypertensive drugs
   - Antianginal drugs
   - Drugs used in hypotonic conditions.

14. Anti-arrhythmic preparations:
   - drugs used in tachyarrhythmias (classes 1-4 preparations)
   - drugs used in bradyarrhythmias
   - potassium and magnesium preparations.

15. Drugs affecting function of digestive system:
   - drugs affecting appetite
   - emetic and anti-emetic preparations
   - drugs regulating gastric secretion
   - gastroprotectors
   - drugs regulating gastrointestinal motorics
   - drugs used in pancreatic diseases
   - choleretics
   - hepatoprotectors
   - cathartic drugs
   - anti-diarrhea preparations
   - drugs restoring gastro-intestinal microflora.

   - classification of diuretics
   - uricosuric drugs

17. Clinical pharmacology of drugs affecting metabolism.
   - vitamins
   - stimulators of metabolism of non-vitaminic nature
   - drugs affecting lipid exchange
   - microelements
   - antihypoxants

18. Drugs affecting endocrine system:
   - preparations of hypothalamic hormones
   - preparations of hormones of hypophysis
   - preparations of thyroid hormones and anti-thyroid drugs
   - preparations of parathyroid hormones and drugs affecting calcium exchange
   - hypoglycemic drugs
- preparations of adrenal hormones and drugs affecting their production
- preparations of sex hormones and drugs affecting their production
- hormonal contraceptives
- drugs for correction of climacteric syndrome

19. Drugs used for correction of homeostasis:
- volume expanders
- preparations for parenteral nutrition

20. Drugs affecting uterus tone:

21. Drugs regulating hemostasis:
- anti-hemorrhagic preparations
- anti-thrombotic drugs

22. Drugs used for treatment of anemia:

23. Antimicrobial drugs:
- antibiotics
- sulphonamides
- quinolones
- nitrofurans
- antiseptics


26. Clinical pharmacology of antiprotozoal and anti-helmintic preparations:
- anti-protozoal agents
- anti-malaria drugs
- anti-helmintic drugs.

- chemotherapeutic anticancer drugs
- hormonally active preparations
- anticancer antibiotics.

CULTUROLOGY AND RELIGION STUDIES

1. Theory of Culture
   1. Culturology as the branch of science, its subject, problems. The role of culturology in the life of the society.
2. History of Culture.


8. Middle Ages Culture and culture of Revival epoch. Conditions of formation, main features and peculiarities of European cultures of Middle Ages. Christian religousness and symbolism as main dominates of culture. Spiritual world of the person of Middle Ages epoch. Formation and peculiarities of culture of Arabic countries. Social-economic and spiritual prerequisites of culture of Revival epoch formation. Definitions “humanism”, “reformation”, “renaissance”, ”protestantism”; their historical and cultural contents. The main features of Renaissance culture.


DERMATOLOGY AND VENEREOLOGY

Dermatology

Method of the observation of the skin patient. Primary and secondary elements of the skin. General principles of the therapy of the skin diseases.

Bacterial infections of the skin: pathogenesis, etiology, classification. Clinical peculiarities of the different forms of pyodermas: superficial and chronic folliculitis, sycosis, impetigo,


Leprosy: etiology, transmission, classification, clinical forms, diagnosis, treatment.

Pediculosis: epidemiology, treatment, prophylaxis.


Eczema: pathogenesis, clinical features, forms, diagnostics, treatment.

Itch as a symptom of the skin diseases and as a defined disease: ethiology, secondary signs, localisation, treatment. Urticaria, oedema Quincke, prurigo, lichen simplex: pathogenesis, clinical features, forms, diagnosis, treatment, prophylaxis of relapses.

Professional skin diseases: contact dermatitis, allergic professional dermatitis, professional folliculitis, professional papillomas and hyprkeratosis, photodermatosis, candidiasis: pathogenesis, clinical features, diagnosis, treatment.


Venereology


Secondary period of syphilis. Macular syphilid, papular syphilid, pustular syphilid, alopecia in patients with syphilis, leucoderma, syphilides of the mucous membranes. Differential diagnosis with skin diseases. Laboratory diagnosis of the secondary period of syphilis (microscopy of Treponema pallidum, express analysis, RW, RIF, PCR).


**Practical skills:**
Method of the observation of the skin patient.
Special methods of the observation of the skin patients.
Method of the observation of the patient if the venereological disease is suspected.
Primary and secondary elements of the skin.
Dermografism.
Taking material for the observation for honococcus, treponema, trichomonas.
Method of the desinfection of the shoes in fungi diseases.
Probe with the glass in urethritis.
Psoriatis phenomenons.
Method of the individual prophylaxis of venereal diseases.
Microscopic observation of the scales and hairs in fungi infections.
Desinfection of the hands, instruments after the observation of venereological patients.
Filling of the ambulatory card of the patient.

**TROPICAL DERMATOVENEREOLOGY**
**OPTIONAL COURSE**

Topic 1. Peculiarities of the skin diseases and sexually transmitted infections in the tropical countries. Leprosy: ethiology, causative agent, clinical characteristics, diagnosis, prognosis,

Topic 2. Tropical treponematoses: f rambesia, bedzel, pinta. Ethiology, clinical characteristics, diagnosis, treatment, prophylaxis.


Topic 4. Dermatomycoses. Peculiarities of epidemiology, clinical characteristics and treatment of dermatomycoses in the countries with the tropical climate.

**ECOLOGY**

**THE ENVIRONMENT AND HEALTH OF THE POPULATION.**

1. Ecology as a science, its differentiation, purpose, tasks, methods, subject of study, connection with other sciences, ecological problems.
2. Biosphere, biogeoceneses, structure and characteristics biogeoceneses, concept of an ecological niche.
4. Characteristic of a species, population, organicms, environment.
5. Ecological factors, classification.
7. Anthrocenology, purpose, tasks, basic problems.

**THE ECOLOGICAL CHARACTERISTIC OF PHYSICAL PROPERTIES OF AN ATMOSPHERE.**

1. Atmosphere, as one of the basic components of biosphere. A structure of an atmosphere.
2. Atmospheric air and its ecological meaning.
3. The abiotic factors of air environment, modern ecological problems.
5. Temperature.
6. Humidity.
7. Movement of air.
8. Electrical condition of air.
9. Radiating background.

**THE ECOLOGICAL CHARACTERISTIC of CHEMICAL And BIOLOGICAL PROPERTIES of an ATMOSPHERE.**

1. Atmospheric air, its chemical structure and ecological meaning
2. Ecological meaning of oxygen of atmospheric air.
3. Ecological meaning of carbon dioxide, nitrogen, inert gases.
4. Gaseous, mechanical and biological impurity of air of a natural origin.
5. Basic sources and pollutants of atmospheric air.
7. Protection of an atmosphere.

**THE ECOLOGICAL CHARACTERISTIC of PHYSICAL And BIOLOGICAL PROPERTIES of HYDROSPHERE.**
1. Water, its structure, ecological meaning.
2. Water, as an inexhaustible natural resource, modern problems of water.
3. Abiotic physical factors of water sphere, influence on organism of the man.
5. Ecological characteristic of open sources of water supply.
7. Ecological characteristic physical and biological pollutants of water sphere, influence on organism of the man.
8. Fixing of quality of water of open and underground sources of water supply.

THE ECOLOGICAL CHARACTERISTIC of CHEMICAL PROPERTIES of HYDROSPHERE.

1. Abiotic chemical factors of water sphere.
2. Influence of the abiotic chemical factors of water environment on organism of the man.
3. Endemical diseases connected with water using and their preventive maintenance.
4. Estimation of quality of water of sources of decentralized water supply.
5. Ecological meaning of pollution of water sphere by the nitrates.
7. Protection of water sphere from pollution.
8. Fixing of quality of water of open and underground sources of water supply.

THE ECOLOGICAL CHARACTERISTIC of CHEMICAL PROPERTIES of HYDROSPHERE.

1. Ground, as a component of a litospere, its structure, property.
2. Characteristic of soil resources.
3. Groundformation and development of ground.
4. Abiotic physical factors of ground.
5. Abiotic chemical factors of ground. Concept of biogeocemical provinces.
7. Ecological meaning of ground, modern ecological problems of a litospere.
8. Influence of the ecological factors of a litospere on organism of the man.
9. Pollution of ground by sources, pollutants, ecological consequences of pollution.
10. Parameters of ground pollution.
11. Protection of ground from pollution.

ECOLOGY OF THE POPULATED PLACES.

1. Urbanization, reason.
2. Abiotic and biotic factors of urban environment.
3. Ecological features of urban environment.
4. Sources and pollutants of air, water and ground of the populated places.
5. Ecological meaning of gardening of the populated places.
6. Struggle with noise in large cities.
7. Ecological aspects of town-planning and lay-out of the village populated places.

ECOLOGY of DWELLING.

1. Ecological meaning of dwelling.
2. Ecological requirements to the ground area under construction.
3. Ecological requirements to building materials, designs, internal furnish and equipment of dwelling.
4. Ecological requirements to an internal lay-out of an apartment.
5. Ecological characteristic of illumination, heating, ventilation, water supply and clearing of dwelling.

THE ECOLOGICAL CHARACTERISTIC of DWELLING

1. Ecological requirements to the ground area of a hostel.
2. Feature of a lay-out of a hostel.
3. Ecological requirements to an internal furnish and equipment of a hostel.
4. Ecological requirements to a microclimate of a hostel.
5. Ecological requirements to a sanitary - technical accomplishment and contents of a hostel.

ECOLOGICAL PROBLEMS of a NUTRITION

1. Food infections and food poisonings, their classification.
2. Food poisonings microbic and unmicrobic nature, their hygienic diagnostics and preventive maintenance. The characteristic of food poisonings not specified ethiology.
3. Investigation of food poisonings.
4. Detoxication of csenobiots.
5. Food additives. Concept about BAA.
8. Methods definition and estimations of the contents toxic substances and microorganisms in products of a feed and high quality of foodstuff.

ECOLOGICAL AND MEDICAL PROBLEMS OF AN ENVIRONMENT

1. Pollution of an environment. Protection of an environment from pollution.
2. Measure on protection of an environment from pollution.
3. Pollution of air, water and ground, its ecological meaning.
4. Radiating pollution of an environment and its ecological meaning.
5. Radiating conditions in the world and Republic of Belarus after failure on the Chernobyl atomic power station.
6. Protection of atmospheric air, water, ground from pollution.
7. Measure on protection of an environment from radiating pollution.

PROTECTION OF AN ENVIRONMENT. ECOLOGICAL MONITORING.
3. Methods of clearing of atmospheric air, water and ground.
4. International cooperation in sphere of ecology.
5. Strategy OUN in the field of the decision of global ecological problems.

ECONOMICAL THEORY

General problems of economic theory.
2. Economic system of society.

Microeconomy.

Macroeconomy.

ENDOCRINOLOGY

Subject of endocrinology.
General information about hormones, their constitution, biosynthesis, transport, metabolism, mechanism of action, biological effects. Regulation of function of endocrine glands.
Research of general principles of endocrine gland function-biological effects of hormones, hormones level and their metabolites determined. Biochemical and radioimmunological methods in blood and urine.
Pancreas illnesses.
Diabetes mellitus.
Insuloma.
Glucagonoma.
Thyroid gland illnesses.
Diffuse struma.
Hypothyroidism.
Endemic and sporadic struma.
Autoimmune thyroiditis.
Subacute thyroiditis.
Parathyroid glands illnesses.
Hypoparathyroidism.
Hyperparathyroidism.
Paranephroses illnesses.
Chronic failure of paranephroses cortex.
Acute failure of paranephroses cortex and adrenal crisis.
Itsenko-Kushinga syndrome
Androgenital syndrome
Hyperaldoesteronism
Pheochromocytoma.
Hypothalamo-hypophysial zone
Hypophysial failure
Hypophysial nasism
Not sugar diabetes.
Parchona syndrome.
Itsenko-Kushinga disease.
Hypothalamic syndrome of pubertal period.
Acromegalia.
Gigantism
Obesity
Sexual glands illnesses
Hypoganadizm
Clinefeldiera syndrome
Shereshevskogo-Ternera Syndrome
Premature sexual development
Virilizm syndrome
Climacterium

EPIDEMIOLOGY

Preventive and antiepidemic work of out-patient establishments: antiepidemic measures and agents; organization of antiepidemic maintenance of the population: disinfection and sterilization (kinds, methods, agent, organization); disinfestation; deratization.

Immunoprofilaxis of infectious diseases (vaccination and emergency prophylaxis, vaccination organization, immunoprofilaxis of poliomyelitis, diphtheria, wooping cough, tetanus).

Immunoprofilaxis of infectious diseases (tuberculosis, measles, epidemic parotite, rubella, virus hepatitis B, rabies); preventive inoculations calendar.

Epidemiology, antiepidemic measures and prophylaxis of acute intestinal infections (dysentery, salmonelloses, virus hepatitis A).

Epidemiology, antiepidemic measures and prophylaxis of aerosolic infections (diphtheria, measles, meningococcal infection, scarlatina).

Military epidemiology: characteristic of antiepidemic forces and agents; bases of antiepidemic maintenance and antibacteriological protection of armies in war time.

ETHICS (INCLUDING MEDICAL ETHICS)

Section I. Ethics and medicine

Theme 1. A history and a modern condition of ethics (including medical)


Theme 2. Theoretical problems of ethics (including medical) and

The supreme moral values


Theme 3. Bases of a professional etiquette in medicine:

Principles, norms, mechanisms

Deontological ethics. Principles of biomedical ethics: autonomies, not doing harm, blessing and validity.


Theme 4. Ethical attributes of medical activity

Ethical committees, as instruments of influence on professional behaviour of doctors. The basic functions of ethical committee.

**Theme 5. « Nonconventional medicine » and ethics**


**Theme 6. Medical and ethical aspects of health and illness**


**Section II. The person of participants of medical interaction**

**Theme 7. Medical and ethical problems of the patient**

Features of the modern patient. Conditions of an establishment of "therapeutic cooperation" between the doctor and the patient.

An internal picture of illness. Stages of personal reaction to illness. Types of the attitude to illness: нормосоматозогнозия, гиперсоматозогнозия, гипосоматозогнозия, диссоматозогнозия. The factors influencing formation of types of the attitude relating to illness. Pathological reactions to illness: depressive, phobia, hysterical, hypochondrial, an anosognosia.

Public associations and the organizations of patients. Rights and duties of the patient.

**Theme 8. Medical and ethical features of activity of a family doctor**

Modern condition and problems of family medicine. System of preparation of the family doctor. Rights and duties of the family doctor. Ethical rules of dialogue of the family doctor with the patient.

**A theme 9. Interjoint relationship in medicine**


Ethical and psychological aspects of relationship in medical collective. A stress and its role in relations between physicians. Conflicts in medical collective and a way of their sanction.

**Theme 10. Medical mistakes and iatrogeny**


**Section IV. A modern condition of certain medical and ethical problems**

**Theme 11. Medical and ethical problems of procreation**


Theme 12. Medical-ethical aspects of a problem of mors


Theme 17. Ethical aspects of experiments and clinical tests

In medicine


Clinical tests in medicine. Use of animals in medicobiological researches (Declaration BMA, 1989).

Theme 18. Ethical aspects of new medical technologies


Ethical aspects of use of fetal tissues. «The declaration on a transplantation embrional tissues» (Hong Kong, 1989).

Ethics of application in medicine of psychotropic therapy.

FORENSIC MEDICINE

Aim of discipline studying:
The main purpose of studying the subject “Forensic medicine” is training of a general practitioner for carrying out duties of a medico-legal expert for judicial – inquiry organs and solving health service problems on further quality increase of medical-preventive help to the population.

Tasks of subject studying:
Forensic medicine studies questions, touching activities of various outer factors effecting the human organism and their judicial-inquiry diagnostic; level determination of bodily injuries burden; statement of death limitation, life injuries, person’s identification according to his steps and a number of other questions arising in legal practice.
The problems while studying forensic medicine are students subjoining to amendment drafting of scientific bases and methods of research in all spheres of the subject.

Students must also study:
- laws aimed at protection of a person’s immunity in Belarus;
- rights, duties and responsibility of medical workers for professional delinquencies, main laws, regulating the work of health workers.

Organization-methodic instructions:
Lecture course of forensic medicine must show the latest scientific data and methodological directivity of the main forensic medicine divisions. Lectures must be accompanied by evident examples from the medico-legal practice and must be followed by demonstration of instructional gratuities with the help of technical devices. Method of carrying out every class must include basic knowledge control on test questions, stage of knowledge correction, self-directed practical task fulfillment by the students, test of independent work (stage control) and final level.
Thematic lecture plan

1 Introductory lecture. Notion of forensic medicine and forensic medical examination.
   Brief information from the history of forensic medicine development. Organization and structure of State service forensic medical examinations in Belarus.
2 General questions about medico-legal traumatology.
3 Road accident.
4 Forensic medical examination of gunshot wounds.
5 Injuries and death from effect of high and low temperatures, electricity, other physical factors.
6 Forensic medical examination of mechanical asphyxia.
7 Forensic medical examination of injuries and deaths from the influence of poisoning substances.
8 Dying and death. Corpse phenomena. Corpse examination at the point of detection

Thematic plan of practical and self-directed classes

1 Introductory class. Forensic medical examination of injuries by blunt and sharp objects
2 Demonstrational and independent corpse examination, examination of an infant corpse. Corpse changes. Paper work
3 Expertise of victims, suspects, accused and other people. Expertise of sex conditions. Making of “professional conclusion”
4 Expertise of road accident, gunshot injuries
5 Expertise of injuries and death from acute anoxaemia, from affect of outermost temperatures and other physical factors
6 Expertise of poisonings
7 Expertise of exhibits of biological origin
8 Final class. Expertise on the cases about professional and professional-official law violations of medical staff. Tested control of the whole course in forensic medicine

Total

Demands for the level of students efficiency (knowledge, abilities and skills), after having passed the course in forensic medicine

In the end of forensic medicine course the students must **know:**
- laws aimed at protection of person’s inviolability in Belarus;
- rules of the legislation about forensic medical examination, rights, duties and responsibilities of medical workers for professional law violations and also basic laws regulating activity of medical workers;
- modern scientific data in all branches of forensic medicine, and basic used methods of objects research of forensic medical examination (expertise of corpses, living people and material evidence).

After finishing classes in forensic medicine students should **be able:**
- To give qualified help to case investigator at corpse examination at the place of incident: to state the fact of death coming, to fix in the protocol, made by case investigator, the corpse pose and data of his external inspection with description of clothes, corpse phenomena, injuries, to fix time of death coming;
- To help case investigator with detection, impressments and packaging of biological origin material evidence;
- To carry out corpse forensic medical examination with appropriate documents registration, to fill in medical death certificate;
- To carry out forensic medical examination of a living person with obligatory composition of «expert’s conclusions ”. 
EDUCATIONAL PRACTICE ON THE GENERAL CARE OF PATIENTS (THERAPY)

The subject “Educational practice on the general care of patients (therapy)” is the obligatory form of preparation on a speciality - « Medicine ».

Training of students of treatment-and-prophylactic faculty according the Program “Educational practice on the general care of patients (therapy)” is carried out on faculty of a propaedeutics of internal illnesses and puts the purpose:

- Explanation of mechanisms of functioning of institutions of public health services of in-patient-department (hospital) type;
- Fastening practical skills received on practical employment in a subject « the General care of patients (therapy);
- Improving of communicative skills of interpersonal relations with patients and the personnel of medical institutions.

To achieve these goals the following problems are provided:

- Studying the main signs of diseases of internal bodies;
- Gaining the practical skills and skills on observation and care of patients of therapeutic department, rendering the first pre-medical aid at urgent conditions;
- To train in skill of using medical equipment and instruments;
- To train in main principles of medical ethics and a deontology, bases of sanitary - educational work in medical institutions.

Obligatory amount of educational practice - 6 working days (36 hours).

Educational practice on the general care is carried out in the specialized hospitals of therapeutic department of the health care system institutions as watches (for 6 hours) during III and IV term (or after the session).

Carrying out of educational practice is based on knowledge and skills gained during classes on subject « the General care of therapeutic patients » and provide improving of practical skills.

