

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

Petro Mohyla Black Sea National University

Medical Institute

Department of Therapeutic and Surgical Disciplines



CURRICULUM WORK PROGRAM

'INTERNAL MEDICINE, INCLUDING CLINICAL PHARMACOLOGY, CLINICAL IMMUNOLOGY AND ALLERGOLOGY, OCCUPATIONAL DISEASES'

Academic year 2020-2021

Area of knowledge 22 "Health care"

(code and name of the field of knowledge)

Specialty 222 "Medicine" - the second (master's) level

(code and name of the specialty)

V course

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## 1. Description of the discipline

Characteristic	Characteristics of the discipline	
Name of discipline	Internal medicine, including clinical pharmacology, clinical immunology, occupational diseases	
Branch of knowledge	22 "Health care"	
Specialty	222 "Medicine"	
Specialization (if any)		
Educational program	Medicine	
Level of higher education	Master	
Discipline status	Selective	
Curriculum	5th	
Academic year	2020-2021	
Semester numbers:	Full-time	Correspondence form
	9th, 10th	
Total number of ECTS credits / hours	10 credits (5.5 / 4.5) / 300 (168/132) hours	
Course structure: - lectures - practical training - hours of independent work of students	Full-time	Correspondence form
	30 (18/12)	
	170 (100/70) 100 (50/50)	
Percentage of classroom load	67.0%	
Language of instruction		
Form of intermediate control (if any)	Certification for the 9th semester	
Form of final control	Exam - 10th semester	

## 2. Purpose, tasks and planned learning outcomes

**The purpose of teaching / studying the discipline "Internal Medicine, including clinical pharmacology, clinical immunology, occupational diseases"** is students' mastery of methods and techniques of clinical examination of the patient, features of professional communication between doctor and patient, subjective and objective manifestations of diseases (symptoms and syndromes), causes and mechanisms of their occurrence and development (semiology) in order to establish the diagnosis, treatment tactics, preventive measures at the inpatient stage of treatment of the patient.

Students study modern practice of internal medicine by curation of mostly hospitalized patients with basic symptoms and syndromes, various clinical course of diseases and their complications, in practice studying modern approaches to diagnosis, differential diagnosis, treatment and prevention of diseases and syndromes in each section and internal diseases standards of

diagnosis and treatment, evidence-based medicine data, as well as emergencies in the internal medicine clinic.

Students improve theoretical knowledge and practical skills in public health in the field of occupational diseases, clinical pharmacology, clinical immunology and allergology, diagnosis and treatment of occupational and allergic diseases, which is the basis of a doctor of any profile.

**Objectives of study:** the acquisition by the student of competencies, knowledge, skills and abilities to carry out professional activities in the specialty of:

1) mastering the basic principles of examination of the patient according to the traditions of the domestic therapeutic school

2) methodically correct questioning and examination of patients with pathology of internal organs, allergic and immunological diseases

3) interpretation of the relationship of the patient's complaints and the implementation of a preliminary assessment of the affected body system

4) generalization of results of interrogation and inspection of patients and distinction on their basis of the main symptoms and syndromes

5) analysis of the results of laboratory and instrumental studies of the affected systems

6) generalization of the results of examination of the affected systems and identification of the main symptoms and syndromes of its defeat to make a correct diagnosis.

7) providing emergency medical care at the hospital stage of treatment.

8) drawing up a plan for examination of the patient, to interpret the results of laboratory and instrumental studies in the most common diseases in the clinic of internal medicine and their complications.

9) examination of a patient with a particular occupational disease, formulation of a preliminary diagnosis; appointment of the necessary additional instrumental and laboratory methods of examination; conducting differential diagnostics;

10) justification of the final professional diagnosis, the appointment of the necessary treatment;

the decision of questions of examination of working capacity.

11) improvement of theoretical and practical base in the field of clinical pharmacology.

**Prerequisites for studying the discipline (interdisciplinary links).** Internal medicine as a discipline:

a) is based on students' understanding of the basic principles and knowledge of theoretical medicine and previous clinical disciplines and integrates with these disciplines;

b) creates therapeutic clinical bases for further mastering by students of clinical disciplines (internal medicine, pediatrics, surgery, obstetrics and gynecology, infectious diseases, general practice (family medicine), palliative and hospice medicine, etc.), which provides integration of teaching with basic clinical disciplines, ability to use this knowledge in the process of further training and in the professional activity of a doctor;

c) forms the therapeutic basis of clinical thinking;

d) provides the possibility of therapeutic analysis of clinical situations for further diagnosis, treatment, prevention of diseases.

**Expected learning outcomes. As a result of studying the discipline, students have:**

- Master the theoretical knowledge needed to detect diseases of internal organs and occupational diseases
  - Master the practical techniques and methods of physical and laboratory-instrumental examination of patients
  - Master the general methodological approaches of clinical examination of the patient
  - Diagnosis of certain internal human diseases with their typical manifestations
  - Formation of moral and ethical and deontological qualities in students in professional communication with the patient
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- Justify and formulate a preliminary diagnosis of the most common diseases in the clinic of internal medicine.
  - Make a plan for examination of the patient, interpret the results of laboratory and instrumental studies in the most common diseases in the clinic of internal medicine and their complications.
  - Carry out differential diagnosis, substantiate and formulate the clinical diagnosis of major diseases in the clinic of internal medicine.
  - To determine the tactics of management (recommendations regarding the regime, diet, treatment, rehabilitation measures) of the patient with the most common diseases in the clinic of internal medicine.
  - Prescribe non-drug and drug treatment, including prognosis-modifying, the most common diseases in the clinic of internal medicine.
  - Carry out non-drug and drug primary and secondary prevention of major diseases in the clinic of internal medicine.
  - To determine the prognosis and efficiency of patients with major diseases in the clinic of internal medicine.
  - Diagnose and provide medical care in emergencies in the clinic of internal medicine.
  - Apply the basic algorithms of intensive care in emergencies in the clinic of internal medicine.
  - Perform medical manipulations.
  - Maintain medical records in the internal medicine clinic.
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- Demonstrate mastery of moral and deontological principles of a medical specialist and the principles of professional subordination.

According to the requirements of the educational and professional program, students must:

- **KNOW:**
- Basic rules of questioning and examination of the patient.
- Physical and instrumental methods of studying the state of the broncho-pulmonary system. Etiology, pathogenesis, clinic, diagnosis, treatment of the most common diseases of the respiratory system.
- Physical and instrumental methods of studying the condition of the musculoskeletal system. Etiology, pathogenesis, clinic, diagnosis, treatment of the most common diseases of the cardiovascular system.
- The main methods of research of the organs of the gastrointestinal tract and excretory system . Etiology, pathogenesis, clinic, diagnosis, treatment of the most common diseases of the gastrointestinal tract and urinary system.

- Occupational diseases. Etiology, pathogenesis, clinic, diagnosis and treatment of diseases.
- Immunological and allergological diseases. Etiology, pathogenesis, clinic, diagnosis and treatment of diseases.
- Pharmacokinetics and pharmacodynamics of drugs used in the treatment of diseases of internal organs.

- ***BE ABLE:***

- to solve situational problems with the definition of causal factors, risk factors, the main link of pathogenesis, stages of development, mechanisms of development of clinical manifestations, options for completion, with typical pathological processes and the most common diseases;
- schematically reflect the mechanisms of pathogenesis and clinical manifestations of diseases;
- analyze and interpret the results of blood, urine, lipidograms, electrocardiograms, spiograms, immunograms, hormonal background;
- identify regenerative, degenerative, and forms of pathological regeneration of "red" and "white" blood cells in peripheral blood smears; interpret their presence or absence in the blood;
- on the basis of the results of laboratory and instrumental research to assess the state of functioning of organs and systems of the body in diseases;
- to analyze different options for the development of causal relationships in the pathogenesis of diseases;
- be able to identify and record the leading clinical syndrome, its main link and clinical signs;
- make an informed decision for the appointment of laboratory and / or instrumental examination;
- provide emergency hospital care.

- ***MOTHER OF COMPETENCE:***

- on the application of knowledge of internal medicine for the diagnosis, treatment of diseases of the internal organs, the promotion of a healthy lifestyle, as well as for the prevention of the occurrence and development of diseases;
- about the basic perspective methods of research in internal medicine for early diagnosis and treatment of the most widespread diseases of internal organs according to the unified medical protocols.

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

- ***general (ZK) - ZK1-ZK3 OPP:***

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

ZK2. Ability to apply knowledge in practical situations.