Finishing this course the student should know:

- The organization and features of work of a reception;
- A sanitary-and-epidemiologic regimen of a reception;
- Rules of veneering of the medical documentation;
- Sequence of reception and a cleansing of acting patients;
- The device, equipment, an operating mode of branch;
- Duties of the hospital nurse
- The medical documentation (rules and the order of its conducting) a post of the hospital nurse;
- A medical - protective regimen of the department, the order of visiting of patients;
- Rules of prescribing and storage of medicines, narcotic and strong effective medicines;
- Rules of portional demands, dietary tables;
- A sanitary-and-epidemiologic regimen

The student should be able:
- To conduct admitting and registration of patients in an accident ward;
- To examine the patient on a pediculosis and a scabies;
- To lead processing a sick pediculosis at revealing;
- To lead a cleansing of the patient (complete and partial);
- To make anthropometric measurement;
- To take a temperature, arterial blood pressure;
- To transport the patient correctly (depending on a condition);
- To render the first pre-medical aid at various emergency conditions (bleedings, an attack of angina pectoris, a hypertonic crisis, an attack of a bronchial asthma, etc.).
- To carry out all actions of personal hygiene of patients;
- To give food to patients, to carry out a feeding of weakened patients;
- To carry out artificial feeding of patients through a probe;
- To take a body temperature and to carry out its registration;
- To measure arterial pressure, a pulse rate, frequency of respirations;
- To execute the elementary physiotherapeutic procedures;
- To carry out distribution of medicines;
- To own technic of application of external medical products;
- To carry out hypodermic, intradermal, intramuscular and intravenous bolus injections;
- To make presterilizing clearing medical instruments;
- To fill in the system for drop intravenous injection;
- To take a biological material (a sputum, urine, a feces, etc.) for laboratory researches;
- To execute medical prescriptions on preparing of patients for various methods of research (radiological, endoscopic, ultrasonic);
- To execute medical prescriptions on various manipulations (a gastric lavage, making a colonic tube, all kinds of clysters, a catheterization of a bladder with a soft catheter, etc.);
- To assist the doctor at carrying out of a transabdominal puncture at an ascites, at a pleurocentesis;
- To render the urgent pre-medical aid at emergency situations (a pernicious vomiting, a bleeding, hypertonic a crisis, an attack of angina pectoris, etc.).

The student should master the following practical skills:

1. Preparation of working disinfectant solutions
2. Definition of anthropometric parameters
3. Complete and partial sanitary cleansing of a patient
4. Transportation of the patient a wheel-chair, stretcher - wheelchair and manually on a stretcher
5. Change linen and underwear to the seriously ill patient
6. Taking care of a skin, nails, hair. Prophylaxis of decubituses
7. Giving a bedpan
8. Toilet of external genitals
9. Carrying out of a toilet of an oral cavity
10. Taking care of eyes. Application of eye drops, ointments
11. Carrying out of a toilet of ears. Dropping into ears
12. Carrying out of a toilet of a nose. Dropping into nose
13. Taking care of hair at seriously ill patients
14. Catering services, feeding of patients
15. Artificial feeding of patients
16. Taking the temperature and registration of results into a temperature list
17. Making sinapisms
18. Making cups
19. Making a warming compress
20. Making a cooling compress
21. Preparation and giving of a heater to the patient
22. Preparation and giving of a bubble with ice
23. External ways of introduction of medical products
24. Prescribing, storage and distribution of medicines
25. Safety precautions regulations at work with a blood and biological liquids
26. Transportation of a blood and biological liquids
27. Processing of a skin, mucous, biological liquids
28. Presterilizing clearing of products of medical purpose
29. Testing of quality of clearing of syringes and needles from a blood and a washing solution
30. The collecting of a sterile syringe from a craft-package and from a sterile table
31. Set of a medicinal solution from an ampoule and a bottle
32. Calculation of a dose of an insulin at introduction
33. Delution of freeded dried ampuled forms of medicines
34. Intradermal injection
35. Subcutaneous injection
36. Intramuscular injection
37. Intravenous bolus injection
38. Filling of system for intravenous drop injection of medicinal substances
39. Carrying out of intravenous drop injection
40. Preparation of patients for radiological and instrumental research of kidneys and urinary tract
41. Calculation of number of respiratory movements
42. Rendering of the pre-medical aid at a sudden shortness of breathing (dyspnea)
43. The collecting of a sputum for bacterioscopic research
44. The collecting of a sputum for bacteriological research
45. First-aid treatment at a pneumorrhagia, a pulmonary bleeding
46. Carrying out of an oxygenotherapy. Safety precautions regulations
47. Preparation of instruments for carrying out of a pleurocentesis
48. Checking of the pulse rate on peripheric arteries
49. Measuring the arterial blood pressure
50. Rendering of the pre-medical aid at a renal colic
51. Rendering of the pre-medical aid at a vomiting
52. Rendering of the pre-medical aid at a gastromenia and an intestine
53. Preparation of instruments for carrying out of a transabdominal puncture
54. making smears from nasal sinuses for bacteriological research
55. Technique of a gastric lavage
56. Carrying out of fractional research of a gastric juice
57. Carrying out the duodenal intubations
58. Introduction of a colonic tube
59. Giving of a cleansing enema
60. Giving of a siphon clyster
61. Giving of an oil clyster
62. Giving of a hypertonic clyster
63. Giving of a medicinal clyster
64. Making smears of feces for bacteriological research, on eggs of worms
65. Preparation of a sick feces for a capture on an occult blood
66. The collecting of urine for general analysis
67. The collecting of urine for the analysis according Nechoporenko
68. The collecting of urine for the analysis according Zimnitsky
69. The collecting of urine for carrying out of a daily urine
70. Catheterization of a bladder with a soft catheter
71. Preparation of a sick esophagus for a X-ray investigation of stomach
72. Preparation of the patient for carrying out of an irrigoscopy, proctosigmoidoscopy, colonoscopy
73. Preparation of the patient for carrying out of fibrogastroduodenoscopy
74. Preparation of the patient for ultrasonic research of the organs of the abdomen
75. Rendering the pre-medical aid at an attack of angina pectoris
76. Rendering the pre-medical aid at suspicion on the tightened anginous attack
77. Rendering the pre-medical aid at a hypertonic crisis
78. Rendering the pre-medical aid at a hyperthermia
79. Rendering the pre-medical aid at an attack of a bronchial asthma
80. Rendering the pre-medical aid at an anaphylactic shock
81. Carrying out the artificial ventilation of lungs
82. Carrying out an indirect cardiac massage.

**GENERAL CARE OF PATIENTS (SURGERY)**

**Program contents**

**TOPIC№ 1 Introductory class, acquaintance with a clinic. Deontology in surgery. Safety work precautions while taking care about surgical patients.**
Preventive methods of patients care. Place of general care in the system of studying the subject “General surgery”. Basic deontological positions regulating work, behavior and actions of the medical staff. Interrelations between medical staff, patients, their relatives.

**TOPIC: № 2. Definition of “an intrahospital infection”. Ways of distribution. Intrahospital infection prophylaxis.**
Definition of intrahospital (hospital) infection, exogenous infection. Air, as a means of infection transfer. Definition of endogenous infection. A number of actions on intrahospital infection prophylaxis.

**TOPIC № 3. Definition of general care of the patients and its elements. Clinical hygiene and functions of medical staff in carrying out patients care.**
Definition of patients general care at the surgical department, its organization. Nurse and the younger nurse functional duties at the surgical department. Interconnection of their work with the nurse. Clinical hygiene and functions of all ranks medical staff in carrying out patients supervision. Safety techniques. Definition of medical staff sanitations, professional care periodicity, duties carried on sanitation. Treatment of hands of medical staff in surgery (outside of preparation for operation). Theoretical bases and rules of wearing medical hygienic clothes. General toxic properties of disinfectants used in surgery. Work with washing and disinfectant chemical solutions, their preparation. First aid at disinfectants getting on skin, mucous membranes, into eyes, respiratory passages.

**Topic № 4. Structure of a surgical in-patient department. Operating regime in the surgical department.**
Structure of a surgical hospital, its accommodation, planning, departments. Significance of these factors in the work organization and prophylaxis of hospital infection. The role of the head of the department, ward doctors and a senior nurse, as an organizer of the correct scientifically-explained patients care. Basic officials providing patients care in an in-patient department. Definition of two-level and three-level systems of providing treatment and patients care. Functions of the middle-aged and younger medical staff in a surgical in-patient department at both systems. The patient’s regime in surgical department. Internal regulation directed on creation of most favorable psychological conditions for patients recovery (medical – saving regime). Surgical department daily curriculum. Surgical patients contact with relatives and acquaintances. Self-directed work. Work in a dressing-room under the teacher’s control.

**TOPIC № 5. Organization and carrying out surgical patients care in the reception-diagnostic department of the surgical hospital.**
The work organization (with surgical patients) in a reception. Structure, equipment, functions of reception-diagnostic department and principles of work organization in it. Reception staff: their function, qualification, working peculiarities. Scheduled patients hospitalization, their sanitary treatment, control of a delivered patient sanitary condition. Emergency hospitalization of patients, their sanitary treatment. Various kinds of transportation to the surgical department. Rules of transportation.
TOPIC № 6. Environment clinical hygiene surrounding the patient in the surgical department.

Sanitary regime of rooms for reception, distribution and food intake. Feeding patients with free regime, peculiarities of feeding seriously ill patients. Dependence of character and diet on a kind of operation and anesthetic method. Probe meals, its kinds. Artificial enteral meals, structure food compounds at it. The list of products allowed to be given to the patient. Control over their storage. Storage and recycling of foodstuff.

TOPIC № 8. Operational block and principles of work organization in it. Sanitary-hygienic regime in the operational block. Surgical patient transportation.
Operational block, its accommodation. Definition of operational block "ash value". Operational block working regimen. Requirements given to operational block employees and medical staff taking part in the operation. Sanitary reception. Scheduled and emergency operations (definitions). Ventilation and an air conditioning. Control over air conditioning. Types of operational block and operational room cleaning. Washing-up liquids and antiseptics with which cleaning is made. Treatment of surgical instruments after an operation. Work of wall and ceiling bactericidal lamps, their regimen. Patients transportation to the operational room. Fixing the patient on the operational table. Patient's rearrangement from the operational table onto the wheelchair after the operation. Transportation and rearrangement of the patient with external drainages, continuing infusive therapy. Patients transportation in lifts and on ladders (peculiarities).

TOPIC № 9. Definition of scheduled and emergency operative interference. Clinical hygiene of the patient before operation.

Primary goal of care is creation of the best conditions for recovery, i.e. prevention of complications. A number of actions on prophylaxis of intrahospital infection (sanitary-hygienic regimen): bed, bed and underwear clothes treatment, cyclicity of chambers filling. Individual things of care, their care and their treatment. Hygienic care of the patient’s body with bed regimen. Washing of a bed patient. Washing of the patients having wounds, being healed by secondary tension. Prophylaxis sweatings and bruises. Taking care of the patients at enuresis, frequent defecation and during menstruations. Hygiene hair covered layer of the head, head washing in bed. Eyes hygiene. Hygienic cleansing of ears, acoustical passages and nasal passages. Help given to the patient at urination and defecation in bed. Treatment of excretory organs and skin surrounding them.

Individual relatives care after severely ill patients, its peculiarities.

TOPIC № 11. Organization and carrying out patients supervision in the reanimation and intensive therapy department.

TOPIC № 12. Care of patients in unconscious and agonic conditions.

**TOPIC № 13. Organization and carrying out patients supervision after scheduled and emergency operations on the organs of abdominal cavity.**


**TOPIC № 14. Organization and carrying out general care of the patients having undergone operations on the thoracic organs.**


**TOPIC № 15. Organization and carrying out supervision of traumatologic patients.**


**TOPIC № 16. Organization and carrying out patients having burns and frostbites general care.**

Definition of burns and their kinds. Sanitary-hygienic chambers regimen. Definition of closed and open methods of treatment. Most suitable environmental conditions at treatment of patients with extensive burns. Warming of patients with burns. Peculiarities of patients care with burns and frostbites. First pre-medical help at burns and frostbites.

**TOPIC № 17. Organization and carrying out general care of the patients having purulent -necrotic injuries.**

Organizational questions of treating patients with purulent wounds and diseases. Purulent - septic department operating regimen. Cleaning of purulent - septic department chambers. Treatment of medical staff hands. Peculiarities of used dressing recycling in the dressing room of purulent -septic department. Specific working regimen and its peculiarities of patients with anaerobic infection supervision.

**TOPIC № 18. Organization and carrying out proctologic patients and patients with uric fistulas care.**

Definition of proctologic patients. The common peculiarities of patients care after operations on large and small intestine. Patients after hemorrhagectomy care. Definition of colostomy. Colostomy care in the early postoperative period, skin hygiene around colostomy. Fixing of feces receiver, its preparation for work. Kinds of feces receivers. Peculiarities of patients with uric fistulas care, skin hygiene.

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**GENERAL CARE OF PATIENTS (THERAPY)**
The Subject "General care of patients (therapy)" is the obligatory form of preparation on a speciality - «Medicine».

Training of students on treatment-and-prophylactic faculty according the Program "the General care of patients (therapy)" is carried out on faculty of a propedeutics of inner illnesses and puts the purpose: studying of theoretical bases and improving of practical skills, skills on observation and care of patients of a therapeutic department, rendering of the first pre-medical aid at urgent states in clinic of internal illnesses.

To achieve this purpose the following problems are provided:
1. To acquaint students with the organization of work, structure and features of functioning of health care system institutions of in-patient department type;
2. To study theoretical bases and main principles of medical ethics and deontologies, the order of carrying out of sanitary - educational work;
3. To gain communicative skills of interpersonal relations with patients and the personnel;
4. To study theoretical bases and to learn to use medical equipment and instruments;
5. To acquaint with the main signs of diseases of internal organs;
6. To study features of taking care of patients of a therapeutic department;
7. To master principles of rendering of the first (pre-medical) aid at urgent states in clinic and the order of carrying out the cardiopulmonary reanimations.

Studying of a subject "the General Care of patients (therapy)" is based on knowledge and the skills achieved during classes on normal anatomy, normal physiology, medical microbiology, medical and biological physics, clinical and biological chemistry.

Training of theoretical bases and principles of medical management is carried out with the help of moulages and the phantoms specially intended for these purposes. In the subsequent it is expedient to fix the got skills carrying out of manipulations and procedures immediately in a therapeutic department. Improving of practical skills can be carried out in an operating time in profile departments at time of educational practice on "to the General care of patients (therapy)".

Having been finished the course a student should know:
1. The organization and features of work of a reception of a hospital.
3. Rules of conducting the medical documentation.
4. The order of registration, cleansing and transportation of patients.
5. The device, equipment, operating mode of a medical - diagnostic department.
6. Sanitary-and-epidemiologic regimen of medical - diagnostic (therapeutic) department;
7. Medical - protective regimen of the department, the rules of visitation of patients.
8. The medical documentation (rules and the order of its conducting) at post of medical nurses.
9. Duties of a medical nurse of the department.
10. Rules of prescribing and storage of medicines, narcotic and strong effective drugs.

The student should be able:
1. To write down all necessary information about patients and to make out the medical documentation correctly.
2. To examine the patient on pediculosis and scabies.
3. To carry out cleansing of a patient (complete and particulate).
4. To carry out cleansing of a sick pediculosis at revealing.
5. To measure weight and body height.
6. To take the temperature, arterial pressure.
7. To transport the patient correctly (in dependance of the state) into the department.
8. To carry out personal hygiene of patients.
9. To carry out distribution of nutrition among the patients, to carry out feeding of weakened patients.
10. To carry out artificial feeding through a probe.
11. To take a body temperature and to carry out its registration.
12. To measure arterial pressure, a pulse rate, frequency of respirations.
13. To carry out the elementary physiotherapeutic procedures.
14. To carry out distribution of medicines.
15. To own technics of external application of medical products.
16. To carry out hypodermic, intradermal, intramuscular and intravenous bolus injections.
17. To make presterilizing clearing of medical instruments correctly.
18. To fill in system for drop intravenous injection.
19. To make a smear of a biological matter (a sputum, urine, a feces, etc.) for laboratory researches.
20. To get patients ready for instrumental methods of research (radiological, endoscopical, ultrasonic).
21. To carry out the following manipulations (a gastric lavage, statement of gasleading tubes, giving clysters, a catheterization of urinary bladder with the soft catheter, etc.).
22. To prepare instruments and to assist the doctor at carrying out transabdominal and pleurocentesis.
23. To carry out the first pre-medical aid at urgent states (an attack of angina pectoris, hypertonic crisis, an attack of a bronchial asthma, etc.).
24. To carry out an indirect cardiac massage and ИВЛ.

The student should master the following practical skills:
1. Preparation of working disinfectant solutions
2. Measuring of anthropometric parameters
3. Complete and particular cleansing of the patient
4. Transportation of the patient on a wheel-chair, stretcher - wheelchair and manually on a stretcher
5. Change of the linen and underwear for the badly ill patients
6. Care of skin, nails, hair. Prophylaxis of decubitus
7. Giving of a bedpan
8. Toilet of external genital organs
9. Carrying out of a toilet of the oral cavity
10. Care of eyes. Application of ophthalmic drops, ointments
11. Carrying out of a toilet of ears. Dropping into ears
12. Carrying out of a toilet of a nose. Dropping into a nose
   13. Care of a hair of badly ill patients
   14. Feeding of patients
   15. Artificial feeding of patients
   16. measuring of a body temperature and registration of results in temperature list
   17. Making of sinapismuses
   18. Making of cups
   19. Making of a warming compress
   20. Statement of a cooling compress
   21. Preparation and giving of a heater to the patient
   22. Preparation and giving of bladder with ice
   23. External ways of introduction of medical products
   24. Prescribing, storage and distribution of medicines
   25. Safety precautions regulations at work with blood and biological fluids
   26. Transportation of the blood and biological fluids
   27. Processing of a skin, mucous, biological fluids
   28. Presterilizing, cleaning the products of medical use
   29. Testing of the quality of clearing syringes and needles from blood and washing solution
   30. The collecting of a sterile syringe from a craft-package and from a sterile table
   31. Taking of medicinal solution from the ampula and a bottle
   32. Calculation of a dose of an insulin at taking into a syringe and injection
   33. Delution freezydried ampuled forms of medicines
34. Intradermal injection
35. Hypodermic injection
36. Intramuscular injection
37. Intravenous bolus injection
38. Filling of system for intravenous drop injection with the medicine
39. Carrying out of intravenous drop injection
40. Getting ready the patients for radiological and instrumental research of kidneys and urinary tract
41. Accounting the number of respiratory movements
42. carrying out the pre-medical aid at a shortness of breathing (dyspnea)
43. The collecting of a sputum for bacterioscopic research
44. The collecting of a sputum for bacteriological research
45. First-aid treatment at a pneumorrhagia, a pulmonary bleeding
46. Carrying out of an oxygenotherapy. Safety precautions regulations
47. Preparation of instruments for carrying out of a pleurocentesis
48. Inventory of sphygmus on peripheral arteries
49. Measuring of arterial pressure
50. Carrying out the pre-medical aid at a renal colic
51. Carrying out the pre-medical aid at a vomiting
52. Carrying out the pre-medical aid at a gastromenia and an intestine
53. Preparation of instruments for carrying out of a transabdominal puncture
54. Capture of smears from a fauces and nasal passages for bacteriological research
55. Technics of a gastric lavage
56. Carrying out of fractional research of a gastric juice
57. Carrying out of duodenal intubation
58. Introduction of a colonic tube
59. Giving a cleansing enema
60. Giving a siphon clyster
61. Giving an oil clyster
62. Giving a hypertonic clyster
63. Giving of a medicinal clyster
64. Making smears of a feces for bacteriological research, on eggs of worms
65. Preparation of a sick feces for a capture on blood
66. The collecting of urine for general analysis
67. The collecting of urine for carrying out of analysis according Nechiporenko
68. The collecting of urine for carrying out of analysis according Zimnitsky
69. The collecting of urine for carrying out of a daily urine
70. Catheterization of urinary bladder with a soft catheter
71. Preparation of esophagus for a X-ray investigation of stomach
72. Preparation of the patient for carrying out of an irigoscopy, proctosigmoidoscopy, colonoscopy
73. Preparation of the patient for carrying out fibrogastroduodenoscopy, for ultrasonic research of the organs of the abdomen
74. Carrying out the pre-medical aid at an attack of angina pectoris
75. Carrying out the pre-medical aid at suspicion of the tightened anginous attack
76. Carrying out the pre-medical aid at a hypertonic crisis
77. Carrying out the pre-medical aid at a hyperthermia
78. Carrying out the pre-medical aid at an attack of a bronchial asthma
79. Carrying the pre-medical aid at an acute anaphylaxis
80. Carrying out of artificial ventilation of the lungs
81. Carrying out of an indirect cardiac massage.
GENERAL CHEMISTRY

Elements of chemical thermodynamics and bioenergetics

2. The first law of thermodynamics. Internal energy. Isobaric and isochoric heat effects. Enthalpy.

Physico-chemical bases of kinetics

Biochemical reactions

2. Rate of homogeneous chemical reactions and methods of its definition. Mass action law for rate of reaction. Rate constant of reaction, its definition.
3. Molecularity and order of reaction.

Doctrine about solutions

4. Vapor pressure and Raoult’s law. Boiling point elevation and freezing point depression. Cryometry and ebulliometry.
5. Osmosis and osmotic pressure in solutions. The Vant - Hoff’s law. Hypotonic, hypertonic, and isotonic solutions.
10. Water autoionization. Water autoionization constant (Kw). pH and pOH.
13. Buffer systems, their classification and mechanism of their action.
17. Abnormal viscosity of HMS solutions. Staudinger’s equation. Viscosity of blood and other biological liquids.

**Complexes**


**Physico-chemistry of superficial phenomena**

1. Superficial phenomena and their importance in biology and medicine. Surface active and surface inactive substances.
6. Chromatography. Classification of chromatographic methods. Application of chromatography for separation of substances (on an example of laboratory work) and in medical - biological research.

**Physico - chemistry of disperse systems**

4. Optical properties of colloidal systems: light scattering (Rayleigh’s equation), ultramicroscopy, Tyndall effect.
11. Aerosol, preparation and properties. Aerosols as a medicinal form. Aerosols as the reason for occurrence of some diseases (silicosis, anthracosis etc.).

Laboratory works:
1. Concentration of solutions and ways of its expression. Discussion of laboratory work. How to express concentration of solution by different ways for composition 10g NaHCO₃ and 150g of water (ρ = 1,2g/ml).
2. Definition of oxidation reaction rate constant in reaction with hydroiodine acid and hydrogen peroxide (discussion of laboratory work).
3. Influence of dilution and ratio of components concentration on pH of buffer solutions (contents of laboratory work and explanations of specific factors influence).
4. pH definition of solution by calorimetric method (buffer and unbuffered methods). pH definition of saliva by unbuffered method (contents of laboratory work).
5. Reception of lyophobe colloids: colophoniums, iron hydroxide (III), iron (III) hexacyanoferrate (II) by condensation method (on an example of laboratory work).
6. Optical properties of colloidal solutions (discussion on the laboratory work example).
7. Lyophobe colloids purification by dialysis (on the laboratory work example).
8. Definition of critical coagulation concentration of an sol and comparison of experimental data according to Schulze - Hardy rule (on an example of laboratory work).
9. Definition of critical concentration of micell formation (CCM) in soap solution (discussion of laboratory work).
10. Peptization. Change of iron (III) hexacyanoferrate (II) deposit in a colloidal solution (on on the laboratory work example).
11. Study of pH effect on the degree of swelling and definition of gelatin isoelectric point.

Practical skills in general chemistry
1. Preparation of solution of the given concentration.
2. pH solution definition by a colorimetric (unbuffered) method.
3. pH solution definition by potentiometric method.
4. Definition of substance equivalent molarity and its contents in decomposed solution by titration.
GENERAL HYGIENE WITH ECOLOGY

Introduction to the subject “General hygiene”.
Methodological bases of hygiene.
Hygiene of environment.
Hygiene of meal.
Hygiene of treatment-and-prophylactic establishments.
Hygiene of work.
Hygiene of children and teenagers.
Personal hygiene.
Military hygiene.

Introduction to the subject “Ecology”.
General and medical ecology.
Ecological factors.
Ecological and medical consequences of atmosphere pollution.
Ecological and medical consequences of hydrosphere pollution.
Ecological and medical consequences of lithosphere pollution.
Ecological problems of food.
Protection of environment.
Biological resources.

GENERAL PHARMACOLOGY

Course description.
Basic pharmacology course deals with wide range of questions starting from approaches to novel pharmaceutical compounds development to their clinical use. The aim of the course is develop critical understanding of experimental and clinical pharmacology, pharmaceutical development and regulation. The course is based on lectures, seminars, and independent work of the students.

Seminars.
Seminars are divided into two semesters. They include deep discussion of the topics studied after preliminary self-preparation of the students. Two seminars in the first semester and one in the second are devoted to extended test control of the knowledge obtained. The total amount of seminars is 36.

Topics of seminars are the following.

First semester.
- Introduction to general recepture. Solid drug definitions.
- Liquid drug definitions
- Soft and injecting drug definitions.
- Pharmacokinetics. Drug dosage principles.
- Pharmacodynamics.
- Cholinergic agonists.
- Cholinergic blockers.
- Adrenergic agonists.
- Adrenergic antagonists.
- Drugs affecting afferent innervation.
- Colloquium “Drug action on peripheral nervous system”
- Drugs for general anesthesia. Ethanol. Hypnotics.
- Anticonvulsants. Antiparkinsonic drugs.
- Opioid analgetics. Non-opioid analgetics.
- Colloquium “Drugs affecting CNS”
- Cardiotonic drugs. Antiarrhythmics.
- Antianginal drugs. Antihypertensive drugs.

Second semester.
- Diuretics. Uterine drugs.
- Drugs action on respiratory system
- Drugs action on gastrointestinal system
- Drugs action on blood system
- Colloquium: “drugs acting on functions of effective organs”
- Vitamins. Antiatherosclerotic drugs.
- Endocrine drugs. Preparations of hypothalamus and hypophysis. Thyroid and antithyroid drugs. Insulin. Synthetic hypoglycemic preparations.
- Antiinflammatory drugs. Antigout drugs. Antiallergic and immunomodulating drugs.
- Synthetic antimicrobial preparations.
- Drugs for treatment of tuberculosis. Antiviral drugs.
- Antiptosoal preparations
- Antimycotic preparations. Antihelminthic preparations.
- Drugs for anticancer chemotherapy.
- Antiseptics and disinfectants.

Lectures.

First semester.
- Introduction into basic pharmacology.
- Pharmacokinetic (two lectures).
- Pharmacodynamics.
- Cholinergic drugs.
- Adrenergic drugs. Local anaesthetics.
- Cardiotonic drugs. Antiarrhythmics.
- Antianginal drugs.
- Antihypertensive drugs. Diuretics.
- Drugs affecting organs of the digestive system.
• Drugs affecting organs of the respiratory system.
• Drugs affecting the blood system.

Second semester.
• Endocrine drugs.
• Corticosteroid preparations.
• Anti-inflammatory preparations.
• Antibiotics.
• Synthetic antimicrobial preparations.
• Drugs for tuberculosis treatment.

Independent students work.
During the second semester a part of class time is spent on independent students’ work to master practical skills in filling in prescriptions on the studied drugs, using prescription guidebooks, and on selection of analogous and generic substitutes for the given brand preparation.

Final control.
Final exam takes place after the second semester and consists of three parts.
• Test on practical skills includes a task on filling in prescription for the given pharmaceutical preparation, brief discussion of its belonging to particular group, indications, and appropriate analogous and generic substitute selection with the use of the prescription guidebook.
• Computer test
• Oral exam comprises detailed discussion of several questions from the list of questions covering all the studied topics.

GENERAL SURGERY

INTRODUCTION

HISTORY OF SURGERY

ORGANIZATION OF SURGICAL HELP IN THE REPUBLIC OF BYELORUS.

PECULIARITIES OF METHODS OF SURGICAL PATIENTS’ EXAMINATION.
ANTISEPTIC AND ASEPTIC.


Aseptic. Definition. Significance of antiseptic in modern conditions. Sources of infection. Endogenous and exogenous infections (air-borne, respiratory, direct, implantation). Prophylaxis of air-borne and respiratory infection. Organization of surgical department, its planning, the main apartments, their arrangement. Wards, dressing stations, their equipment. Operating-room. Its arrangement and equipment: operating-room, preoperative, sterilization-room, material-room, apparatus-room, apartments for anesthetic service, endoscopic-room etc. Cleaning in operating-room and dressing-room after work. Personnel’s and visitors’ behavior (students and doctors) in operating-room. Arrangement and equipment of surgical room in polyclinics.

Prevention of contact infection. Surgical instruments, peculiarities of their structure, sterilization, maintenance of them. Dressing material, its main qualities. The main requirements for dressing material, preparation of dressing material, linen, their sterilization. Preparation of personnel’s hands for operation. Sterilization of medical gloves. Preparation of operating sphere.

Prophylaxis of implantation infection. Sterilization of dressing material for stitches (catgut, silk, hair, kapron etc.). Sterilization of alloplastic, ksenoplastic transplants, neobiological materials in surgery and traumatology.

Concept of hospital infection.

GENERAL QUESTIONS OF ANESTHESIOLOGY AND REANIMATOLOGY.

History of anaesthetization. The main stages of general and local anaesthetization development.


Equipment for narcosis. Ways of artificial lung ventilation, necessary equipment.

Aims and tasks of reanimatology. Concept of terminal conditions (agonic, preagonic conditions, clinical death). Rendering the first medical help. Methods of heart-lung reanimation.

BLEEDINGS AND LOSS OF BLOOD.

Methods of temporary and finally stop of bleeding: mechanic, chemical, physical, biological.

BLOOD TRANSFUSION, ITS COMPONENTS, PLASMA-SUBSTITUTING SOLUTIONS.


Blood components (packed red blood cells, leukocytic, thrombocytic, plasma), blood preparations (albumin, protein), their characteristics. Mechanism of transfused blood and its components effect. Indications for blood and its components transfusion. Sources of getting blood and its components (donor-system, groups of donors). Concept of blood reinfusion, transfusion of preserved auto blood, exchange transfusion.


SURGICAL OPERATION. PREOPERATING AND POSTOPERATING PERIODS.


SURGICAL PATHOLOGY.


BURNS.

ELECTROTRAUMA.

FROST-BITE.

WOUNDS.

DESMURGY.
General principles of putting bandages. Types of bandages (gypsum, glue). Typical bandages for different parts of body. Head, neck, chest, upper and lower extremities bandages.

GENERAL PROBLEMS OF SURGICAL INFECTIONS.
Reasons of appearance. Classification.

ACUTE PURULENT NON-SPECIFIC INFECTION.


CHRONIC SURGICAL INFECTIONS.

**BLOOD CIRCULATION DISTURBANCE: NECROSIS, GANGRENE, ULCERS, FISTULAS.**


**GENERAL QUESTIONS OF ONCOLOGY.**

Oncological help organization.

**ABNORMALITIES OF DEVELOPMENT REQUIRED SURGICAL HELP.**
Concept. The most frequently observed inborn diseases: skull, brain and spinal marrow (craniocerebral and spinal hernias, dropsy of brain), neck (torticollis, cervical ribs, fistulars), cardiovascular system, lungs (inborn heart abnormalities, coarctation of aorta, inborn cysts of lungs and bronchiectasia). Gastrointestinal tract (cleft lip, atresia of esophagus, pylorostenosis, biliary fistulas, atresia of anal); urinosexual system; spinal column; extremities. Principles of treatment of abnormalities of development.

**SURGICAL PARASITICAL DISEASES.**

**BASES OF PLASTIC SURGERY AND TRANSPLANTOLOGY**

Methods of skin plastics. Possibilities of tissues transplantation, endocrine glands and their cell structures transplantation; transplantation of organs (kidneys, heart, prostate). Biological conditions of organs and tissues transplantation.

**HISTOLOGY, CYTOLOGY AND FETOLOGY**

Histology. Subjects and tasks. History of development of histology, fetology and cytology.

Histological, embryonal and cytologic researches.

Endoreproduction. Intracellular neogenesis.

Embryonal histogenesis.

General histology (the doctrine of tissues). Epithelial tissues and glands. Tissue of internal medium.
Muscular tissue. Smooth muscular tissue. Sceletal muscular tissue. Cardiac muscular tissue.
Muscle as an organ.
Vienna. Lymphatic vessels. Heart.

Thyroid gland. Parathyroid glands. Paraneophostes. Diffuse endocrine system.
Respiratory device. Extraupulmonary pneumatic ways.
Skin. Epidermis. Derma.
Thoracic lactiferous glands.

HISTORY OF MEDICINE AND PHARMACY

Topic: «History of medicine and pharmacy as the science and the subject of teaching. The History of Vitebsk State Medical University of the Order of Peoples' Friendship»

1. History of medicine and pharmacy as the science and the subject of teaching; main goals and problems.
2. Main principles of an essay making.
3. Distribution of essay topics.
4. The History of Vitebsk State Medical University of the Order of Peoples' Friendship (on the base of the history of University museum).


1. Periods of the history of medicine and pharmacy.
2. Sources of medicine and pharmacy studying: classification and examples.
3. Medical ethics: history, up-to-date problems, the Oath of Hippocrates.
4. Medical symbols and emblems. Examples of general and specific emblems, their meaning.
5. General characteristics of the Ancient Times period.
7. Medicine and pharmacy in Ancient Egypt: sources of medicine and pharmacy studying (papyri, pyramids), religion and medicine, embalming, ethics, anatomical and medical hygienic views, Imhotep.
9. Medicine and pharmacy in Ancient India: sources of medicine and pharmacy studying; religion and philosophy influence on medicine (yoga, Ayurveda, Aswins, buddhism); surgery development, famous doctors (Atreya, Sushruta (Shushruta), Characa), medical ethics.
10. Medicine and pharmacy in Ancient Greece: sources of medicine and pharmacy, religion, philosophy and medicine Asclepius, medical schools. Hippocrates, the founder of medicine.
11. Medicine and pharmacy in Ancient Rome: sources of studying medicine and pharmacy studying, public position of the doctor, military medicine. Claudius Galen, the founder of pharmacy and experimental medicine.
12. General features of medicine and pharmacy of the Ancient World, its historic significance.

**Topic:** «Medicine and pharmacy in the Middle Ages Period»
1. General characteristics of the Middle Ages Period.
2. Alchemy as a philosophy and a stage of development of chemistry.
4. Arabic medicine and pharmacy
   - influence of islam;
   - medical schools;
   - hospital job;
   - contributions of Arabic alchemists;
   - pharmacology and pharmacy;
   - surgery and ophthalmology;
   - contributions of Arabic scientists: Rhazes, Albucasis etc.;
   - Avicenna (Ibn Sine), «Canon of medicine» («Qanum»);
5. Medicine and pharmacy in Europe (V-XIV centuries):
   - methods of treatment: bloodletting, alchemy, astrology etc.;
   - surgery: level of development, status of surgeons and barbers;
   - medical schools and universities;
   - portrait of the Middle Ages doctor;
   - epidemics of infectious diseases (plague, leprosy): causes, methods of fighting;
   - chemists shops: structure, functions, preparation of drugs..

**Topic:** «Medicine and pharmacy during the Renaissance Period (XV-XVII centuries) in Europe»
2. Establishment of experimental method in medicine
3. Theophrastus Paracels, the founder of medicinal chemistry and famous doctor.
4. Foundation of blood circulation theory: Harvey, Malpighi etc.
5. Leonardo da Vinci, the famous scientist-encyclopedist.
6. Andres Vesalius, the founder of anatomy.
7. Ambroise Pare, the father of surgery in Europe.
8. Fracastorius and his theory about infection diseases.
9. Thomas Sydenham, the famous doctor.
6. Essays on the topic of the lesson.
2. Great discoveries in the realm of natural sciences (the periodic table, natural radioactivity, cellular theory, studying of evolution, hereditary laws, etc.). Development of microscopia.
7. The first methods and apparatuses of physical examination.
9. Specialities in medicine.
    10.3. History of asepsis and antisepsis: Joseph Lister. Their influence on further development of medicine.
    10.5. Development of surgery of abdominal cavity: Christian Albert Theodor Billroth, Theodore Kocher, etc.
13. History of development of scientific psychiatry and neurology: Phillippe Pinel, Sigmund Freud and others.

**Topic: «Medicine and pharmacy of the Twentieth Century»**

1. Influence of scientific progress on the development of medicine and pharmacy: laser, ultrasound, computerized tomography, magnetic resonance imaging, electro-cardiogram, renal dialysis and renal transplant, etc.
3. Achievements of biochemistry (hormones, vitamins, etc.). History of insulin: Frederick Banting, Charles H. Best, John J. R. McLeod.
4. Achievements of microbiology and immunology in their fight against infection diseases.
    5.1. Discovery of vaccine.
5.2. Discovery of antibiotics: Alexander Fleming, Howard Florey and Ernst Boris Chain.
5.3. August von Wassermann, Gerhard Domagk.
5.4. History of AIDS.
   11.1. Nobel Prizes for physiology or medicine.
12. Indian medicine achievements in the XX century: Dharmendra, Norman Bethune.

**HUMAN ANATOMY**

**Lectures**

1. Anatomy: subject, contents, place in a number of other educational disciplines. Methods of anatomical research. The anatomical nomenclature. Bone as an organ.
2. Anatomy: subject, contents, place in a number of other educational disciplines. Methods of anatomical research. The anatomical nomenclature.
5. General anatomo-functional characteristic of inner organs.
6. Functional anatomy of alimentary, respiratory and urogenital systems.
8. Functional anatomy of venous, lymphatic and immune systems.
10. Anatomy of human fasciae and topographic formations (part 1).
13. Functional anatomy of the brain (encefalon). Functional systems. Nerve fibre tracts of the spinal cord (medulla spinalis) and brain (encefalon)
14. Functional anatomy of the vegetative (autonomic) nervous system.
15. Functional anatomy of the peripheral nervous system (part 1).
16. Functional anatomy of the peripheral nervous system (part 2).
17. Functional anatomy of the sensory organs.
18. Development of inner organs and abnormalities (part 1).
19. Development of inner organs and abnormalities (part 2).

**Laboratory classes**

2. Cervical, thoracic, lumbar vertebrae, sacrum, coccyx. The breast-bone (*sternum*) and ribs (*costae*)
3 Bones of the upper limb (clavicle, scapula, humerus, ulnar, radial, bones of the hand).
4 The skeleton of the lower limb (pelvic, femoral, patella, tibia and fibula, bones of the foot).
5 Bones of the neurocranium (parietal, occipital, sphenoid, frontal, ethmoid).
6 Temporal bone and its channels.
7 Bones of the splanchnocranium (maxillary, mandible, lacrimal, zygomatic bone, hyoid bone, lower nose concha, vomer).
8 Topography of the skull: roof (calvaria) and base of the skull, orbital cavity.
9 Topography of the skull: nasal cavity, temporal, infratemporal and pterygopalatin fossae.

11 **Test in osteology**
12 General arthrology.
13 Skull bone joints
14 Trunk bones joints. Vertebral column. Thorax as a unit of a human body.
15 Upper limb girdle bone joints.
16 Upper limb free part bone joints.
17 Lower limb girdle bone joints. Pelvis as a whole.
18 Lower limb free part bones joints.

19 **Test in arthrology.**
20 Introduction to myology.
21 Introduction to myology. Muscles and fasciae of the back.
22 Muscles of the head (mimic, chewing). Muscles of the neck. Areas and triangles of the neck.
23 Muscles and fasciae of the thorax. The diaphragm.
24 Muscles, fasciae, topography of the shoulder girdle and brachium.
25 Muscles, fasciae, topography of the forearm and hand.
26 Muscles, fasciae, topography of the pelvis and thigh.
27 Muscles, fasciae, topography of the leg and foot.

28 **Test in myology.**
30 Pharynx. Esophagus.
31 Stomach. Intestine.
32 Liver. Pancreas.
33 Abdomen and peritoneal cavity. X-ray- anatomy of the digestive tract.
37 Male reproductive organs.
38 Female reproductive organs.
39 Perineum.
40 Functional anatomy of internal organs (assessment knowledge acquire).