ZK3. Knowledge and understanding of the subject area and understanding

**- professional (FC) - FC1 - FC6, FC 11, FC 16, FC 18 OPP:**

- FC 1. Patient interviewing skills.
- FC 2. Ability to determine the required list of laboratory and instrumental studies and evaluate their results.
- FC 3. Ability to establish a preliminary and clinical diagnosis of the disease.
- FC 4. Ability to determine the required mode of work and rest in the treatment of diseases.
- FC 5. Ability to determine the nature of nutrition in the treatment of diseases.
- FC 6. Ability to determine the principles and nature of treatment of diseases.
- FC 11. Skills to perform medical manipulations.
- FC 16. Ability to determine the tactics of management of persons subject to dispensary supervision.
- FC 18. Ability to keep medical records.

According to the educational-professional program, the expected **program learning outcomes (PRN)** include skills **PRN11, PRN13-PRN18, PRN21-PRN28, PRN30, PRN 32, PRN 33, PRN 35, PRN 41 OPP:**

- **PRN 11** : Collect data on patient complaints, medical history, life history (including occupational history), in a health care facility, its unit or at the patient's home, using the results of the interview with the patient, according to the standard scheme of the patient. Under any circumstances (in a health care facility, its unit, at the patient's home , etc.), using knowledge about the person, his organs and systems, according to certain algorithms:

- collect information about the general condition of the patient (consciousness, constitution) and appearance (examination of the skin, subcutaneous fat layer, palpation of lymph nodes, thyroid and mammary glands);

assess the psychomotor and physical development of the child;

- examine the condition of the cardiovascular system (examination and palpation of the heart and superficial vessels, determination of percussion boundaries of the heart and blood vessels, auscultation of the heart and blood vessels);

- examine the condition of the respiratory organs (examination of the chest and upper respiratory tract, palpation of the chest, percussion and auscultation of the lungs);

- examine the condition of the abdominal cavity (examination of the abdomen, palpation and percussion of the intestines, stomach, liver, spleen, palpation of the pancreatic gland, kidneys, organs of small pelvis, finger study of the rectum);

examine the condition of the musculoskeletal system (examination and palpation);

examine the state of the nervous system;

examine the condition of the genitourinary system;

- assess the state of intrauterine development of the fetus, according to c

- **PRN 13.** In the conditions of a health care institution, its subdivision and among the attached population:

- Be able to identify and recognize the syndrome (according to list 1) using preliminary data of examination of the patient, knowledge of the person, his organs and systems, adhering to the relevant ethical and legal schemes.

- To be able to establish the most probable or syndromic diagnosis of disease (in list 2) by adopting a reasoned data of the patient, based on the leading clinical symptom or syndrome, using the knowledge of man, his organs and systems, adhering to the relevant ethical and legal schemes.

- **PRN 14.** In the conditions of a health care institution, its subdivision:

- Assign a laboratory and / or (according to list 4) by making most probable or syndromic schemes, using knowledge about the adhering to relevant ethical and legal norms.

- Carry out differential diagnosis of by making an informed decision, using the most probable laboratory and instrumental examination of person, his organs and systems, adhering to legal norms.

- Establish a preliminary clinical diagnosis making an informed decision and logical analysis, using the most probable or syndromic of differential diagnosis, knowledge of man, his organs and systems, adhering to the relevant ethical and legal schemes.

- **PRN 15.** Determine the required mode of work and rest at the treatment of the disease (2 on the list), in terms of previous clinical diagnosis using knowledge of man, his organs and systems, adhering to the relevant ethical and legal schemes.

- **PRN 16.** To determine the necessary nutritional therapy in the treatment of disease (2 on the list), in terms of basis of previous clinical diagnosis using knowledge of human, his bodies and systems, adhering to the relevant ethical and legal schemes.

- **PRN 17.** To determine the nature of the treatment (conservative, surgical) disease (2 on the list), in terms of previous clinical diagnosis using knowledge of human, its bodies and systems, adhering to the relevant ethical and legal schemes, the principles of treatment of the disease (2 on the list), in terms of establishment health care, home of the patient and person of organs and systems, adhering to the relevant ethical and legal schemes.

- **PRN 18** . Establish a diagnosis (according to list 3) by making an informed decision and assessing the human emergency, in the field , in conditions of lack of information and limited time, using standard methods of physical, ethical and legal norms.