41 **Test in splanchnology.**
42 Mediastinum. Heart. Chambers of the heart. Conductive system of the heart.
44 Vessels of the pulmonary circulation system. Aorta. Branches of the thoracic aorta.
45 Brachiocephalic trunk. Common and external carotid arteries.
46 Internal carotid and subclavian arteries. Blood supply of head and neck organs.
47 Axillary and brachial arteries.
48 Arteries of the forearm and hand. Blood supply of the upper limb.
49 Abdominal aorta and its branches. Blood supply of the organs of the abdomen cavity.
50 Common, external and internal iliac arteries.
51 Arteries of the lower extremity: femoral, popliteal, tibial and their branches. Blood supply of the pelvis and lower extremity.
52 Superior vena cava system.
53 Inferior vena cava system. Intersystemic vein anastomoses. The circulation of the fetus.
54 Lymphatic system. Lymphatic vessels and nodes of the thoracic cavity, head, neck, upper extremity.
55 Lymphatic vessels and nodes of the lower extremity, pelvis, abdomen cavity. Organs of the immune system. Lien.
56 Functional anatomy of cardiovascular system (assessment knowledge acquire).
57 Test in cardiovascular system.
58 Credit test
59 The science of the nervous system (NEUROLOGY). General data.
60 Spinal cord (medulla spinalis): structure, bundles, roots (radix), spinal nerve (nervus spinalis), reflex arch
61 Grey matter (substantia grisea) and white matter (substantia alba) of the spinal cord. The meninges of the spinal cord and intermeningeal spaces of the spinal cord.
62 General anatomy of the brain (encephalon). The surfaces and places of the emerging nerves from the brain and from the cavity of the skull.
63 Myelencephalon (medulla oblongata). Metencephalon: the bridge, cerebellum, isthmus of the rhombencephalon (isthmus rhombencephali).
64 The fourth ventricle (ventriculus quartus). Rhomboid fossa (fossa rhomboidea). Topography of the spinal nerves nuclei.
65 Mesencephalon (midbrain) and between-brain. The third ventricle (ventriculus tertius).
66 Endbrain (telencephalon): corpus colossum, comissura cerebri anterior, lateral ventricles, nuclei basales, internal capsule (capsula interna).
68 Localization of functions in the cortex of the cerebral hemispheres.
69 Sensing conduction pathways.
70 Descending conduction pathways.
71 Development and functional anatomy of the CNS (central nervous system). The lectures questions on preparations.
72 Test in CNS.
73 Vegetative nervous system (VNS), its differences from somatic nervous system. Reflex arch. Sympathetic part of the VNS.
74 Parasympathetic part of the vegetative nervous system: the centres, bundles, branches. Principles of the organs innervation.
75 X pair of the cranial nerves.
76 V, XI, XII pairs of the cranial nerves: nuclei, branches, areas of innervation.
77 VII, IX pairs cranial nerves: nuclei, branches, areas of innervation.
78 Spinal nerve: formation, branches. Posterior branches of the spinal nerves. Anterior branches of the thoracic nerves.
80 Innervation of the skin, muscles, innerval organs of the head and neck.
81 Brachial plexus: formation, short branches - areas of innervation.
82 The long branches of the brachial plexus. The dermal and muscle innervation of the upper limb.
83 Lumbar plexus: formation, branches, areas of innervation.
84 Sacral plexus: formation, short branches. Innervation of the skin, muscles, internal organs of the body (chest, abdomen, pelvis)
85 Long branches of the sacral plexus. The dermal and muscle innervation of the lower limb.
86 Development and functional anatomy of the peripheral nervous system The lectures questions on preparations.
87 Test in peripheral nervous system.
89 Innervation of the eye. III, IV, VI pairs of the cranial nerves. II pair of the cranial nerves, visual conductive pathway.
90 The organ of hearing: the external ear and middle ear.
91 The internal ear: bony (*labyrinthus osseus*) and membranous labyrinths (*labyrinthus membranaceus*). VIII pair of the cranial nerves: the pathway of sound conduction, the pathway of vestibular analyser.
92 The internal secretion glands. General covering of the body: the structure of the skin and its derivatives. The mammary glands (*mammae*).
93 Development and functional anatomy of the sensory organs. The lectures questions on preparation.
94 Test in sensory organs, internal secretion glands and general covering of the body.

**INFECTIOUS DISEASES**

2. Epidemic process and its essence. Direction and organization of the very first antiepidemic measures for infectious patients.
3. Peculiarities of patients’ treating and filling in the case history. Desinfection, desinsection, deratization

**Infectious illnesses**

Typhoid. Paratyphoids A and B.
Dysentery. Cholera.
Virus and bacterial gastroenteritis.
Pseudotuberculosis. Virus hepatitises A and E. Enterovirus infection.
Helminthiases. Trichinellosis.
Influenza. Paragrippe. Adenoviral infection. Raspiration-syncytial. rhinovirus infection.
Meningococcal infection.
Ornithosis.
Angina, differential diagnosis with diphtheria.
Infectious mononucleosis.
Legionellez.
Herpetic infection. Rickettsioses.
Epidemic typhoid and Brilla-Tsinssera illness.
Borreliosis. Typhoid returnable epidemic (pediculous)
Vernal encephalitis. Virus hepatitis B,D,C.
Erypsipelas. Sepsis. malignant ulcer. Tetanus.
Aphthous fever.
INTERNAL DISEASES


Bronchial asthma. An etiology and a pathogenesis. Classification of asthmatic and atopic asthma. Diagnostic measure of a bronchial asthma. A cupping of an attack. The asthmatic status, contributing factors. Treatment.


Ischemic illness of heart. Concept about ischemic illness of heart. Risk factors of heart diseases, their value. Classification of heart diseases.


Complications: a cardiogenic shock, infringements of a rhythm and conduction, a heart failure, early and serotinal aneurysms of heart, a cardiac tamponade, a postmyocardial infarction set of symptoms. Treatment. Value of early hospitalization. The help at a pre-hospital stage.

Infringement of a rhythm (arrhythmia) and conduction. The modern representations about a pathogeny of an arrhythmia. Classification of arrhythmias. Methods of diagnostics.

Экстрасистолия. A pathogenesis. Clinical exhibitings. ECG-ATTRIBUTES. Features of medical tactics, the indication to purpose of antiarrhythmic preparations.


Chronic nephritis. Clinical classification. Laboratory - tool research techniques at a chronic nephritis. Treatment.


Anemia. The modern classification of anemic states. An iron deficiency anemia. The basic etiological factors of an iron deficiency anemia. Stages of development of a deficit Ferri lactas in an organism. A clinical pattern, the basic sets of symptoms, measure of the diagnosis. The differential diagnosis. Treatment.


Hemoblastoses


INTERNAL DISEASES

Diffuse illnesses of the connective tissue, definition, classification. Methods of diagnostics. HARD CURRENCY, etiopathogenesis. Clinical manifestations, laboratory – instrumental diagnostics, diagnosistical criteria, differences from other diseases of the connective. Treatment.

Systemic scleroderma, etiopathogenesis, clinic, classification, laboratory - instrumental examinations. Diagnostical criteria, criteria of the variety of current. The differential diagnosis from HARD CURRENCY. Treatment.

Dermatomyositis, etiopathogenesis, classification, clinic, laboratory-instrumental examinations. Diagnostics, the differential diagnosis of the other diseases of the connective tissue. Dermatomyositis as exhibiting paraneoplastic syndrom. Treatment.

Rheumatic arthritis, the modern idea on its etiopathogenesis, clinic, diagnosistical criteria of RA. The differential diagnosis of the other diseases of joints. Classification. The special cases. Treatment.


ДОА, the modern idea of the etiopathogenesis, clinic, the differential diagnosis of the other diseases (diffuse illnesses of the connective tissue, rheumatic disease, RA, gout, etc.). Principles of treatment.

Reactive polyarthrites, the causes, clinic, diagnostics, treatment. Bekhterev illness, its etiopathogenesis, clinic, diagnosistical criteria. Differential diagnostics of the other diseases. Treatment.
The causes of infringement of bronchial permeability. Classification of a set of symptoms of bronchial obstruction. Diagnostics and differential diagnostics of the obstructive syndrome.

Chronic obstructive bronchitis as the possible cause of a bronchospasm. The modern idea of its etiopathogenesis, clinic. Principles of the differentiated therapy.

Diagnostics of the bronchial asthma, differential diagnostics with other bronchi-obstructive syndrome. The causes of originating of the asthmatic status, clinic, diagnostics, stages. An acute management. Principles of treatment of a bronchial asthma. A cupping of an attack. Treatment during the inter-attack period.


Glomerulonephritis chronic, etiopathogenesis, classification, clinical and morphological. Clinic of various forms. Diagnostics, differential diagnostics with an acute glomerulonephritis, a focal nephritis, subacute malignant, damaging of nephroses at diffuse diseases of a connective tissue. Treatment (a regimen, a diet, immunodepressive, steroid agents, other medicines).


Anemia, definition, classification, working groups. Anemic syndroms, diagnostics. The iron deficiency anemia (an exchange Ferri lactas in the organism, etiopathogenesis of anemia, stages, clinic, laboratory diagnostics, distinctive features - a sideropenic syndrom). Treatment.

Acute posthemorrhagic anemia, diagnostics, degrees of gravity.

Aplastic anemia (endo-, the exogenous causes, classification, clinic, diagnostics, treatment).


Autoimmune. Diagnostic criteria. Treatment. The forecast.

Hemocatheretic crisis, clinic, diagnostics, treatment.


Chronic lymphoid leukosis, clinical variants, their features, diagnostics, complications. The forecast. Treatment.

Leukemoid tests, concept, phylums, the differential diagnosis with leukoses. Treatment.

Differential diagnostics lymphoadenopatias (a lymphgranulomatosi, a sarcoidosis, a contagious mononucleosis, brucelloses, a lymphadenopathy at collagogenesis).


Secondary hyperglobulias, the causes, diagnostics, differential diagnostics with other diseases (with a polycythemia). An osteomyelofibrosis, clinic, diagnostics, differential diagnostics with other diseases of blood. Treatment.

Hemorrhagic diathesises, the causes of development, classification. Blanket attributes, phylums кровоточивости. Research techniques.

Angiostaxis, pathogenesis of bleedings. Clinic, the diagnosis, the differential diagnosis. The forecast. Treatment and prophyllaxis.

Werlhof's disease, hemorrhagic vasculitis, hemorrhagic a body - anginoectasia (illness of Randue-Osler), pathogenies of bleedings at these diseases. Clinic, the diagnosis, the differential diagnosis. Treatment.

Chronic gastritis, definition, the modern views on an etiopathogenesis, classification by morphological, functional, etiological principles. The basic sets of symptoms. The diagnosis, the differential diagnosis. Treatment.

Peptic ulcer, the basic and contributing factors, the modern views on an etiopathogenesis. Clinic, dependence on localization of ulcer. Diagnostics. Differential diagnostics with the tumour of the stomach, cholecystitis, pancreatitis, etc. Complications: perforation, malignancy, perigastritis, periduodenitis. Symptomatic ulcers.

Treatment. The differentiated approaches to treatment in dependences on localization, a combination of the ulcers, concomitant diseases, presence of complications of a peptic ulcer. Terrain clearance and relative indications to surgical treatment.


Hepatomegalia, principal causes of development (hepatitis, cirrhosis, tumours, infringement of a circulation, hematological diseases, focal lesions of a liver, disbolism). Augmentation of a liver in a combination to augmentation of a lien, to presence of an ascites, an icterus. The differential diagnosis at a hepatomegalia, algorithm of survey of the patient.

The causes of a splenomegaly. Algorithm of survey of the patient.


Cirrhosis of a liver, definition, the modern idea of its etiopathogenesis. The basic clinical-laboratory syndrom. Classification, etiological and functional, stages of disease. The differential diagnosis with other diseases of liver. The differentiated therapy in dependence on etiology. Rendering of the emergency help at a bleeding from ample veins of an esophagus. The hepatic encephalopathy, provoking factors, pathogenesis, stages, treatment.
Concept of "acute abdomen". A clinical symptomatology. Diseases at which development of "acute abdomen" is possible. The differential diagnosis at "Acute abdomen". The differential diagnosis at a gastrointestinal bleeding. Diagnostic measure of a bleeding, his quantity, localization and the cause. Medical tactics.

LATIN

Anatomo-histological section:
Introduction in subject. Latin alphabet.
Noun, its grammatic categories.
Suffixes in anatomic terminology.
Dictionary form of adjectives of all declinations in positive degree.
Semantics and use of adjectives suffixes.
Major pretexts used in anatomic terminology.
Major Latin attachments.
Major Greek attachments.

Pharmaceutical section:
Introduction in Latin pharmaceutical terminology.
Verbs in pharmaceutical terminology.
Prepositional designs in pharmaceutical terminology.
Prescription and rules of veneering its Latin parts.
Latin chemical terminology.
Major frequency pieces with complex spelling.

Clinical section:
Introduction in Latin clinical terminology.
Concept about terminoelements.
Names of pathological processes, formations and diseases.
Drawing up of clinical diagnoses.

MEDICAL BIOLOGY AND GENERAL GENETICS


covers, vertebral column, nervous, endocrine, circulatory, sex, digestive, respiratory and excretory systems). Ontophylogenetic condition of man’s development vices.  


**Medical parasitology.** Medical parasitology. Parasites and their classification. Parasite host. 
Ways of parasite penetration into the host’s organism. Life cycles of parasites. Parasitism origin. 
E.N. Pavlovski’s studying about natural focus of diseases. Medical protozooloogy, its purposes and problems. The most important irritants of man’s invasion diseases from classes Zoom astigota, Srcodina, Sporozoa and Ciliata. Medical gelmintonology, its problems. Epidemiological gelmint classification. Irritants of man’s and animals’ diseases from classes Trematoda, Cestoidea and Nematoda. Gelmints parasiting in man only on the larva stage. Geographical parasite spreading, their peculiarities of morphology, cycle development, ways of man’s infection. Methods of diagnosing (macro- and microscopic, coprologic, immunologic) pathogenic parasites. Medical arachnoentomology. The most important parasites from classes Arachnoidea and Insecta.  


**MEDICAL GENETICS**  

**Subject and problems of medical genetics**  
The role of foreign and native scientists in medical and clinical genetics development, basic stages of its development. Interconnection with other clinical subjects. Place of hereditary pathology in the structure of disease and death rate of the population.  

**Etiology of hereditary diseases**  
Chromosomal, genome and gene mutations, their role in human pathology. Lethal, sublethal mutations. The causes of mutations. Spontaneous and induced mutations, frequency of their occurrence; physical, chemical, biological mutagenesis. Medicinal mutagenesis, teratogenesis, cancerogenesis. Methods of studying mutagen activity of medicinal preparations.  

**Methods of medical genetics**  
**Clinical - genealogic method** in medicine. Method’s essence and its clinical value.  
**Biochemical and molecular-genetic methods.** Indications for their usage. Scrinig programs.
**Twin method.** Interaction of hereditary and habitat factors in phenotypical variability of signs. Heritability factor.


**Prenatal diagnostics of hereditary illnesses.** Indications. Methods prenatal diagnostics.

**Semiotics of hereditary pathology**


**Gene diseases and syndromes**


**Chromosome diseases**


**Multifactorial illnesses**


**Medico-genetic consultation**

Prophylactic medical examination and medico-social help to patients with hereditary and congenital diseases and their relatives.

MEDICAL INFORMATICS

1ST COURSE
1. Medical informatics as branch of science. Personal computer: devices. Labour protection working on PC.
7. Information inquiry system of medical-biological data.
9. Sending messages with electronic post.

2ND COURSE
1. Labour protection while working on PC. Microsoft Office. Simultaneous work with several documents. Creation of complex documents on example of text redactor Microsoft Word. Using Microsoft Word as table publishing system.
2. Statistic analyses of information with the help of electronic tables. Their usage for analyzing data and statistic analyses of the results of medical and biological experiment.
3. Prove of the hypothesis of medical and biological experiment with functions of Excel.
5. Microsoft Access. Creation of the tables, forms.
6. Electronic library “MARC”-SQL.
8. Reserved copying and archivation as elements of safety. WINRAR, WINZIP.
9. Effective search in e-net. Working with the most popular search E-net systems.

MEDICAL AND BIOLOGICAL PHYSICS WITH BASES OF HIGHER MATHEMATICS

Introduction. Purposes, task and structure of medical and biological physics. Their place and role in system of medical education, intersubject connections with other medicobiological and clinical disciplines.

Mathematical description of medicobiological processes and medical data processing.
Elements of informatics and computer facilities.
Bases of biomechanics.
Mechanical oscillatory and wave processes. Acoustics.
Physical bases of hemodynamics.
Thermodynamics and phenomena of transformation in biological systems.
Bioelectric potentials.
Electrical and magnetic phenomena in organism, electrical influences and methods of research.
Optical research methods and influence by radiation of optical range on biological objects.
Elements of physics of atoms and molecules.
Ionizing radiations, basis of dosimetry.

MEDICAL PSYCOLOGY

Mental functions of a man and their development in ontogenesis.
Psychology of a person.
Psychological questions of contact “doctor – patient”
Internal picture of illness and reaction of person to illness.
Psychohygiene. Psychological protection.
Bases of medical sexology.
Questions of deontology.
Private medical psychology:
Faculties of children’s illnesses.
Faculties of internal illnesses.
Faculties of surgical illnesses.
Faculty of pathological anatomy.
Faculty of obstetrics and gynecology.
Faculty of ophthalmology.
faculty of otorhinolaryngology.
Faculty of oncology.
Faculty of social hygiene and organizations of public health services.
Faculty of hygiene.

MEDICAL REHABILITATION

1. Basic problems of MA, the organization of service, the documentation.
4. The basis of a physical aftertreatment in different cases.
5. Rehabilitation in clinic of internal diseases. Basic contingents of the patients being subjected to rehabilitation (patients with angina, hypertension, asthma, chronic bronchitis, patients with various diseases of joints, peptic and duodenal ulcers, rheumatic disease). An assessment of reserves of the functional systems of an organism and rehabilitational opportunities of patients. Development of the individual program of rehabilitation.
6. Rehabilitation in surgical and traumatological clinics. Basic contingents (patients after operative treatment of the internal organs of thoracic and abdominal cavities, patients with
consequences of traumas of the upper and lower limbs, a column). An assessment of functionalities of the defensive systems of an organism, forecasting of rehabilitational potential. Development of the individual program of the rehabilitation.

7. Rehabilitation in neurologic clinic. Basic contingents of the patients (patients with neurologic manifestations of osteochondrosis, patients with consequences of infringements of the cerebral circulation, patients with consequences of various disorders central and periphery motorial neurones, patients with ICP, patients with consequences CCT).

MEDICAL MICROBIOLOGY, IMMUNOLOGY AND VIROLOGY

GENERAL MICROBIOLOGY

The subject, structure and tasks of modern medical microbiology. Main historical periods in microbiology. L. Pasteur and his outstanding contribution to microbiology science. R. Koch, his work in microbiology. Systematics and nomenclature of microorganisms. General approaches to microbial taxonomy. Species concept in microbiology.

General characteristics of basic morphology forms of bacteria (spherical, spiral, rode-shaped, filamentous, branched, etc.) Methods of microscopy.


Morphology and characteristics of spirochetes, chlamydiae, rickettsiae and mycoplasmas.

Morphology and characteristics of fungi.


Growth and reproduction of bacteria.

Bacterial pigments, their significance. Classification of pigments.


Normal microflora of human body, its role in human physiology and pathology. Dysbacteriosis, etiology, pathogenesis, clinical findings, treatment and prophylaxis.


Principles of genetic engineering. Applications of recombinant technologies in biology and medicine.

Chemotherapy. Classification of chemopreparations. Therapeutic ratio.


Bacterial exotoxins, their characteristics, classification and mechanisms of action. Bacterial endotoxins, their structure and activity.

**IMMUNOLOGY**

Immunology and immunity. Innate, acquired, artificial, natural immunity. Anti-infectious and non-infectious immunity, their forms.

Immune system and its sub-systems. Central and peripheral immune organs. CD-antigens, their significance.

Cytokines, their classification. Interleukins, their biological role and functions. Interferons and tumor necrosis factor group cytokines. Other cytokines.

T-cells, their development and differentiation. TCR structure. T-cells subpopulations, their role. B-cells, their development and differentiation.


Genetic control of TCR and antibody variability.
Complement system. Classic, alternative and lectin pathways of activation.
Dynamics of immune response. Immune cell cooperation. Primary and secondary immune response, their characteristics.

SPECIAL MICROBIOLOGY

Classification of pathogenic gram-negative non-sporeforming anaerobes. Structure and properties of bacteroids, fusobacteria, prevotellas and other non-sporeforming anaerobic bacteria. Laboratory diagnosis, prophylaxis and treatment of infections.

Classification, structure and properties of vibrios. Virulence factors of cholera vibrio. Pathogenesis and clinical findings in cholera. Laboratory diagnosis, specific prophylaxis and treatment of cholera.

Classification, structure and basic properties of yersiniae. Pathogenesis and clinical findings in plague and yersinioses. Laboratory diagnosis, prophylaxis and treatment of yersinioses.

Classification, structure and properties of anthrax causative agent. Pathogenesis and clinical findings in anthrax. Laboratory diagnosis, prophylaxis and treatment of the disease.


Classification, structure and properties of bordetellae. Pathogenesis and clinical findings in pertussis and parapertussis diseases. Laboratory diagnosis, prophylaxis and treatment of pertussis and parapertussis.


Classification, structure and properties of meningococci. Pathogenesis and clinical findings in meningococcal infections. Laboratory diagnosis, prophylaxis and treatment of meningococcal infections.

Classification, structure and properties of pathogenic corynebacteria. C. diphtheriae. Pathogenesis and clinical findings in diphtheria.


Classification, structure and properties of pathogenic treponemas. Syphilis causative agent. Pathogenesis and clinical findings in syphilis. Laboratory diagnosis, prophylaxis and treatment of syphilis.

Classification, structure and properties of gonococci. Pathogenesis and clinical findings in gonorrhoea. Laboratory diagnosis, prophylaxis and treatment of gonorrhoea.


Pathogenic leptospiroae: classification, structure and properties. Pathogenesis and clinical findings in leptospiroses. Laboratory diagnosis, prophylaxis and treatment of leptospiroses.


Q fever causative agent. Laboratory diagnosis, prophylaxis and treatment of Q fever.

Chlamydiae: classification, structure and properties. Pathogenesis and clinical findings in chlamydioses of various localizations. Laboratory diagnosis, prophylaxis and treatment of chlamydioses.

Mycoplasmas: classification, structure and properties. Pathogenic mycoplasmas, affecting respiratory and urogenital tract. Pathogenesis and clinical findings in mycoplasmal pneumonias and
mycoplasmal urogenital disorders. Laboratory diagnosis, prophylaxis and treatment of mycoplasmal infections.

Medically important fungi. Classification of mycoses. Laboratory diagnosis, prophylaxis and treatment of mycoses.

Causative agents of protozoan diseases.

MEDICAL VIROLOGY


Influenza viruses, classification, structure and properties, viral replication cycle. Pathogenesis and clinical findings in influenza. Laboratory diagnosis of influenza. Specific prophylaxis and treatment of the disease.


Coronaviruses. Classification, structure and replication cycle of SARS virus. Pathogenesis and clinical findings in SARS. Laboratory diagnosis of the disease, specific prophylaxis and treatment.


Reoviruses and rotaviruses. Classification and general characteristics. Laboratory diagnosis and prophylaxis of reoviral infections.


Prions and prion diseases.

**NEUROLOGY AND NEUROSURGERY**

**General neurology**


Structurally functional organization of the nervous system. Factors and mechanisms of primary and secondary nervous system damage. Symptoms and syndromes of nervous system affect.

Sensitive frustration and syndromes of sensitivity disturbance while affecting peripheral nerves, textures, spinal roots, segments of the spinal cord, the brain of the trunk, hemispheres.

Reflexes and their disturbances. Signs of the central and peripheral paralyses. Syndromes of motor disturbances while affecting hemispheres, the brain of the trunk, the spinal cord, roots and textures, peripheral nerves. Syndromes of affect of pallid and striar departments (parkinsonism, hyper kinetic syndrome). Signs of affecting cerebellum. Variants of ataxia (static, dynamic, cerebellic, sensitive, vestibular, cortex).


Structure and functional organization lumbico-recticular complex and the segmentary device of vegetative sphere. Syndromes of vegetative frustration during damage of various parts of the nervous system.


Peculiarities of brain blood supply, mechanisms of automatic regulation of the cerebral blood flow. Spinal cord diameter blood supply.


Principles of the nervous system functions research.

**Private neurology**


Demielinizing diseases. Multiple sclerosis. Sharp multiple encephalomyelitis. Slow virus infections (Kreitzelfeld-Jacob's disease, etc.).


Disturbance of the nervous system at diabetes, endogene intoxications, botulism, ethyl alcohol intoxication. Poisoning with methyl alcohol, barbiturates, carbon oxide, mercury. Radiating disturbances of the nervous system. Electrotrauma, influence of a magnetic field, overheating.

Epilepsy and epileptic syndromes. Epileptic status.

Coma conditions, caused by disturbance of the nervous system. Principles of conducting patients in case of widespread urgent conditions at disturbances of the nervous system.

**Neurosurgery**

and endovascular technologies in brain surgery. Laminoectomy. Access to peripheral nerves, neurolysis.


Surgical treatment of neuralgic trigeminal nerve. Traumatic damage of humeral texture.

Surgical treatment of neurologic signs of an osteochondrosis of a backbone.

Brain tumors. Tumors of spinal cord.

Principles and variants of surgical treatment of abnormalities (arterial and arterio-venous aneurysm) and occlusive damage of brain vessels. Surgical treatment of hemorrhage insults.


Hydrocephaly. Craniocerebral and spinal hernias.

Tactics of conducting patients at widespread urgent neurosurgical conditions.

**NURSERY PRACTICE ON THE PROPEDEUTICS OF INTERNAL DISEASES**

The subject «Nursery practice on a propaedeutics of internal illnesses " is the obligatory form of preparation on a speciality - «Medicine».

The purpose of nursery practice at the curse of propaedeutics of internal illnesses is acquaintance with the work of treatment-and-prophylactic medical institution, purchase of practical skills, mastering of various manipulations and a taking care of patients of a therapeutic department.

To achieve this purpose the following *problems are* provided: studying of main signs of of internal diseases;

- purchase of practical skills and skills on examination and a taking care for the patients of therapeutic department, rendering of the first pre-medical aid at urgent states;
- To train in skill to use medical equipment and instruments;
- To train in main principles of medical ethics and a deontology, bases of sanitary-educational work in medical institutions.

Obligatory ammount of nursery practice - 12 working days (72 hours).

Nursery practice on a propaedeutics of internal illnesses is carried out in the specialized hospitals of a therapeutic department of institutions of public health services in July.

Successful passing of nursery practice is based on knowledge and skills got on the following disciplines: normal anthropotomy, normal physiology, pathological anatomy, pathological physiology, a propedeutics of intrinsic illnesses.

After end of practice the student should *know*:

The organization and features of work of a reception;
Sanitary-and-epidemiologic regimen of a reception;
Rules of veneering of the medical documentation;
Sequence of admission and cleansing of patients;
The device, equipment, operating mode of the department;
Duties of the nurse in the department;
The medical documentation (rules and the order of its conducting) a post of the nurse Medical - protective regimen of the department, the order of visitation of patients;
Rules of prescription and storage of medicines, narcotic and strong effective medicines;
Rules of veneering of portional demands, dietary tables;
The sanitary-and-epidemiologic regimen of a medical (therapeutic) department;

The student should *be able*:
1. To carry out manipulations and the procedures specified in the list of practical skills (a cleansing, transportation of patients, change of linen, a toilet of a skin and mucous, measuring the temperature, a respiratory rate, sphygmus, arterial pressure, the elementary physiotherapeutic procedures, making injections and intravenous drop infusions, presterilizing processing of syringes, giving clysters, a gastric lavage, fence of matter for analyses of a blood, urine, a feces and a sputum, etc.).

2. To keep norms of a sanitary - antiepidemic regimen and prophylaxis intrahospital infection contaminations, the safety precautions.

3. To work in a reception ward, on a nursery post and in a room for medical procedures of therapeutic department, to carry out night watches.

4. To conduct medical documentation in a reception ward and on a nursery post of therapeutic department to hand over watch on change.

5. To render the urgent pre-medical aid at acute cardiac and vascular failure, angina pectoris and a myocardial infarction, a fluid lungs, a hypertonic crisis, an attack of a bronchial asthma, an acute anaphylaxis, a pulmonary and internal bleeding, hypoglicemical and hyperglicemical (ketoacidotic) comas, acute poisoning, to carry out reanimation at a failure of cardiac activity and respiration.

6. To carry out sanitary - educational work with patients and their relatives (conversations, writing articles for sanitary shields).

The student should master the following practical skills:
1. Preparation of working disinfectant solutions
2. Measuring the height and weight of the patient’s body
3. Measuring the size of thoracic cell
4. Accounting the number of breathing movements
5. Transportation of the patient on a wheel-chair, stretcher - wheelchair and manually on stretcher
6. To change linen and underwear for the seriously ill patient
7. Taking a bedpan
8. Washing the patient’s genitals
9. Carrying out of a toilet of an oral cavity
10. Taking care of eyes. Application of ophthalmic drops, ointments
11. Carrying out of a toilet of ears. Dropping into ears
12. Carrying out of a toilet of a nose. dropping into a nose
13. Taking care of a hair of seriously ill patients
14. Feeding of patients
15. Artificial feeding of patients
16. Measuring the temperature of the body and registration of the results
17. Taking sinapisms
18. Taking cups
19. Making a warming compress
20. Making a cooling compress
21. Preparation and taking a heater to the patient
22. Preparation and taking a bladder with ice
23. External ways of introduction the medical products
24. Prescription, storage and distribution of medicines
25. Safety precautions regulations at work with a blood and biological fluids
26. Transportation of a blood and biological fluids
27. Processing of a skin, mucous, biological fluids
28. Presterilizing of medical products
29. Testing the quality of cleaning syringes and needles from blood and washing solution
30. The collecting of a sterile syringe from a craft-package and from a sterile table
31. Taking of medicinal solution from the ampula and a bottle
32. Calculation of a dose of an insulin and its injecting
33. Delution freezed dried ampuled forms of medicines
34. Intradermal injection
35. Intramuscular injection
36. Intravenous bolus injection
37. Filling of system for intravenous drop injection with medicine
38. Carrying out the intravenous drop injection
39. Preparation of patients for radiological and instrumental research
40. of kidneys and urinary tract
41. Accounting a number of respiratory movements
42. Rendering of the pre-medical aid at a subitaneous shortness of breath (dyspnea)
43. The collecting of a sputum for bacterioscopic research
44. The collecting of a sputum for bacteriological research
45. First-aid treatment at a pneumorrhagia, a pulmonary bleeding
46. Carrying out of an oxygenotherapy. Safety precautions regulations
47. Preparation of instruments for carrying out of a pleurocentesis
48. Measuring the pulse rate on peripheral arteries
49. Taking an arterial blood pressure
50. Rendering of the pre-medical aid at a renal colic
51. Rendering of the pre-medical aid at a vomiting
52. Rendering of the pre-medical aid at a gastromenia and an intestine
53. Preparation of instruments for carrying out of a transabdominal puncture
54. Taking smears from nasal sinuses for bacteriological research
55. Technics of a gastric lavage
56. Carrying out of fractional research of a gastric juice
57. Carrying out of duodenal intubation
58. Introduction of a colonic tube
59. Giving a cleansing enema
60. Giving a siphon clyster
61. Giving an oil clyster
62. Giving a hypertonic clyster
63. Giving a medicinal clyster
64. Capture of a feces for bacteriological research, on eggs of worms
65. Preparation of a sick feces for a capture on an occult blood
66. The collecting of urine for general analysis
67. The collecting of urine for analysis according Nechiporenko
68. The collecting of urine for analysis according Zimnitsky
69. The collecting of urine for carrying out of a daily urine
70. Catheterization of urinary bladder with a mild catheter
71. Preparation of esophagus of a patient for a X-ray investigation of stomach
72. Preparation of the patient for carrying out of an irrigoscopy, proctosigmoidoscope, colonoscopy
73. Preparation of the patient for carrying out of FGDS
74. Preparation of the patient for ultrasonic research of the organs of abdominal cavity
75. Rendering of the pre-medical aid at an attack of angina pectoris
76. Rendering of the pre-medical aid at suspicion on the tightened anginous attack
77. Rendering of the pre-medical aid at a hypertonic crisis
78. Rendering of the pre-medical aid at a hyperthermia
79. Rendering of the pre-medical aid at an attack of a bronchial asthma
80. Rendering of the pre-medical aid at an acute anaphylaxis
81. Carrying out of artificial ventilation of lungs
82. Carrying out of an indirect cardiac massage.
OBSTETRICS

Section 1: The purposes and of the discipline, its place in the educational process.
1.1 Purpose of teaching of discipline.
The basic purpose of a course of obstetrics is studying of physiological and pathological postnatal period by the 4th year students, in volume necessary for the doctor of any speciality. Obstetrics is a branch of a clinical medicine, studying of it promotes formation of a clinical way of thinking of a doctor. Theoretical knowledge and skills on Obstetrics follows from the requirements generated in "the Qualifying characteristic of the doctor" on a speciality 1901 "medical businesses".
1.2 Goals of studying the discipline. The basic goals of training provide:
1. Mastering by methods of examination of the pregnant women, women in labor, puerperas, and newborn.
2. Making use of knowledge, received during training, for conducting physiologically proceeding gestation, labors, postnatal period and period of newborn.
4. Skill to render the emergent help at urgent conditions in obstetrical practice.
5. Development of knowledge and skills on prevention of development of a pathology during gestation, in labors and postnatal period (considering the risk groups) and mastering of rehabilitation methods (considering the experienced pathology). On the basis of studying Obstetrics students are to know:
- Organization of an obstetrical aid;
- Physiological duration of a gestation, labors and postnatal period;
- Methods of diagnostics of pregnancy and estimation of a condition of a fetus;
Principles of conducting a physiological pregnancy, delivery, postnatal period and period of a newborn;
- Complications of pregnancy, labors, postnatal and the early neonatal periods, methods of their treatment and prevention;
- Emergent conditions in obstetrical practice and amount of the emergency aid.
On the basis of studying of obstetrics the student should be able carry out:
- external examination of the pregnant women, women in birth and puerpera;
- bimanual internal research of the pregnant women and women in labor, rectal examination research;
- autopsy of a fetal vesicle;
- first toilet of a newborn;
- blood transfusion;
- capture of smear from vagina, cervical canal, urethra;
- psychoprophylactic painless labor;
- Prophylactics of bleeding at the early postnatal period.
Section 2: the contents of the discipline.
2.1 Topics, duration of lectures (in hours)
Time 2 hours.
№ 2. Fertilisation, stages of the intrauterine development of a fetus, critical periods, influence of a pathogenous factors onto a fetus.
Time 2 hours.
№ 3. Changes in a female organism during gestation. The causes of beginning the labor
Time: 2 hours
Time: 2 hours

№ 5. Clinical current and conducting of delivery.
Time: 2 hours

№ 6. Incompetent and prolonged pregnancy.
Time: 2 hours

№ 7. Immunologic incompatibility between mother and fetus.
Time: 2 hours

№ 8. Toxemia of the pregnant women.
Time: 2 hours

Time: 2 hours

Time: 2 hours

№ 11. Abnormal labor activity.
Time: 2 hours

№ 12. Contrasted pelvis and other abnormalities of labor pathways.
Time: 2 hours

№ 13. Bleedings during gestation and in labor.
Time: 2 hours

Time: 2 hours

№ 15. Obstetrical traumas (of a mother and a fetus).
Time: 2 hours

Methods of anesthesia
Time: 2 hours.

№ 17. Postnatal period and its complications.
Time: 2 hours

2.2 Practical classes, their contents and duration in hours.
duration of a class-6 hours.

2. Diagnostics of pregnancy. Hygiene and dietetics. Psychoprophilactic preparation of a pregnant women for labor. (Female dispensary).
duration of a class-6 hours.

duration of a class - 6 hours.

4. The biomechanism of labor at bending presentations of the head.
duration of a class-6 hours.

5. Current and conducting of the afterbirth period and early postnatal period.
Time - 6 hours.

6. Anomalies of labor activity. Obstetrical operative delivery (Cesarian section, forseps delivery nipper, vacuum-extraction of a fetus).
Time - 6 hours.

7. Pelvic presentations of a fetus and abnormal presentations of a fetus. Female dispensary.
Time - 6 hours.

8. Incompetent gestation and prolonged gestation. Multiple pregnancy.
Time of realization of employment(occupation) - 6 hours.
10. Toxemia of the first and the second half of gestation. Time - 6 hours.
12. Bleedings at gestation. Presentation of placenta, ablatio placentae of a normally located placenta. Time - 6 hours.

GYNECOLOGY

Section 1: the purposes and tasks of discipline, its place in educational process.
1.1 Purpose of teaching to the discipline.
The main purpose of the course on Gynecology and Obstetrics is the studying of physiological and pathological processes occurring in an organism of a woman, and caused by her anatomical and physiological features, and also methods of diagnostics, treatment and prevention of the diseases of female in a volume, necessary to the doctors of all specialities. Gynecology is a branch of a clinical medicine, the studying of it promotes formation of the doctor.
1.2 Goals of studying the discipline. On the basis of studying of Gynecology the students should know:
- Clinical symptoms of gynecologic diseases;
- Methods of examinations, allowing making a diagnosis;
- Basic principles of treatment of the patients with gynecological pathology, methods of preventive maintenance and rehabilitation;
- Problems of planning and modern methods of contraception;
- Clinical manifestations of urgent states in gynecological practice (bleeding, twisting of pedicular tumor, necrosis of the myoma node, pelvioperitonitis), tactics of the doctor and volume of rendering of the emergency help. On the basis of study gynecology the student should be able to execute:
  - Examination by means of gynecological retractors;
  - Bimanual gynecological investigation;
  - Rectum investigation;
  - Capture of smear from a cervical canal, urethra, and vault of vagina;
  - Vaginal baths, injecting of a tampon with medicinal substance into a vagina;
  - Removal of sutures of the patients after operation;
  - Curettage of a womb at an incomplete abortion.
1.3 Lists of disciplines with the indication of sections necessary for studying of the discipline.
The teaching of gynecology is based on knowledge received at study of fundamental disciplines and other branches of clinical medicine:
Anatomy: an anatomic structure, blood supply, lymphatic system of female; innervation of genitals; Histology: Female Genital System – ovary, follikulum, yellow body (corpus luterum verum), uterine tubes, uterus, breast glands, the functional morphology of sexual cycle; Normal physiology: hormones (definition, value), physiological structure of endocrine function (secretion of hormones, transporting, influence on cells and tissues, metabolism and excretion), hormones of anterior part of a hypophysis, sexual glands, role of male and female hormones in formation of sex and regulation of processes of reproduction (role of female sexual hormones, regulation of secretion of sexual hormones, endocrinal function of placenta).

### Section 2: the contents of the discipline.

#### 2.1 Topics, duration of lectures (in hours)

<table>
<thead>
<tr>
<th>Topic N1. Neurohumoral regulation of menstrual function. The causes and classification of disorders. Disfunctional uterine bleeding.</th>
<th>Time: 2 hours</th>
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<tbody>
<tr>
<td>Topic N2. Neuroendocrinal gynecological syndroms.</td>
<td>Time: 2 hours</td>
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<tr>
<td>Topic N3. Inflammatory diseases of female genital system of specific and non-specific etiology.</td>
<td>Time: 2 hours</td>
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<tr>
<td>Topic N4. The urgent help in gynecology (extrauterine pregnancy, incomplete abortion, twisting pedicular tumor etc.).</td>
<td>Time: 2 hours</td>
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<tr>
<td>Topic N6. Background, precancerous diseases and malignant tumors in genitals.</td>
<td>Time: 2 hours</td>
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<tr>
<td>Topic N7. Endometriosis.</td>
<td>Time: 2 hours</td>
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<tr>
<td>Topic N8. Reproductive function of a woman and its regulation (sterility, abortion, planning of family, contraception).</td>
<td>Time: 2 hours</td>
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#### 2.2 Practical classes, their contents and volume in hours.

<table>
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<tr>
<td>Topic 2. Amenohrea. Disfunctional uterine bleeding.</td>
<td>Time: 6 hours</td>
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<tr>
<td>Topic 3. Inflammatory diseases of female genital system of specific and non-specific etiology</td>
<td>Time: 6 hours</td>
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<tr>
<td>Topic 5. Malignant tumours of female genital system.</td>
<td>Time: 6 hours</td>
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<tr>
<td>Topic 6. Endometriosis.</td>
<td>Time: 6 hours</td>
</tr>
<tr>
<td>Topic 7. Preoperative and postoperative conducting of the gynecological patients. The emergent cases in gynecology.</td>
<td>Time: 6 hours</td>
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</table>
I section: the goals and tasks of the discipline, its place in the educational process.

1.1 the aim of teaching of the discipline.

The main purpose of training in gynecology obstetrics in the 6th year is the excavation of theoretical knowledge on these disciplines, improving of clinical thinking of a doctor, expansion of volume of practical skills.

1.2 the purposes of studying of the discipline

On the basis of studying of obstetrics and gynecology the student should know:
- methods of examination of pregnant women and gynecologic patients;
- current conducting of a normal pregnancy, labors and the postnatal period (puerperium);
- clinical manifestations of the complications during gestation, labor, puerperium;
- the peculiarities of extragenital diseases in a period of gestation and their influence on a gestation and fetus;
- clinical manifestations of genital diseases (inflammatory diseases, tumors, menstrual disorders and the reproductive system disorders);
- the main principles of treatment of obstetric and gynecologic pathologies;
- clinical manifestations of urgent conditions in obstetric and gynecologic practice, tactics of the doctor and volume of rendering of the emergency help;
- problems of prevention of obstetric and gynecology pathologies.