- **PRN 21** . Organizing of medical and emergency measures among the population and soldiers, in an emergency situation in t. H. In field conditions at the time of the detailed stages of medical evacuation of view of the existing system of medical evacuation support.

- **PRN 22** . Perform medical manipulations (according to list 5) in a medical institution, at home or at work on the basis of previous clinical diagnosis and / or indicators of the patient's condition, using knowledge about the person, his organs and systems, adhering to relevant ethical and legal norms, by making informed decisions and using standard techniques.

- **PRN 24** . In a medical institution on the basis of anamnestic data, general examination and gynecological examination of a woman, using knowledge of a woman's reproductive organs, adhering to the relevant ethical and legal norms, by making an informed decision, using a standard procedure:

- to evaluate the patient and medical criteria for the acceptability of the method of contraception;

- determine the patient's examination plan before choosing a method of contraception;

- to provide consultations on family planning;

- to select a modern method of contraception for different categories of the population.

- **PRN 25** . To form, in the conditions of a health care institution, its subdivision on production, using the generalized procedure of an assessment of a state of human health, knowledge of the person, its bodies and systems, adhering to the corresponding ethical and legal norms, by acceptance of the reasonable decision, among the fixed contingent of the population:

dispensary groups of patients;

groups of healthy people subject to dispensary supervision (newborns, children, adolescents, pregnant women, representatives of professions that must undergo a mandatory dispensary examination).

- **PRN 26** . Implement a system of anti-epidemic and preventive measures in the health care institution, its unit on the basis of data on the health of certain contingents of the population and the presence of environmental impact on it, using existing methods, within the primary health care. sanitary assistance to the population, regarding:

- organization of rational nutrition, water supply;
  - mode of activity and rest;
  - formation of a favorable production environment;
  - primary prevention of diseases and injuries;
  - vaccine prophylaxis;
  - prevention of bad habits;
  - prevention of unwanted pregnancy;
- promoting a healthy lifestyle.



- **PRN 27.** Implement a system of primary prevention measures, based on data on the health of the population served and the presence of the determinants of health, in the health care facility and outside it using existing methods, in within the framework of primary health care to the population:

- sanitary and educational measures to prevent the occurrence of infectious and non-infectious diseases, injuries and the promotion of a healthy lifestyle;
- organization of rational nutrition, safe social and living conditions, water supply; mode of activity and rest.

- **PRN 28.** Organize secondary and tertiary prevention measures among the assigned population, using a generalized procedure for assessing human health (screening, preventive medical examination, seeking medical care), knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision, in the conditions of a health care institution, in particular:

to form groups of dispensary supervision;

to organize medical and health-improving measures differentiated from the group of medical examination.

- **PRN 30.** To be carried out in the conditions of a health care institution, its subdivision:

- detection and early diagnosis of infectious diseases (according to list 2);

\* primary anti-epidemic measures in the center of an infectious disease.

- **PRN 32 .** In the health care facility, or at the patient's home on the basis of the obtained data on the to relevant ethical and legal norms, by making an informed decision:

• to determine the tactics of examining subject to dispensary supervision;

• to determine the tactics of examining persons subject to dispensary supervision;

• calculate and prescribe the necessary first year of life.

- **PRN 33 .** Determine the presence and degree of restrictions on life, type, degree and duration of disability course, features of professional activity.

- **PRN 35 .** On the territory of service according to standard methods of descriptive, analytical epidemiology

• to conduct screening for the diseases;

• assess the dynamics and in data rates of morbidity, in fact including chronic non-communicable diseases, disability

identify risk factors for the occurrence and course of diseases;

to form risk groups of the population.

- **PRN 41.** In the conditions of a health care institution or its subdivision according to standard methods

• to select and use for the provision of medical care, medicine;

• take part in the development care;

• conduct quality control of medical care on the basis of statistical data and expert assessment

• identify factors that hinder the improvement of medical care.