A subintern should be able:
- to examine women during pregnancy and in labors: to make external and internal obstetric examinations, auscultation, heart sounds of a fetus, cardion monitoring, amnioscopy, to take vaginal, urethral, cervical smears;
- to reveal risk groups of obstetrical and perinatal pathologies;
- to make a diagnosis, to make a plan of examination and treatment women with pathological gestation and extragenital diseases;
- to handle the normal delivery, to examine natural labor pathways, a perineotomy, the first toilet of a newborn, to make separation or manual removal of afterbirth;
- to participate as an assistant at an operative delivery;
- to conduct medical supervision of puerperas in postnatal departments to carry out processing of cervix and stitches, to treat hypogalactia and congestion of lactation;
- to carry out prophylaxis of bleedings in labors;
- to examine gynecologic patients: to make percussion, a palpation, cervical examination with the aid of a speculum, to carry out bacterioscopic and bacteriologic investigations, cytologic research, to estimate results of ultrasonic, hystero- and a laparoscopy, ms, tests of functional diagnostics;
- to diagnose emergent states in gynecologic practice (bleedings, twisting of pedicular cancer, a necrosis of fibromatous node, a hemorrhagic and septic shock, a peritonitis).

II section: the thematic plan of lectures

Topic № 1: "bleeding during i and ii half of gestation" — time 2 hours

Topic № 2: "dis - a set of symptoms" — time 2 hours

Topic № 3: "obstetric traumatism of a mother and a fetus" — time 2 hours

Topic № 4: "infertilital marriage" — time 2 hours

2.2 the topical plan of practical classes and their volume in hours

Topic n1: clinical manifestation of labors. Biomechanism of labors at bending presentations of the head - 6 hours

Topic n2: anomalies of labor activity. The anesthesia of labors. - 6 hours
ONCOLOGY

for students of 5-6th course of medical faculty

AIM: getting knowledge of clinical questions, diagnostics and modern policy of treatment of different types of tumorous diseases.

Students’ training includes the course of lectures and practicals. Topics of lectures include review and problem information on the most actual questions of modern oncology. Practicals are to form clinical mentality and master practical skills.

Lectures include review and problem topics, containing the necessary information about oncologic service organization, early detection, diagnostics and treatment of oncologic patients, deontology in oncology.

While practicals students study in details peculiarities of clinical picture, diagnostics, differential diagnostics, treatment and rehabilitation of patients with tumors of main localization: lungs, esophagus, stomach, colon and rectum, liver, pancreas, mammary gland, skin, thyroid gland, lymphogranulomatosis, non-Hodgkin’s lymphoma, oncurology, oncogyneology, children oncology.
Methods of patients’ treatment, including symptomatic treatment, primary malignant tumors, anticancer propaganda.
At the end of the course – differential credit.

OPERATIVE SURGERY AND TOPOGRAPHICAL ANATOMY

Lectures:

*Operations on blood vessels, nerves and tendons of extremities. Seams of vessels, nerves and tendons.*

Fascia and cellular spaces of the upper limb. Principles of operative interference at purulent diseases extremities.
Amputations and exarticulations.
Specific questions of surgical anatomy on skull and neck. Principles of operations on them.
Surgical anatomy of the thorax and its organs. Selected operative interference on the organs of chest.

*Surgical anatomy of a front abdominal wall, development of wall hernias. Basic operations of pelvic and femoral hernias.*

*Surgical anatomy of the stomach. Selected operative interventions on a stomach.*

Surgical anatomy of the liver. Basic operations on the liver and biliary passages. Surgical anatomy of the pancreas. Basic operations of its diseases.
Surgical anatomy of lumbar region and posterior abdominal space. Operations on kidneys and ureters. Surgical anatomy of the pelvis and its organs. Basic operations on the pelvic organs.

PRACTICAL CLASSES

Acquaintance to general-surgical equipment and instructions of its usage. Mastering of the elementary practical skills. Setting of simple, sea and double surgical knots. Techniques of tissue and tissue connections dissection. Seams removal.
Topographical anatomy axillary, scapular, delta-like, underclavicular regions. Shoulder topography. Forearm topographical anatomy. Group innervation of the skin, muscles and projection of the shoulder and the forearm vessels and nerves.
Mastering of surgical skills on the fixed material: treatment and preparing of operational field, temporal and final stop of bleeding, isolation of an operational wound edges, imposing P-, Z-like, continuous, matrace and round (Multanovski) seams.
Topographical anatomy of the palm, thigh regions and pelvic joint. Topography of a hip. Group innervation of the skin and muscles and projection of hip vessels and nerves.
Topographical anatomy of a leg. Topographical anatomy of a foot (front and lower part). Group innervation of the skin, muscles and projection of vessels and nerves of leg and foot.
vessels and nerves. Acquaintance to special surgical equipment used at joint resections and amputations.

Amputations and exarticulation of fingers phalanges. Exarticulation of the 2\textsuperscript{nd} and 5\textsuperscript{th} fingers according to Farabef and IIIr\textsuperscript{d} and IV\textsuperscript{th} fingers according to Lyupi and way of the racket. Amputation of the forearm in the upper and lower thirds. Cone-circular three moment shoulder and hip amputation according to Pirogov. Myoplastiс amputation of the shoulder in the upper third according to Farabef. Bone-plastic amputation of the leg - foot according to Pirogov. Scrappy fascioplastic amputation of the leg. Amputation of the hip according to Gritti - Shimanovski-Albercht. Skills on picking up sets of special surgical instruments and using them correctly.


Topography of front-lateral stomach wall, hernias. Weak parts. White line topography, umbilical ring, umbilical and pelvic channels. Pelvic space. Surgical anatomy slanting, straight, sliding, congenital pelvic hernias. Topography of the femoral channel. Topography of the abdominal cavity. Topography of the abdomen and its relation to organs. Topography of fatty, hepatic and pregastric sacks. Topographical anatomy of upper organs the abdominal cavity:
abdominal part of the gullet, stomach, liver, gall-bladder, pancreas, and spleen. Topographical anatomy of the abdominal cavity lower part. Abdominal cavity sinuses, pockets and channels. Their connection with the upper part of the abdominal cavity and pelvic cavity. Large and small intestines topography, peculiarities of their blood supply, lymph outflow.


Mastering of practical skills on fixed tissues. Operative access to organs of the abdominal cavity. Check of abdominal cavity organs. Techniques of intestinal seam. Sewing of wounds of large and small intestines. Dissection of the small intestine with anastomoses «end to end» and «side to side». Sewing of fallen stomach ulcers.


By the end of studying the subject a student must be able to:

- To know and be able to use general-surgical and special instruments.
- To be able to select general-surgical and special instruments for operative interference.
- To fasten knots.
- To dissect skin, hypodermic fiber, aponeurosis, muscle, abdomen and hollow organs.
Temporarily and finally stop bleeding by imposing on vessels blood ceasing clips, by fixing vessels on a clip, sewing vessels through, bandaging vessels by leading ligatures to them with the help of Deshan’s ligature needles. 
To isolate operational field and edges of operational wound. 
To carry out vessels exposure on their extent. 
To carry out vein dissection on forearm and shin. 
To carry out knee joint puncture; 
To carry out Lukashevich - Oberst anesthesia on fingers (on a corpse). 
To impose separate knotting seams on skin and aponeurosis, matrace, continuous seams and rounding Multanovski’s seam. 
To impose Z-figurative and P-shaped seams on muscles. 
To impose intestinal seams: septic (continuous, rounding Multanovski’s seam, Shmiden’s furrier) and aseptic (separate serous-muscular Lamber’s seams, Z-shaped seams), Mateshuk’s seam. 
To carry out imposing of inter-intestinal anastomoses: "end to end" and "side to side"; 
To sew fallen stomach ulcer; 
To remove skin seams. 
To carry out plastic of pelvic and umbilical channels on models (at паховых and umbilical hernias). 
To make грыжестоимию on a corpse and breadboard models (to put into trachea tracheostomic Lyuer’s tube). 
To carry out tendon’s seam according to Kjuneo on models. 
To carry out vascular seam according to Karrel on models. 
To carry out abdominal cavity organs check. 
To use received knowledge for explanation of various diseases clinical symptoms, distributions of hematomas and infections through cellular spaces, diagnosing a disease, for explanation and choice of the best ways and methods of surgical treatment.

**OPHTHALMOLOGY**

Acquaintance with clinic, its traditions, deontology in ophthalmology. 
Achievement of Byelorussian ophthalmology with conducting ophthalmologic centers. 
Elements of clinical anatomy. Modern diagnostics of visual functions of pathology. 
Research of central vision, field of vision, colour perception, pathological changes. 
Pathology of blepharons, conjunctiva and an eye plaintive device. methods of research of an eye forward part. (Blepharites, conjunctivitis, dacryadenites, canaliculites, dacryocystites.) 
Research by a method focal, bifocal illumination, biomicroscopy on slit lamp. 
Pathology of cornea and sclera. out-patient reception of the patients with diseases of appendix device and forward part of an eye. (Keratites, cornea dystrophies, episclerites, sclerites. Etiopathogenesis, clinic, diagnostics, treatment). 
Diseases of vascular environment. (Uveites, iridocyclites, chorioretinites. Etiopathogenesis, clinic, diagnostics, treatment).

Damages of vision organs. (Classification. Traumas of protective and appendix eye device.)


**OTORHINOLARYNGOLOGY**

**The purpose of teaching the subject:**

Otorhinolaryngology is a special clinical discipline, aiming at studying morphologic-physiological peculiarities and pathology of upper respiratory passages and ear. The name of the subject comes from the Greek words meaning otos (ear), rhinos (nose), larynqos (throat). Due to the first letters of these words there is abbreviation – ORL or (sounds better) LOR.

Ear and upper respiratory passages are the first to be subjected to the influence of environmental factors: noise, vibration, ion radiation, dust, various chemical compounds, angular and straight acceleration. In many cases pathogenic factors exceed accessible norms. LOR organs are often affected at acute and chronic diseases, causing development of respiratory passages pathology and steady disorder of hearing and vestibular functions, which is followed by continuous disturbance of patient’s working ability. LOR organs diseases often lead to damage of various organs and organism systems. Everything enumerated makes clear necessity of studying morphological-physiological peculiarities and LOR organs pathology by the students of different faculties of medical universities.

Otorhinolaryngology pays much attention to the questions of clinical anatomy and physiology, as in the LOR organs the majority of analyzers is concentrated. First of all this is hearing analyzer playing an important role in the process of learning the surrounding world, an analyzer with the help of which speech is formed, which makes the basis of the second signaling system activity. Besides, vestibular analyzer is a main link in the system of distance-sight reality receiving and providing equilibrium function, and also there are smell and taste analyzers. In the mucous membrane of the respiratory passages there are a lot of different receptors – mechano-, thermo- and a number of others, due to which reflexive influence on other organs and body systems takes place. In the genesis of a number of diseases, connected with nose and throat pathology, great significance is given to nervous-reflexive effects.

Otorhinolaryngology takes a special place among other medical subjects, which is first of all determined by the frequency of respiratory passages and ear affect: LOR diseases make up to 15% complaints to the medical institutions. They can cause development of serious life-threatening complications – otogenic and renogenic meningitis, brain abscess, intracranial sinuses thrombosis, sepsis.

Some otolaryngological diseases have great social significance because they lead to deafness and chronic vestibular disfunction and other complications.

**Problems of studying otorhinolaryngology.**

Main problems of teaching otorhinolaryngology are:

1. Explain the students instance of studying LOR organs pathology, necessity of quick finding and treatment ear, nose and throat diseases for prophylaxis of general disorders and population sanitation; principles and methods of dispensary work.
2. Teach the students: peculiarities of endoscopic methods of studying LOR organs, methodics of hearing and vestibular analyzers, smell functional research; show data of the results of given investigations for determination of central nervous system pathology.
3. Provide students with knowledge in etiology, pathogenesis, clinical picture, diagnostic, prophylaxis and treatment of frequently met LOR diseases, having social significance, causing attendant diseases or complications in the body.

4. Teach the students practical skills and methods of quick helping at bleedings, traumas, acute larynx stenoses, foreign substances and acute diseases of LOR organs.

While studying different diseases etiology and pathogenesis the significance of hereditary-constitutional factors from the positions of present scientific theories are explained, special attention is paid to the role of outer factors-professional, social. At the same time those attainments in prophylaxis of separate LOR diseases, which have been the result of social developments and progress of science and technique in the country and in the world are emphasized and visually demonstrated.

Enlightening of the main, selected otorhinolaryngology divisions in the lectures course has a problematic character, is explained deeper and wider than in the other exercise-books, straggling from speciality development.

The essence of various LOR organs diseases is shown in biological, physiological and pathophysiological aspects. Brief historical survey is given at the same time on each question, success and achievements of national science and practice in the given problems are emphasized.

In the preliminary course division students master endoscopic and functional methods of ear, nose, throat and larynx research. Mastering of these methods requires at the same time deep revision of anatomical and functional LOR organs peculiarities.

While studying clinical part special attention is paid to most frequently met LOR organs diseases. Attention is paid to the diseases which often cause function change of other organs and organ systems (purulent inflammations of the middle ear, chronic tonsillitis and others), leading to partial or full invalidity. In this case students come to know modern methods and diagnostics, bases of differentiated diagnosis and peculiarities of special methods of treatment. Special attention is given to tonsillitis problem, LOR oncology, regional pathology (scleroma), otiatry, professional diseases, LOR organs traumas: industrial, sport and others, prophylaxis of these diseases and injuries, and also questions of labour expertise, determination of temporary and steady labour disability, professional selection, employment. While working at the inpatient department students master various specialized manipulations, get acquainted with the work organization of operational and dressing departments, and also with the methods of work of the most typical operations.

50% of studying course is given to work in the polyclinic, where students perform ambulatory patients reception under the supervision of a teacher, master the simplest diagnostic and medical manipulations (the list of them is given at the chair), get to know the questions of determination labour ability, professional selection.

While studying the course of otorhinolaryngology students are on service in LOR-stationery as doctor’s assistants.

**PATHOLOGICAL ANATOMY**


Inflammation.

Immunopathological processes. Adaptation and acclimatization.

Regeneration. Processes of adaptation and compensation.
Tumours. Individual pathological anatomy.
Blood system illnesses.
Cardiovascular system illnesses. Rheumatic illnesses.
Respiration bodies illnesses.
Bronchuses acute inflammatory diseases.
Lungs acute inflammatory diseases (acute pneumonia).
Lungs chronic nonspecific diseases.
Digestion bodies illnesses:
Organs and lactiferous gland illnesses:
Dishormonal of illness. Sexual bodies and lactiferous gland tumours.
Illnesses of pregnancy and postpregnancy period.
Illnesses of internal secretion:
Avitaminoz. Illnesses of the central nervous system. Infectious illnesses.
Virus illnesses. Bacteria caused illnesses.
Inherent defects of development:
Pathology of prenatal and perantal periods. Pathological anatomy of radiative defeats.
Pathomorphism and iatrogenics.

PATHOPHYSIOLOGY


**Pathophysiology of infectional process.** Interaction of microorganisms and human organism. Mechanisms of defense against of infection. Microorganism invasion properties and


**Disturbances of body fluids and electrolytes.** Water depletion and excess. Oedema. Hyponatremia, hyponatriemia: etiology, pathophysiology and consequences. Hypokaliemia, hyperkaliemia: etiology, pathophysiology and consequences.

**Disturbances of acid-base balance.** Metabolic acidosis, metabolic alkalosis, respiratory acidosis, respiratory alkalosis: causes, pathogenesis and consequences. Combined types of acid-base balance disorders.


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### PEDIATRICS

**Purpose and problems of the subject, its place in educational process**

Purpose: elucidation of central questions in pediatrics, modern concepts of pathogenesis, diagnostics, clinic and treatment of child’s diseases in age aspect.

Tasks of discipline

1. To teach treating healthy and sick child, his parents observing deontological and ethical norms.
2. To receive objective data at children examination, to interpret received facts taking into consideration anatomical-physiological and age norms.
3. To diagnose most frequently met diseases in children: a) new-born period, b) early age, в) senior age.
4. To make the plan of treatment, prophylaxis and forecasting the most frequently met diseases in children, and also urgent condition.
5. To carry out clinical examination of healthy and sick child.
6. To be able to prescribe and fix meal to the sick and healthy child.
7. To know pharmacokinetics and pharmacodynamics of medicinal drugs.
8. To carry out consecutive preventive maintenance of morbidity, hardening measures.
9. To be able to diagnose and render intensive help at urgent conditions and syndromes, threatening child’s life.

The list of subjects indicating topics, sections necessary to the students for studying pediatrics:

- propaedeutics of internal diseases; methods of healthy and sick patient research, semiotics of diseases;
- faculty and hospital therapy:
  knowledge of pathogenesis, differentiated diagnosis, treatment, prophylaxis: a) of acute and chronic diseases of bronchopulmonary system, b) of heart diseases, including congenital and acquired malformations, diffuse diseases of connective tissue, rheumatism; diseases of vessels, c) blood diseases, d) of organs of the urinary system, e) of gastro-intestinal tract diseases, f) of diseases of endocrine organs, g) urgent pediatrics (syndromes, threatening child’s life).
Discipline contents:

Lectures
11. – 12. Urgent help in endocrinology.
   1. DKA
   2. Hypersmolar coma
   3. Hypoglycemic coma
   4. Treatment of diabetes mellitus.
   5. Treatment of hypothyroid coma, tyreotoxicosis
   6. Suprarenal insufficiency
   1. Etiology
   2. Clinic
   3. Diagnostic and treatment

**Practical classes**


Diseases of digestive system. Supervision of the patients. Supervision of the patients with cholecystocholangitis, gastritis, stomach ulcer, hepatitis, pancreatitis. Tasks solution. Conclusion, home task.


Chronic cardiac insufficiency (CCI): etiology, pathogenesis, classification of CCI. Clinic and diagnostics of CCI. Treatment of CCI.

Comas at diabetes mellitus. Treatment of diabetes mellitus: DKA, hypersmolar coma, hypoglycemic coma, treatment of diabetes mellitus


Clinical examination and the rehabilitation of children with diseases of cardio-vascular systems.


Clinical examination and rehabilitation of children with diseases of digestive organs.


Clinical examination and rehabilitation of children with diseases of urinary excretion organs.


Clinical examination and rehabilitation of children with diseases of endocrine system.


Clinical examination and rehabilitation of children with diseases of respiratory organs.


Infusive therapy in pediatrics.

Account of physiological daily requirement volume. Compensation of dehydration. Current pathological losses


Chronic renal insufficiency. Clinic and diagnostics, intensive therapy.

PHILOSOPHY

Philosophy in historical dynamics of culture.

1. Philosophy as phenomenon of culture. Definition “world outlook”, its structure, the main functions. Outlook and ideology. Historical types of outlook. Peculiarities of mythology and
religion. The main problem of philosophy: principles of classification of philosophy trends.

Philosophy in the system of culture. Its functions. Interconnections of philosophy and medicine.


5. The main philosophic ideas in the culture of Renaissance. Characteristic features, their manifestation in philosophic thought of the period (anthropocentrism, humanism).

Naturephilosophy and medicine.


8. Russian and Byelorussian philosophy. Social, religious ipeculiarities.

Philosophy conceptions of being.


Philosophic anthropology.


Theory of knowledge and philosophy of science.

13. Cognition as the subject of philosophic analyses. The problem of knowability of the surrounding world. Cognition as action. Subject and object of cognition. Problem of truth, the main conceptions.


Social philosophy.

15. The main problems and definitions of social philosophy. Society as the object of philosophic analyses. Evolution of philosophic thought about society. Peculiarities of social being.

17. Political and juridical philosophy. Politics, law as the subjects of philosophy. Role of ideology in the live of society. The main components of ideology of Byelorussian state.
18. Philosophy of culture and technics. Conceptions of culture in modern philosophy. Culture and civilization. Dialog of cultures in the contemporary world. Technics as the subject of philosophic research. Place and role of medicine in modern culture.

Philosophic priorities in the beginning of the III century.