### **3. The program of the discipline**

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

The curriculum consists of two blocks:

#### **BLOCK 1. CURRENT ISSUES OF CLINICAL PHARMACOLOGY, MILITARY THERAPY, OCCUPATIONAL DISEASES, CLINICAL IMMUNOLOGY, ALLERGOLOGY AND TECHNOLOGY**

##### **SECTIONS:**

1. Current issues of clinical pharmacology (20 / 1,0).
2. Current issues of military therapy (51 / 1,0).
3. Occupational diseases in therapeutic practice (23 / 1,0).
4. Current issues of clinical immunology and allergology (15 / 1,0).
5. Current issues in rheumatology (59 / 1,0)

#### **BLOCK 2. FUNDAMENTALS OF DIAGNOSIS, TREATMENT AND PREVENTION OF PATHOLOGY OF INTERNAL ORGANS**

##### **SECTIONS:**

6. Basics of diagnosis, treatment and prevention of diseases of the urinary system (36 / 1.5 hours).
7. Basics of diagnosis, treatment and prevention of respiratory diseases (43 / 1.5 hours).
8. Basics of diagnosis, treatment and prevention of diseases of the digestive system (53 / 2.0 hours).

#### **BLOCK 1. CURRENT ISSUES OF CLINICAL PHARMACOLOGY, MILITARY THERAPY, OCCUPATIONAL DISEASES, CLINICAL IMMUNOLOGY, ALLERGOLOGY AND TECHNOLOGY**

##### **SECTION 1 - CLINICAL PHARMACOLOGY**

##### **Current issues of clinical pharmacology**

**Topic 1. Subject, tasks of clinical pharmacology. Clinical pharmacodynamics, pharmacokinetics of drugs.**

Subject, tasks, purposes of studying clinical pharmacology. Basic concepts of discipline. Algorithm for drug selection for a specific patient.

**Topic 2. Clinical and pharmacological characteristics of antihypertensive and hypertensive drugs. Curation of patients.**

Principles of treatment of hypertension and symptomatic hypertension. Classification of antihypertensive drugs. Rationale for the choice of drug depending on the stage and degree of hypertension and the type of hemodynamics. Characteristics of first and second line drugs. Dose regimen. Comparative characteristics of drugs in terms of effectiveness, compatibility of drugs in different variants of the course and the presence of concomitant pathology. The choice of drug and dosage regimen depending on age, pregnancy. Evaluation of the effectiveness and safety of the application. Principles of treatment of hypertensive crises.

Etiopathogenetic principles of treatment of arterial hypotension. Classification of hypertensive drugs. Comparative characteristics of drugs, choice of drugs and dosage regimen. Evaluation of the effectiveness and safety of the application.

**Topic 3. Clinical and pharmacological characteristics of antianginal, antiischemic and hypolipidemic drugs.**

Etiopathogenetic principles of treatment of coronary heart disease. Classification of antianginal drugs. Features of selection and combined use of drugs (organic nitrates, beta-blockers, calcium channel blockers, sidnonimines). Dose regimen. Indications and contraindications to the appointment. Factors that reduce resistance to drugs in this group. Methods for evaluating the effectiveness and safety of use.

Etiopathogenetic principles of atherosclerosis treatment. Classification of hypolipidemic drugs. Rationale for the choice of drug depending on the class of dyslipidemia. Dose regimen, interaction with other groups of drugs. Evaluation of the effectiveness and safety of use. Side effects of drugs.

**Topic 4. Clinical pharmacology of drugs that affect the ability of blood to coagulate (thrombolytics, anticoagulants, antiplatelet drugs, coagulants).**

Etiopathogenetic mechanisms of increased and decreased ability of blood to coagulate. Classifications of drugs used to treat conditions of increased and decreased thrombosis. Features of application of thrombolytics, anticoagulants, antiplatelets, procoagulants. Methods for evaluating the effectiveness and safety of their application.

**Topic 5. Clinical and pharmacological characteristics of anti-inflammatory drugs (nonsteroidal and steroidal).**

Modern ideas about pathological physiology and pathological anatomy of inflammation. Classification of anti-inflammatory drugs (steroidal and nonsteroidal). Modern ideas about the mechanism of action. Comparative characteristics of anti-inflammatory action of drugs. Indications and contraindications to use. Dose regimen. Schemes of glucocorticosteroids. Compatibility of drugs in combination therapy of diseases. Side effects, methods of monitoring the effectiveness and safety of anti-inflammatory drugs.

**Topic 6. Clinical and pharmacological characteristics of antibacterial drugs.**

Principles of modern antibacterial therapy. Classification of antibiotics and other antimicrobial drugs. The role of antibiotics and other chemotherapeutic drugs in infectious and purulent-inflammatory diseases. The choice of antibacterial agents in accordance with the sensitivity of

microorganisms and the localization of the process, the severity of the disease. Side effects and contraindications to antibacterial therapy. The choice of antimicrobial drugs depending on pharmacokinetics. Age features of antibacterial therapy. Antibiotic resistance and ways to overcome it.

Clinical pharmacology of imidazoles, fluoroquinolones, sulfonamides, nitrofurans.

### **Topic 7. Clinical and pharmacological characteristics of drugs that affect bronchial patency.**

Modern ideas about the etiology and pathogenesis of bronchial obstruction syndrome. Classification of drugs that affect bronchial patency. Pharmacokinetics and pharmacodynamics. Dose regimen. Features of their combined application. Therapeutic efficacy of beta-2-agonists, M-cholinoblockers, methylxanthines. The choice of bronchodilators to relieve an attack of bronchial asthma and systematic therapy of COPD, including - taking into account the associated pathology. Comparative characteristics of their therapeutic value. Side effects of drugs, advantages and disadvantages of different pharmacological groups. Methods for assessing the effectiveness and safety of therapy, taking into account the degree of bronchial obstruction, sputum viscosity, the state of central and peripheral hemodynamics.

### **Topic 8. Clinical and pharmacological characteristics of drugs that affect the functions of the gastrointestinal tract, hepatobiliary system and pancreas.**

Determination of the principles of pharmacotherapy of peptic ulcer of the stomach and duodenum, gastritis, colitis, irritable bowel syndrome, gastroesophageal reflux disease. Values of drugs that affect the secretory function of the stomach (proton pump inhibitors, H<sub>2</sub>-histamine blockers, M-cholinoblockers; stimulating secretory function). Antihelicobacter therapy (drugs, doses, duration). Gastrocytoprotectors. Drug regulation of motility of the gastrointestinal tract. Significance of symptomatic agents: antiemetic and emetic, laxative and antidiarrheal. Dose regimen. Modern principles of prevention and treatment of intestinal dysbacteriosis.

Modern principles of treatment of acute and chronic cholecystitis, hepatitis, pancreatitis. Rationale for the choice and characteristics of drugs with enzymatic and anti-enzymatic properties. Features of joint use of drugs. Pharmacokinetics and pharmacodynamics of cholergics, cholekinetics, hepatoprotectors, antispasmodics. Indications and contraindications to the appointment. Side effect. Dose regimen. Methods of monitoring the effectiveness and safety of drugs.

### **Topic 9. Final control of mastering the discipline**

## **SECTION 2 - MILITARY THERAPY AND current issues of military therapy**

### **Specific goals**

#### **Students must be able to:**

- Organize therapeutic care in wartime and in emergencies in peacetime
- Carry out medical sorting of the affected at the stages of first aid and specialized therapeutic care
- Determine the differential diagnostic criteria for the severity of acute radiation sickness and provide medical care at the stages of medical evacuation
- Provide medical care at the stages of medical evacuation in atypical forms of acute radiation sickness

- Carry out the organization of emergency therapeutic care in acute poisoning at the stages of medical evacuation
- Diagnose and carry out staged treatment of those affected by toxic substances in wartime and in emergencies in peacetime
- Diagnose and provide medical care for conditions / diseases caused by exposure to thermal factors (heat and cold)
- Diagnose and treat diseases of internal organs in the wounded at the stages of medical evacuation and injuries in disasters and accidents in peacetime
- Diagnose, provide care and prevention of combat mental trauma.
- To carry out prevention of acute radiation sickness, acute poisoning, conditions / diseases caused by the action of thermal factors on the body, diseases of internal organs in combat surgical trauma and injuries in peacetime accidents and accidents and combat mental trauma.

**Topic 10. Organization of therapeutic care in wartime and in emergencies in peacetime.** General issues of organization of therapeutic care in wartime and in emergencies in peacetime. Characteristics of modern combat therapeutic pathology . Structure and nature of sanitary losses of therapeutic profile. Principles of medical sorting of patients and victims of therapeutic profile. Types and scope of medical care for the affected and patients of therapeutic profile at the stages of medical evacuation.

**Topic 11. Radiation damage. The concept of radiation injury, medical care at the stages of medical evacuation. Acute radiation sickness. Stage treatment of patients with acute radiation sickness. Atypical forms of radiation sickness. Stage treatment of acute radiation sickness.** Types of ionizing radiation, units of measurement and dosimetry. The main links of biological action of ionizing radiation and pathogenesis of the main clinical forms of radiation damage.