PHYSIOLOGY

1. Physiology. The subject matter and scientific methods
2. Bioelectric phenomena in excitable tissues.
3. The irritation laws of excitable tissues
4. The physiology of muscles. The physiological characteristics of muscles
5. The work of muscles. Mechanism of muscular contraction
6. The physiological characteristics of nerves, peripheral and myoneural synapses
7. The autonomic nervous system
8. The reflex principle of nervous system activity.
9. The peculiarity of excitation conduction on the central nervous system
10. The inhibition process in CNS. Coordination of reflex processes
11. Phase structure of cardiac cycle
12. Physiological properties of cardiac muscle
13. The regulation of heart activity
14. Circulation. Regulation of circulation
15. Methods of heart and vessel study
16. The main blood constants and clinic – physiological methods of study
17. Blood formed elements: erythrocytes and leukocytes
18. Blood groups. Coagulation of blood
19. External respiration
20. Gas-transport system of blood
21. Regulation of respiration
22. Digestion
23. Motor function of digestive tract. The absorption
24. Metabolism and energy. Nutrition
25. Thermoregulation
26. Internal secretion
27. Physiology of spinal, cord, medulla oblongata and pons varolii (hind-brain), mesencephalon reticular formation
28. Physiology of cerebellum, diencephalons and subcortical nuclei, cerebral cortex, limbic system Physiology of sensor system (visual and acoustic)
29. Physiology of tactile, temperature, taste and olfactory sensor systems
30. The conditioned reflex and its neurophysiological mechanisms
31. The human higher psychical function
32. Human CNS physiology, sensor system (analyzers), integrative cerebral functions.
PHYSIOTHERAPY

Introduction
Definition of physiotherapy, brief information about its history. Physiotherapeutic help organization in Belarus. The most important trends at using physical factors in medicine (medical, rehabilitational, prophylactic, diagnostic). Main peculiarities and advantages of medicinal physical factors. Classification of physiotherapy means and methods. Rules of safety techniques while working with physiotherapeutic equipment.
Modern concepts about methods of physiological and medical effect of physical factors. Physical, physical-chemical and biological stages of their effect on the organism. Local, segmented and common reactions of the organism at physiotherapeutical effects, their interconnection.

Constant current and its medical-preventive usage
Constant current physical-chemical bases and mechanisms of physiological and medical action on the organism. Methodics of galvanization. Constant current dosage. Medicinal electrophoresis, general principles and the most important method peculiarities. Technique and methodics of carrying out procedures. Concept of intracavity and intratissue electrophoresis, micro electrophoresis. Indications and contraindications.

Impulse electrotherapy.

High frequency electrotherapy.

Magnetotherapy.
Biophysical principles of magnetotherapy. Magnetic field types (constant, changing, impulse). Physiological and medical action of magnetic fields.

Franclinization. Aeroionotherapy.
Physiological and medical action of constant electric high tension field on the organism. Concept of aeroions and hydroaeroions. Peculiarities of positive and negative aero- and hydroaeroions action.

Ultrasound and its medical – preventive usage

Inhalation therapy
Concept of aerosols, electroaerosoles, their general characteristic. Main ways of using aerosols in medicine (intrapulmonary, transpulmonary, extrapulmonary, parapulmonary). Mechanism of physiological and medical aerosol action. Types of inhalations (steam, warming-humid, humid, oily, powder inhalations).

**Treatment by light**


**Treatment by heat**


**Water treatment**


**Sanatorium-health resort treatment**


Sanatorium - health resort help organization, main health resorts and health resort factors in Belarus.

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**POLYCLINICAL THERAPY**

4th course

   1. Out-patients’ clinic as the main structure in the first medical aid.
2. Structure of the policlinic.
3. Functions of the main structural sub-divisions of out-patients’ clinic.
4. Organization of divisional therapeutic service. The role of out-patients’ service in diagnostics and treatment of diseases.
5. Functional obligations and rights of a general practitioner, the head of therapeutic department.
7. Medical certificates, ambulant cards. The rules of filling in.

2. **Topic: The order of dispensary system.**
1. Dispensary system as the method of diagnostical observation of health state.
2. The main aims and tasks in mass health examination of adult population, organization of annual medical examination.
3. The role of prophylactic departments in dispensary system, the structure of prophylactic department the main functions of the department.
4. Filling in the necessary documentation for mass health examination.
5. Analysis of quality and effectiveness of mass health examination.

3. **Topic: Original positions of medical-social examination.**
1. The main rules of medical findings organization.
2. Disability, its forms.
3. The main aspects of medical-social examination of temporary disability.
4. The procedure of medical findings of temporary disability, its terms, the rules of applying of necessary documents to prove one’s temporary disability.
5. The structure and functions of Doctor’s committee on medical findings.
6. The main aspects of medical findings of persistent disability, procedure of conduct, Medical expert-rehabilitation committee, its structure and functions.
7. The procedure of sending patients for Medical expert-rehabilitation committee. Registration all the necessary documents for Medical expert-rehabilitation committee.
8. Disablement connecting with violation of course of lives of a patient.
9. Criterions of 1, 2, 3 groups of disability establishment.

4. **Topic: Preventive work of general practitioner (GP).**
1. Preventive work on the main noninfectious diseases.
2. Conception of risk factors of the main noninfectious diseases:
   - smoking as one of the factors of development of the main noninfectious diseases;
   - arterial hypertension as one of the factors of development of the main noninfectious diseases;
   - alimentary obesity as one of the factors of development of the main noninfectious diseases;
   - hyperlipoproteinemia as one of the factors of development of the main noninfectious diseases.
3. Hypodynamy as one of the factors of development of the main noninfectious diseases.
   - physical training as the method of prevention of the development of the main noninfectious diseases (contraindications, forms, intensity);
   - principles of formation of the increased-risk group of development of chronic nonspecific lung diseases;
   - principles of formation of the increased-risk group of arterial hypertension development;
   - principles of formation of the increased-risk group of CHD development;
   - principles of formation of the increased-risk group of gastrointestinal tract diseases development.

5. **Topic: Sanatorium treatment.**
1. Classification of health resorts and sanatoriums on medical and natural factors, specifications.
2. Characteristics of balneological resorts.
4. The main medical factors of climatic resorts.
7. General contraindications to sending patients to sanatorium treatment.
8. Selection of patients with respiratory system diseases, characteristics of the main factors for treatment.
9. Selection of patients with heart diseases for sanatorium treatment.
10. Selection of patients with gastrointestinal tract diseases for sanatorium treatment.
11. Treatment of patients with musculoskeletal system diseases in sanatorium conditions.
12. Selection of patients with diseases of kidneys and urinary system.

5th Course

   6.1 Topic: Acute respiratory diseases (influenza, acute respiratory virus infection).
   1. Etiology, pathogenesis, epidemiology.
   2. Clinical characteristics of diseases; influenza clinic; methods of instrumental and laboratory examinations, diagnostics.
   4. Treatment of influenza and acute respiratory virus infection. The use of antibacterial therapy.
   5. Influenza complications.
   6. Temporary disability, preventive measures.
   7. Rehabilitation of patients with severe forms of influenza.

6.2 Topic: Angina in practice of divisional therapeutist.
   1. Definition, etiology, pathogenesis;
   2. Clinical displays, versions of development.
   3. Instrumental and laboratory methods of investigation.
   5. Treatment of angina, temporary disability, prevention, dispensarization.

   7.1 Topic: Acute bronchitis in practice of divisional therapeutist.
   1. Definition, classification.
   2. Clinics.
   3. Instrumental-laboratory methods of investigation.

7.2 Topic: Acute pneumonia in practice of divisional therapeutist.
   1. Definition, classification.
   2. Clinics.
   3. Methods of instrumental and laboratory investigation.
   5. Hospitalization.

   1. Definition, classification, clinical characteristics of forms of ND.
   2. Methods of investigation, conducting of special tests.
   3. Diagnostics, differential diagnostics.
   4. ND treatment, temporary disability, prevention.

   1. CHD classification, complications. Clinics, diagnostics.
   2. Peculiarities, rendering of emergency treatment for CHD complications on prehospital stage.
   3. Reduction of pain syndrome.
   4. Emergency help at lung oedema, treatment measures.
   5. Tactics of help at cardio shock, registering its clinical variations.
7. Reanimatological steps at clinical death.

10. Topic: Diagnosis and emergency treatment for comatose condition (leptatic, uremic, cerebral, toxic (alcoholic) coma) on prehospital stage.
   1. Definition of leptatic coma, reasons, factors of arising, clinical signs, diagnostics, differential diagnostics, leading of emergent measures on prehospital stage.
   2. Uremic coma, definition, classification, reasons, clinical manifestations, differential diagnosis, emergent measures on prehospital stage.
   3. Toxic coma, definition, factors of arising, clinical peculiarities, emergent therapy.
   4. Cerebral coma.

11. Topic: Diagnostics, emergent therapy for allergic diseases and Quincke’s disease.
   1. Reasons of anaphylactic shock, classification of allergens, clinical shock manifestations:
      - differential diagnosis;
      - emergent measures on prehospital stage.
   2. Quincke’s disease, reasons, pathogenesis of Quincke’s disease, clinical manifestations:
      - differential diagnostics, pseudoallergic Quincke’s disease;
      - emergency therapy.

PROPAEDEUTICS of INTERNAL DISEASES

According to qualifying demands the purposes of studying of propaedeutics of internal diseases are:
- To learn application of methods of clinical research of patients, to generate communicative skills of dialogue with patients and their relatives;
- To acquaint with a semiology of diseases of an internal organs (the main signs and syndromes);
- To study principles of diagnostics and the cause of main diseases of internal organs proceeding in a typical form.
To achieve this aims the students should know the following problems:
1. Studying of principles of a medical deontology.
2. Studying of methods of examination of the therapeutic patient:
   - Physical methods (examination, palpation, percussion, auscultation),
   - Laboratory methods (the general analysis of blood, the general analysis of urine, analysis of urine according Zimnitsky,Nechiporenko, Reberg, coagulogramme, coprogramme, analysis of sputum and pleural contents),
   - Instrumental methods (an electrocardiography, spyrography, pH level of the stomach),
3. Studying the causes of the main processes in human organism and mechanisms of their development.
4. Studying the basic complaints at diseases of intrnal organs.
5. Studying clinical manifestations of the therapeutic diseases proceeding in a typical form
   - Diseases of lungs and bronci (bronchites, pneumonias, pleurites, a bronchial asthma),
   -Rheumatic disease, contagious endocarditis, mitral and aortal failure of the herat,
   - Diseases of the organs of circulatory system (angina pectoris, arterial hypertension),
   - Diseases of the organs of the digestive system (ГЭРБ, functional stomach dyspepsia,gastritis,peptic ulcer of the stomach and duodenum, Inflammatory diseases of the large and small intestine, diseases of the gall bladder and bile ducts, hepatitis and a cirrhosis of liver),
- Diseases of the kidneys and the urinary system (acute and chronic Glomerulonephritis and pyelonephritis),
- Diseases of blood (anemia, hemostasiopathy, hemoblastoses),
- Endocrine diseases (diabetes, a myxedema and a diffuse thyroid gland.

Finishing the study of the propaedeutics of internal diseases the student should get the knowledge of:

1. The causes of main internal diseases, proceeding in a typical form
2. The main clinical signs and syndromes of diseases of internal organs, mechanisms of their originating.
3. Symptomatologies of the most wide-spread internal diseases, proceeding in a typical form.
4. Symptomatologies and main principles of carrying out of a medical care at some urgent states (an acute anaphylaxis, etc.).

- Skills:

1. To interview the patient (or his relatives) to receive the complete information on signs of disease and the possible causes of his originating in typical cases.

2. To carry out physical examination of the patient (examination, palpation, percussion, auscultation, thermometry, measuring the blood pressure, etc.) for revealing the objective information about disease.

3. To make a plan of additional laboratory and instrumental researches of the patient.

4. To distinguish the basic syndromes of internal diseases.

5. To make the clinical diagnosis of the most wide-spread internal diseases, proceeding in a typical form and to give his substantiation.

6. To interpret results of EGG-research in 12 abductions, and to find infringements of automatism of sinus unit, an excitability and conduction, heralds of hypertrophy of a myocardium of auricles and ventricles, IDH.

7. To estimate results of the general analysis of a blood, urine, feces, sputum, pleural content, stomachal and duodenal contents, and also some routine biochemical blood analyses.

8. To write down the results of clinical research of a patient as a case history with a substantiation of the diagnosis.

9. To carry out a medical care at some urgent states (clinical death, an acute anaphylaxis, etc.).

- Skills:

1. Subjective research of the patient: the collecting of an anamnesis.

2. Objective research of the patient: the general examination, taking the body temperature, palpation of a thyroid gland, research of the lymphatic system.

3. Interviewing the patients with respiratory tract diseases.

4. Objective examination of the respiratory organs: survey (static and dynamic) and palpation of a thoracic cavity, percussion (relative and topographical) and auscultation of the lungs. Examination of a bronchophony.

5. Interviewing of the patients with diseases of the system of circulation.

6. Objective research of system of a circulation: survey and a palpation.

7. The heart rate, percussion and auscultation of the heart, research of its properties.

8. Measuring of arterial pressure.

9. Interviewing of the patients with the diseases of the Digestive tract organs.

10. Objective research of patients with illnesses of esophagus, stomach and intestine: survey, percussion, auscultation and a superficial palpation of the abdomen.

12. Objective research of patients with diseases of liver and bile ducts: percussion and palpation of the liver and spleen.
13. Interviewing of the patients with diseases of the kidneys and the urinary tract.
14. Examination of the sick kidneys and urinary tract.
15. Objective research of the urinary system organs: percussion, auscultation and palpation of the kidneys, ureters and urinary bladder.
16. Interpreting of results of the laboratory methods of research of the patients:
17. The general and biochemical analysis’s of blood, the general analysis of urine, analyses of urine according Nechiporenko, Zimnitsky, general analysis of a sputum and pleural fluid,
18. pH-measuring of esophagus, stomach and duodenum, analysis of a gastric juice,
19. Analysis of duodenal contents, coprological analysis.
20. Interpreting of the results, received results by instrumental methods of investigation of the patient: electrocardiography, spyrography.
21. Taking a case history.

PSYCHIATRY AND NARCOLOGY

Contents of psychiatry
8th semester
Lectures
Lecture № 1
Psychiatry as medical discipline. Historical aspects of psychiatry development.
1. Basic parts of psychiatry. 2. Interconnection of psychiatry with other branches of science.
3. Development of doctrine about mental disorders in ancient times, middle ages in Western countries, Russia, Byelorussia.
Lecture №2
Classification of mental illnesses MKB-10. II. Methodological foundations of psychiatry
1. International classification of mental diseases of the 10th reconsideration. Basic sections, diagnostic characteristics of mental diseases.
Lecture №3
I. Psychopathologic symptoms and syndromes:
Emotional sphere disturbances. Attention disturbances
Will disturbances. Intelligence disturbances. Consciousness disturbances
Lecture №4
Etiology, pathogenesis and treatment of mental disturbances.
1. Diagnostics and epidemiology of mental disturbances.
2. Etiology and pathogenesis of mental diseases.
3. Treatment of mental disturbances.

9th semester
Lecture № 1
Schizophrenia. Regularities of pathogenesis, clinic, clinical course, clinical forms, therapy and patients rehabilitation.
History of study. Symptomatics, basic signs. Syndromology. Forms of schizophrenia. Types of disease course, their peculiarities. Etiology and pathogenesis of schizophrenia. Differentiated diagnosis. Pathological anatomy. Treatment of schizophrenia, kinds. Types of remissions at schizophrenia. Types of defects at schizophrenia
Demonstration of the patients, symptomatology analysis.

Lecture № 2

Lecture № 3
Adults’ person and behavior disturbances.

Lecture № 4
Mental and behavioral disturbances due to the use of psychoactive substances.
1. Alcohol dependence. 2. Alcoholic psychoses. 3. Mental disturbance connected with the use of opioids, cannabinoids, sedative and somnolent substances, cocaine, hallucinogens and volatile compounds. 4. Treatment, differentiated diagnosis, preventive measures, prognosis.

Lecture № 5
Organic and symptomatic, mental disturbances

Practical classes
8th semester
1 I. Psychiatry as medical discipline. Historical aspects of psychiatry development.
Psychopathologic symptoms
1. Basic sections of psychiatry
2. Interaction of psychiatry with other branches of science.
3. Development of doctrine about mental disturbance in ancient time, middle ages in Western countries, Russia, Byelorussia.
II. Psychopathologic symptoms: disturbance of perception, disturbance of mentality, disturbance of memory, disturbance of emotional sphere, disturbance of attention, disturbance of will, disturbance of intelligence, disturbance of consciousness.
2. Basic psychopathologic syndromes
2. Syndromes of consciousness disturbance: condition of obnubilation, delirium, amentia, oneiroid, twilight disturbance, special disturbance.

9th semester
7. Psychotic disturbances as a result of damage and brain dysfunction: psychotic disturbances and person disturbances. Mental disturbances at brain traumas. Clinic, treatment. Epilepsy, epileptic psychoses, peculiarities of mental and personal disturbances at epilepsy. Clinic, course, therapy questions.

Total number of hours given for teaching narcology - 36 (11th – 12th semesters), out of this 12 lectures and 24 practicals.

Course contents:
Lectures themes: 1. Use of psychoactive substances as medico-social problem. 2. Stages and mechanisms of PAS dependence formation. 3. Estimation and diagnosis. 4. Treatment and prophylaxis of disturbances connected with PAS use. 5. Problems connected with tobacco and alcohol usage. 6. Drug addictions and drug abuses.

Themes of practical classes:
1. The role of doctor in prophylaxis and therapy of disturbances connected with PAS usage. 2. Forms and methods of early exposures and interference. Screening. 3. Abuse of alcohol and alcoholic dependence. 4. Drug addictions and drug abuses.

**BASES OF PSYCHOLOGY AND PEDAGOGICS**

The purpose of a course: expansion of humanitarian preparation of doctors, pharmacists in the field of fundamental sciences about the person, formation of their psychological competence that is one of the most urgent psychological, and social problems of present time.

Section I. Psychological knowledge in activity of the doctor.
**Theme: Psychology and medicine.**
Change of world outlook paradigms and problems of interaction of psychology and medicine. Social - psychological sense of illness.

**Theme: Development of mentality and consciousness.**
Condition of consciousness. An active wakefulness. The changed conditions of consciousness: dream, meditation, a hypnotic condition. Sensory isolation. Taking of narcotics and pathological conditions.

Section II. The person of the doctor as the factor of health of the patient.

Theme: the Person.
Conception about the person in psychology. Frame of the person. A self-consciousness of the person. The I-conception of the person: cognitive, estimating and behaviour parts. Methods of measuring personal characteristics.

The person of participants of medical - diagnostic process. Individual - psychological features of the person. The general concept ion of a temperament. Types of temperaments (the sanguine person, the phlegmatic person, the choleric person, the melancholic). Extroverts and introverts. Professional demands in medicine and temperament.

Conception about character. Frame of character, signs - complexes of its properties. Character as " the program of behaviour of the person ". Assetuation of character’s features (traits). Character and temperament. Natural and social causes of character. Character and appearance of the person.

Diagnostics of temperament, character and abilities.

Theme: Personal body height.


Theme: Activity.
Concept of activity. Frame of activity. Needs, motive, the purpose, action. A rough basis of activity.

The person in medical activity.

Theme: Needs and motives.


Individualization of ways of satisfaction of needs. A role of motives in professional work of a physician. Direction of a personality of a doctor as a set of motives.

Section III. Cognitive sphere of the person and professional work of the doctor, the pharmacist

Theme: Perception of the world.

Theme: Cognitive mental processes (attention, memory, thinking).

Kinds, processes, individual differences of memory. Infringements of memory: an agnosia, an amnesia, an apraxia, an aphasia. A role of memory in activity of the doctor.

Specific features of thinking. Professional medical way of thinking.

Theme: Psychology of emotions.
Psychology burning.

**Theme: Mechanisms of psychological protection.**

Concept of psychological protection. Functions of mechanisms of psychological protection: conservation of personal integrity, the mental health, certain "I-image", a regulation of interpersonal relationships.


**Section IV. Social - psychological aspects of medical interaction.**

**Theme: Psychology of dialogue.**


**Theme: Psychology of groups.**

Small and big social groups: concept, attributes, the basic characteristics. A stage of the introduction into dialogue, interpersonal relations. Types of installations on perception of other person. Formation of the attitude relation of a group to each of its members. Sociometrical status. A lead in group. The psychological characteristic of the leader. Phenomena of group influence.