Clinic and diagnosis of various forms of acute radiation sickness. Features of radiation damage in peacetime. Classification of bone marrow form of acute radiation sickness. Features of the clinical picture in different periods of the disease. differential diagnostic criteria for the severity of the disease. identification of life-threatening conditions at each stage of the evacuation. Types of atypical forms of acute radiation sickness. Features of the clinic of acute radiation sickness with external uneven irradiation, combined radiation damage, internal irradiation, combined irradiation, neutron lesions and prolonged exposure to small doses.

Principles of pathogenetic treatment of acute radiation sickness taking into account the leading manifestations of the disease. the amount of medical care at the stages of medical evacuation. Providing medical care at the stages of medical evacuation.

**Topic 12. Diseases of the internal organs in combat surgical trauma and injuries in disasters and accidents in peacetime.**

Classification of pathological changes of internal organs in the wounded. General gunshot wound syndromes. Diseases of the internal organs in the wounded. Treatment of diseases of internal organs in the wounded at the stages of medical evacuation. Prevention.

**Topic 13. Burn disease. Diseases caused by exposure to thermal factors (heat and cold ). Prolonged compression syndrome.**

Burn disease. Definition, pathogenesis and classification. The main clinical manifestations and complications. Diagnosis. Staged treatment of patients with burns. Features of treatment of burn shock.

Prolonged compression syndrome. Definition. Pathogenesis, classification, clinical manifestations. The amount of assistance at the stages of medical evacuation.

The concept of overheating, hypothermia. Complications from internal organs under the influence of thermal factors. Features of the clinic, diagnosis. Prevention and staged treatment.

**Topic 14. Emergencies, providing therapeutic care in life-threatening conditions at the stages of medical evacuation. Combat mental trauma.** Emergencies (acute heart failure, coma, fainting, acute respiratory failure, impaired water-electrolyte metabolism, etc.). Terminal states. Providing emergency care at the stages of medical evacuation.

Combat mental trauma. Definition. Diagnosis. Providing assistance. Prevention.

**Topic 15. Defeat by poisonous substances in wartime and peace.** Classification of toxic substances. Mechanism of toxic action. Clinical manifestations of lesions of toxic substances (chlorine-containing, fluorine-containing, carbon monoxide, ammonia, cyanides, etc.). Diagnosis. Stage treatment of those affected by toxic substances. Volumes of medical care.

### **SECTION 3 - OCCUPATIONAL DISEASES**

#### **Occupational diseases in therapeutic practice**

##### Specific goals

- To determine the possible role and significance of harmful factors of the production environment in the occurrence of occupational diseases.
- Analyze and use to substantiate the relationship of the disease with the working conditions of the patient data of sanitary and hygienic characteristics.
- Resolve the issue of determining the range of persons who are subject to mandatory prior to employment and periodic medical examinations.
- Analyze the results of medical examinations, develop rational recommendations for rehabilitation, employment, treatment of identified patients.
- Identify the degree of disability in occupational diseases, select rational types of work for occupational patients.
- Analyze the stages of formation of occupational pathology as a clinical discipline for internal medicine and the contribution of individual scientists at each of its stages.

##### **Topic 16. General issues of occupational pathology**

Occupational pathology as a clinical discipline. History of occupational pathology. Features of diagnostics of occupational diseases and principles of their classification.

The concept, subject and objectives of occupational pathology, its place among clinical and hygienic disciplines. Organization of occupational pathology service and structure of occupational morbidity in Ukraine.

##### **Topic**

**17.**

##### **Pneumoconiosis. Silicosis. Silicosis. Carboconiosis. Metalloconiosis. Hypersensitive pneumonitis.**

Pneumoconiosis: the concept of pneumoconiosis. Classification. Etiological, radiological and clinical-functional characteristics.

Silicosis. Etiology. Pathogenesis. Stages of silicosis, clinical and radiological characteristics. Complications of silicosis (tuberculosis, spontaneous pneumothorax, bronchiectasis, etc.) - Issues of rational therapy, prevention and examination of efficiency.

Silicosis. General characteristics of this group of pneumoconiosis. The main clinical and radiological forms: asbestosis, talcosis, cement pneumoconiosis. Issues of examination of working capacity and rational employment.