**Section V. Pedagogical aspects of medical interaction.**

**Theme: Personally - guided pedagogics in activity of the doctor.**

Humanistic pedagogics and medicine. The person as value and the subject of medical interaction. Medical interaction and its principles. The patient as the accomplice of medical interaction. Support - a basis of formation of confidence of at patients. Strategy and tactics of construction of dialogue with the patient, proceeding from rules of humanistic pedagogics.

**Theme: Pedagogics of family relations.**

Modern family, functions of family. Frame and dynamics of family. Infringement of functioning of modern family. Types of infringements of functioning the families causing mental traumas of a person. Family therapy.

The program on bases of psychology and pedagogics assumes as group (lectures and practical classes), and individual (an introspection, autodiagnostics, -research tasks) forms of work with students.

Parameter of psychological readiness of the student - physician to interaction is the complex of communicative skills and skills which assumes:

1) Social - psychological culture of the future doctor, the pharmacist;
2) A high level empathy;
3) The positive I-concept of the future specialist;
4) Development of «clinical way of thinking “and professional position providing personally - centered medical interaction (the attitude to object of the activity, comprehension of the self-value both other person, and the attitude to the patient as to the active accomplice of medical interaction is personal - centered).


4. State social insurance and social ensuring. Medical findings of temporary disability, its aims, functions.

5. Medic-social findings and rehabilitation. Organization of temporary invalidity examination. Organization of proof loss


7. Organization of hospital, emergent medical help.


10. Valuation of medical work of single doctors and organizations upon the final result.


12. Medical findings of labor disability.


14. Economy, planning, finances in health care system in modern conditions.

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RADIATION DIAGNOSTICS AND RADIATION THERAPY


Complex radiation diagnostics of damages and diseases.

Radiation therapy:

RELIGION STUDY

Subject of “Religion”. Theoretical foundations of the discipline.
2. Religion as cultural phenomenon. Freedom of conscience and tolerance to faith.
3. The role of religion in the life of the society and in the system of culture.

Religion as sociocultural phenomenon.
3. The main functions of religion and religious organizations.

Origin and Essence of Christianity.
1. The problem of the origin of Christianity.
2. Historical and cultural prerequisites of the origin of Christianity.
3. Judaism and Christianity.
4. Bible – the books, structure, contents.
5. Arguments around J. Christ’s life.

The Main Trends of Christianity. Christianity in the Contemporary World.
1. Decoration of the Orthodox, Catholic, Protestant Churches. Peculiarities of cult, organization.
2. Modern condition of the Orthodox, Catholicism, Protestantism.
3. Religious modernism and fundamentalism.

Buddhism and Islam. Past and present.
1. Life, activity and doctrine of Muhammade.
3. Coran- the origin of faith.
4. Islamic modernism and fundamentalism. International Islamic organizations, their role in the contemporary politics.
5. Buddhism and orthodox religious tradition in India. The personality of Siddhartha Gautama.
6. The main trends. Spreading of Buddhism in Central Asia and in the East.
7. Buddhism in the modern world.

SOCIOLOGY, POLITICOLOGY AND HUMAN RIGHTS

SOCIOLOGY

4. Social institutions of society. Concept, origin, contests, types on social and functional role. Concept “institutionalization”. Family as the most important social institute. Development of social institutions, society in Byelorussia.
6. Social conflict. Definition. The main aspects of research in modern conflictology. Dynamics of social conflicts, their main types.

**POLITOLOGY**

3. Political power. Power as the main category of politology. Essence of political power, its origin and resources. Conceptions of power (variations). System of political power in Byelorussia.
5. Political system of society. General concept, essence, structure, components. Typology of political system. Political system in BY.
6. State in the political system. State as the main institution. Conceptions of origin. Essence of state, its types. Social state and civil society. The main characteristics of state organization in Byelorussia.
11. Political development. The main types of political

**RADIATION DIAGNOSTICS**

General questions of radiation diagnostics are analyzed: types of radiation, used in diagnostics. Principles of antiradiation defense and labour protection measures. Regulation of radial diagnostic researches. Computer processing of medical images.

**Methods of radial diagnostics.**
- Roentgenological method (roentgenoscopy, radiography, fluorography, linear tomography, angiography, etc.). Artificial contrast study.
- Roentgenological computer tomography (principle of getting the image, one- and two-dimensional echography, Doppler graphy, visualization of organs and tissues, priorities of usage).
- Radionuclide researches (radiopharmaceutic drugs, radioisotope diagnostic laboratory, methods of radionuclide research).
Magnetic resonance imaging in diagnostics (ways of usage in diagnostics, peculiarities of images of organs and tissues, magnetic resonance spectroscopy).

Medical thermo diagnostics (principles of the method and indications for usage, contact fluid crystalline thermo graphy, distant infrared thermo graphy, etc.).

Interventional radiology (roentgenoendovascular intervention, medical manipulations on abdominal and thoracic cavities, retroperitoneal space under the control of different types of radial images).

Paracentesis of organs and pathological tissues under the control of various types of radial images.

Principles of radio immunological researches.

Complex radial diagnostics of diseases and injuries of different organs and tissues. This part of the subject deals with the problems of radial anatomy and the picture of widely spread lungs, heart, vascular, esophagus, stomach, rectum, duodenum, small intestine, large intestine, liver, pancreatic gland, bile secretion ways, kidneys, urinary system, locomotor system, endocrinology system diseases. Usage of radial diagnostics in neurology, otorhinolaryngology, ophthalmology, stomatology and maxillofacial surgery. Great attention is paid to the questions of emergent radial diagnostics.

RADIATION MEDICINE


Doses of ionizing radiation, dose capacity. Display dose, systematic and nonsystematic units of measurement. Absorbed dose (D), connection with absorbed dose, quality coefficients of radiation types, units of measurement. Effective dose (E0, its connection with equivalent dose, quality coefficients for organs and tissues, units of measurement. Expected individual effective dose, collective equivalent dose in tissue (ST), collective effective dose (S), expected collective effective dose, usage, units of measurement. Methods of dosimetry of ionizing radiation.: ionizing, luminescent, photographic, chemical; usage, characteristics.

Concept about natural radiation background. Natural extraterrestrial sources of radiation: primary and secondary space radiation, cosmogenic radionuclides. Origin, structure, annual effective doses of external and internal radiation. Concept about technogenically changed natural and artificial radiation background, the most important components technogenically changed radiation background, produced annual effective doses of external and internal radiation, measures to reducing radiation doses. Irradiation of population in the result of nuclear weapon test. Contribution of nuclear-fuel industry in irradiation of population, annual effective doses.

Primary physical processes in molecules after absorption of energy of ionizing radiation: excitation, ionization. Direct and indirect ionizing radiation. Linear compactness of ionization, linear energy transfer, rarely and tightly ionizing radiation. Concept about related biological effectiveness.

reparation of DNA injures. Radiosensitivity, biological levels. Factors influenced on radiosensitivity of cells, tissues, organs, organisms, species.


The main peculiarities of radial damages while accumulation of radioactive substances. Carcinogenic effects. combined radial injures, peculiarities of clinical development.


Radioecological consequences of Chernobyl disaster for Byelorus. Characteristics of radioactive wrecking withdrawn. Distribution of iod-131 and caesium-137 in different regions of the world and in the Republic after the Chernobyl disaster. Levels of possible irradiation for people living in zones of pollution. Real levels of population irradiation in zones of strict control. Annual effective dose calculation depending on nuclide pollution compactness on the territory. Rate setting of irradiation of different categories of population at the moment of Chernobyl accident (categories of population, groups of critical organs, dose limits of irradiation).

Diseases of population after Chernobyl accident. The aims of founding Byelorussian State Register of people suffered from radiation after the Chernobyl disaster. Clinic examination of population of the Republic suffered from radiation. Aims of clinic examination. Periods and volume of clinic examination. Examination of reason connection of diseases with radioactive influence. The list of diseases originally connected with the consequences of Chernobyl accident.

Classification of radioactive events. Radioactive accidents, reasons. Radioactive accidents do not connected with maintenance of nuclear electric power stations and the main measurements of consequences eliminations. International scale of accidents at the objects of nuclear energy system, levels and parts of the scale. Criterions of definition of nuclear events level. Actions in the conditions of accidental situation at the nuclear power station. Criterions of evacuation decisions of different groups of population and planned evacuation remoteness from the place of accident. Iodine prevention, drugs, doses and duration for different groups of population. Effectiveness of preventive measurements depending on the terms of its beginning from the moment of the accident.

Requirements for irradiation limitation in the conditions of nuclear accident. Principles of emergent medical help at the nuclear industries during radioactive accidents. Actions while accidental situations at the nuclear power stations. Volume of measurements carried out on different steps.
Limits of irradiation of different categories of population. Demands for limit of medical irradiation of population. Control levels of medical irradiation while X-ray and radionuclide diagnostics. Planned heightened irradiation for personnel and people not considered to be personnel in accidental situations. Limit of radionuclide contest in the main food products. The main documents regulating work with the sources of ionizing irradiation.

**RADIATION THERAPY**


**STOMATOLOGY AND MAXILLOFACIAL SURGERY**

Basic problems of maxillofacial surgery in practice of a doctor of a general profile.

Purulent inflammatory processes of maxillofacial range in practice of a doctor of a general profile.

Traumatic damages of maxillofacial area. Oncology of maxillo-facial area.

Methods of inspection of patients with basic diseases of maxillofacial range.

Caries of teeth and their complication.

Role of dontogenous infection contamination in development and current of general diseases.
Diseases of oral cavity mucosa. Clinic, prophylaxis.

Purulent – inflammatory diseases of maxillofacial area. Abcess and phlegmon. Clinic, rendering of the first medical assistance.

Stomatic chroniosepsis, focal infection contamination – serious complications of odontogenous infection contamination.

Traumatic damages of mild tissues of maxillofacial range. Clinic, rendering of the first medical assistance.

Traumatic damages of mandible. Clinic, rendering of the first medical assistance.

The combined damages of maxillofacial range. Clinic, rendering of the first medical assistance.

Complications and traumas of maxillofacial range menacing life of the patient, rendering of the first medical help.

Features of development and clinical exhibiting of tumoral processes of maxillofacial range.

Modern aspects of treatment of patients with tumours of maxillofacial localization.

Inherent faults of development of maxillofacial range, role of the doctor of general profile in diagnostic and medical tactics.

Acquired defects and deformations of maxillofacial range. Clinic, inspection. Plastic and plastic surgery of maxillofacial range.

SURGERY

Topic and lecture plan
1. Introductory lecture.
2. Appendicitis.
3. Stomach ruptures.
5. Acute pancreatitis.
8. Intestinal obstruction.
11. Thyroid gland diseases.
12. Lactic gland diseases.
13. Lung cancer.
15. Vein diseases of lower extremities.

Topical seminars plan


In the end of the course the students must **be familiar with:**

1. The questions of patient dyspanserization, post operational rehabilitation, determine their working ability.
2. The scientific research, aiming at improvement of early diagnostics and treatment of widely known surgical diseases, held in our country and abroad.
3. **MKB10.**

   **know:**

   1. The process of patient’s examination, i.e. scheme of taking a case history.
   2. Etiology and pathogenesis of the most widely spread surgical diseases.
   3. Clinical situation of these diseases and their complications.
   4. Modern methods of patients’ clinical, laboratory, instrumental research.
   5. Ways of treatment, indications for their usage and prophylaxis measures.
6. Surgical deontological aspects.
   **be able to:**
   1. get complaints and anamnesis.
   2. state a diagnosis on the basis of complaints and physical examination of the patient.
   3. value the following results of laboratory methods.
   4. interpret laboratory findings.
   5. perform various manipulations.
   6. give quick aid and know the tactical principles of prehospital stage.

**TRAUMATOLOGY AND ORTHOPEDICS**

**4th COURSE**

**Lectures – 10 academic hours**
3. Injures and hand diseases.
4. Injures of spinal column.
5. Bones tumors.

**Practicals – 54 academic hours**
1. Peculiarities of investigation of patients with musculoskeletal system injures and diseases. Classification and diagnosis. Traumatic disease.
4. Injures and diseases of hand.
5. Injures of pelvis and spinal column.
7. Injures and diseases of knee joint.

**5th COURSE**

**Lectures – 10 academic hours**
1. Peculiarities of traumatology and field surgery. Medical evacuation.
2. Gunshot wounds.
4. Thermal injures.

**Practicals – 42 hours**
1. Gunshot wounds.

6th COURSE

Practicals -30 hours.
2. Injuries of feet, knee joint, spinal column, and pelvis.

TROPICAL DISEASES AND TROPICAL PARASITOLOGY

Cholera, food toxic infections.
Salmonellosis, dysentery. Amebiasis, balantidiasis, cryptosporidiasis.
Typhus and paratyphoids.
The most important rickettsioses of man.
Malaria.
Triponosomoses.
Meningitises and meningocephalites.
Peculiarities of the skin diseases and sexually transmitted infections in the tropical countries.
Tropical treponematoses: frambesia, bedzel, pinta. Ethiology, clinical characteristics, diagnosis, treatment, prophylaxis.
Dermatomycoses. Peculiarities of epidemiology, clinical characteristics and treatment of dermatomycoses in the countries with the tropical climate.

TUBERCULOSIS

Epidemiology of tuberculosis in economically advanced and developing countries. System of organization antituberculous help to the population worldwide depending on national programs.

Organization and contents of general practitioner work on early tuberculosis revelation at patients applying to polyclinics and general hospitals, and also at mass and selective (group) routine
population examinations using method of tuberculine diagnostic and fluorography. Diagnostic minima at examination for tuberculosis - obligatory, additional, facultative. Obligatory diagnostic minimum (ODM) patient examination at direction to antituberculous dispensary.

Clinical signs of tuberculosis in children, teenagers and adults. Toxic syndrome, "pectoral" complaints, data peculiarities of physical, rontgenologic, instrumental and laboratory methods of research at various tuberculosis forms. Definition of indications, repetition factor and kind of patients rontgenologic research lung diseases at carrying out differentiated diagnostics. Definition of indications and kind of laboratory research on tuberculosis mycobacteria detection, repetition factor, sequence of their fulfillment and effectiveness. Indirect and true signs of tuberculosis and their differentiated-diagnostic significance.

Primary tubercular complex, tuberculosis of endothoracic lymphatic nodes, peripheral groups and frill, diagnostics and differentiated diagnosis. Military and disseminated lung tuberculosis, diagnostics and differentiated diagnostics. Furnace, infiltrative lung tuberculosis and caseous pneumonia, diagnostics and differentiated diagnosis. Tuberculoma, round tubercular infiltration, diagnostics and differentiated diagnosis. Cavernous and fibrous- cavernous lung tuberculosis, diagnostics and differentiated diagnostics cavernous of formations in the lungs. Tubercular pleurisy, peritonitis, peritonitis, diagnostics and differentiated diagnosis. Diagnostics of lungs tuberculosis complications (hemoptyysis, pulmonary bleeding, spontaneous pneumothorax) and emergency administration.


Concept of basic principles of advanced technique polichemotherapy of consumptives on CART recommendation. International strategy of struggle with tuberculosis - "DOTS" and " DOTS + ". Antitubercular preparations of basic and accessory series. Criterion of concept definition about treatment of consumptives in various countries.

Sarcoidosis: etiology, clinic, diagnostics, treatment, dispensary supervision. Organization and contents of general practitioner work on tuberculosis preventive maintenance (specific, sanitary, social).

Organizational-methodical and advisory work of antitubercular dispensaries in general medical work establishments. Coordination team-work specialized dispensaries with general medical establishments of various countries depending on national programs on struggle against tuberculosis and development of local public health services system.

**UROLOGY**

Urinology, its subject and methods. Symptomatology of urological diseases. Tool and laboratory methods of diagnostics.

- Urolithic disease. Renal colic.
- Tumours of kidneys, penis, urinary bladder, testicles.
- Nonmalignant hyperplasia and cancer of prostatic gland.
- Traumas of organs of genitourinary system.
- Urinary and man’s sexual systems anomalies. Arterial nephrogenic hypertension.
- Urgent conditions in urinology. Urinary and man’s sexual systems tuberculosis.
Development of practical skills:
- observation and analysis of supervised patients
- work in reception rest and polyclinic
- work in operational, endoscopic and dressing-room studies
- Kidneyspalpation, men’s outside sexual bodies, palpation and percussion of urinary bladder
- digital rectal research of prostatic gland
- urinary bladder catheterization by elastic catheter
- methods and ways of patients care with cystostomy, nephrostomy, chronic delay or incontinence of urine

Questions of oncological urinology.


Surgical anatomy of genitourinary system organs. Basic surgical operations of these organs.
Clinical andrology. Conservative and surgical correction of men’s sexual frustration.
Participation in operations, including endoscopic operation. Participation in clinical conferences, analysis of patients diseases. Rectal research of prostate diseases.

Urinary bladder catheterization by elastic catheter.
Organization and care of patients with cyto-and-nephrostomy, chronic delay or incontinence of urine. Technique of suprapubic puncture realization, catheterization of urinary bladder by a metal catheter.

Introduction of medicinal substances in urethra and urinary bladder.
Introduction of basic hospital and polyclinic documentation.
Damages of urinary system organs at obstetric and gynecologic operations.
Urinary system organ changes at tumours of female sexual sphere.
Acute pyelonephritis of the pregnant women and in postnatal period.
Genitourinary fistulas. Postabortional sepsis.
Surgical kidneys anatomy, ureters, urinary bladder. Immediate surgeries on these organs.
Participation in operations. Novocainic blockade of round uterus ligaments.
Catheterization of urinary bladder by elastic catheter. Participation in clinical conferences, analysis of patients.

Organization and care of patients with cyto- and – or nephrostomy, chronic delay or incontinence of urine. Replacement of cystostomic or nephrostomic drainage.

Suprapubic puncture realization and catheterizations of urinary bladder by female metal catheter.
Vaginal research of patients with a stone of the bottom third of ureter, tumours of urinary bladder. Introduction of medicinal substances in urinary bladder.
Basic documentation of hospital and policlinic.

VALEOLOGY

BASES of PHYSICAL EDUCATION
1. Physical health and its meaning for organism. Parameters of physical health.
2. Criterions and groups of physical health.
3. Influence of the internal and external factors on physical health. Preventive maintenance of hypodinamia.
4. Formation, preservation and strengthening of physical health.
5. Physical improvement. Principles, methods and means of physical education.

HARDENING OF THE MEN.
1. Hardening of the men and its meaning.
2. Principles of the men hardening.
4. Hardening of the men by air.
5. Hardening of the men by water.
6. Hardening of the men by ultra-violet beams.
7. Methods of study and estimation of the hardening.

PSYCHO-PYSICAL TRAINING
1. Mental health, its parameters.
2. Criterion and groups of mental health.
4. Formation, preservation and strengthening of mental health.
5. Modern approaches to the mental improvement. Psychohygiene and psychoprofylactic.

BASES OF A FEEDING OF THE HEALTHY MAN.
1. Meaning of a feeding for health of the man.
2. Laws of a balanced diet.
3. Food substances and foodstuff, their characteristic.
5. Modern concepts and power supply systems, their characteristic.
6. Methods of study and estimation of the contents of fibers, fats, carbohydrates, vitamins and mineral substances, power value of food.

OVERCOMING OF HARMFUL HABITS.
1. Harmful habits and their meaning.
2. Harmful influence of alcohol on organisms.
3. Harmful influence of nicotine on organisms.
4. Harmful influence of drugs on organisms.
5. Harmful influence of toxical substances on organisms.
6. Diagnostics of harmful habits.
7. Methods of overcoming of harmful habits.

RATIONAL WORK AND REST.
2. Feature of work of the students.
3. Exhaustion and its preventive maintenance.
4. Mode of work and rest.
5. Meaning of biological rhythms for high-grade work and rest.
6. Methods of study and estimation of a mode of work and rest.
7. Measure on rationalization of work and rest.

PERSONAL HYGIENE.
1. Personal hygiene and its meaning for health.
2. Hygiene of nervous system and sense organs.
3. Hygiene reference-impellent, blood, respiratory, digestive system.
4. Hygiene of excretory and sexual system.
5. Hygiene of skin, clothes, footwear.
6. Hygiene of dwelling.
7. Methods of study, estimation and improvement of measures on personal hygiene.
METHODS and MEANS of HYGIENIC TRAINING And EDUCATION of the POPULATION.

1. Hygienic training and education of the population, its purpose and tasks. A service of formation of a healthy image of life.


3. Methods and means of propagation of medical and hygienic knowledge.

4. Role of establishments of public health services in hygienic training and education of the population.

5. Basic requirements to realization of lecture, conversation, release of the sanitary bulletin, booklet.