Carboconiosis (anthracnose, graphitosis). Features of the clinical picture. Diagnosis. Issues of medical and labor examination and labor rehabilitation.

Metalloconiosis (siderosis, aluminosis, pneumoconiosis of electric welders, grinders). Features of the clinical picture. Diagnosis. Issues of medical and labor examination and labor rehabilitation.

Hypersensitive pneumonitis - beryllium, bisinosis. Pathogenesis. Features of the clinical course. Diagnosis. Issues of medical and labor examination and labor rehabilitation.

**Topic 18. Occupational benzene intoxication. Occupational intoxications with amino, nitro compounds of benzene, carbon monoxide. Respiratory diseases of toxic-chemical etiology.**

Ways of entering the poison into the body. Mechanism of action. Clinical features, stages of the disease. The nature of hematological changes. Bone marrow transplantation issues. Differential diagnosis of the main clinical syndromes. Therapy, including antidote. Issues of medical and labor examination and labor rehabilitation.

Clinical and toxicological characteristics of the action of amino and nitro compounds of the aromatic series. Pathogenesis. Clinical picture, course, diagnosis. Prevention, treatment. Issues of medical and labor examination and labor rehabilitation in acute and chronic intoxications.

Acute and chronic lung lesions of toxic-chemical etiology. Chemical compounds of toxic and irritating action. Pathogenesis. Acute lesions of the bronchopulmonary system. Clinical and morphological forms of acute and chronic toxic lesions of the bronchopulmonary system: pulmonary edema, bronchitis, toxic pneumonitis. Diagnosis. Treatment. Examination of working capacity. Prevention.

**Topic 19. Occupational neurotoxicosis. Occupational toxic hepatitis and toxic nephropathy. Occupational intoxication used in agricultural work.**

Occupational poisoning with a predominant lesion of the nervous system. Characteristics of neurotropic poisons (lead, mercury, manganese, tetraethyl lead). The mechanism of their action on the body. Conditions under which intoxications develop. Pathogenesis. The main clinical syndromes of acute and chronic neurointoxications, course options, diagnosis. Classification of intoxications by severity (stages of the disease). Prevention. Treatment. Issues of medical and labor examination and labor rehabilitation.

Occupational intoxications with a predominant lesion of the hepatobiliary system (chlorinated hydrocarbons, naphthalenes, aromatic hydrocarbons, salts of heavy metals). Ways of penetration into the body. Acute and chronic hepatitis of toxic etiology. Clinical and morphological features of toxic hepatitis. Diagnosis. The main biochemical indicators of the functional state of the liver. Differential diagnosis. Treatment. Prevention. Examination of efficiency in toxic hepatitis.

Occupational poisoning with predominant damage to the kidneys and urinary tract. Pathogenesis, clinical manifestations, diagnosis, treatment, prevention, examination of efficiency in case of poisoning by inorganic compounds of mercury (sulema, calomel), cadmium, lithium, gold, benzidine, etc. Neoplasms of the urinary bladder in workers in contact with aromatic compounds. Pathogenesis. Clinic. Prevention.

Occupational poisoning by agricultural pesticides. Classification of pesticides. Acute and chronic poisoning by chlorine, phosphorus, organomercury and arsenic compounds derived from carbamic acids. Pathogenesis of intoxications. Clinical manifestations. Possible complications. Prevention. Therapy. Issues of medical and labor examination and labor rehabilitation.

**Topic 20. Vibration disease and neurosensory deafness. Altitude and caisson diseases.**

Vibration disease. Significant vibration parameters in the development of the disease. Classification. Pathogenesis. Options for the clinical course. Differential diagnosis. Prevention. Treatment. Medical and labor examination and labor rehabilitation.

Occupational diseases due to exposure to industrial noise (neurosensory deafness). Pathogenesis. Clinical manifestations. Diagnosis. Prevention. Treatment. Examination of working capacity.

Occupational diseases associated with changes in atmospheric pressure. The role of deviations in the partial pressure of gases in the genesis of developing syndromes. Conditions associated with increased atmospheric pressure. Pathology at low atmospheric pressure. The concept of altitude and caisson disease. Pathogenesis. Clinical manifestations. Questions of therapy. Preventive measures.

**Topic 21. Occupational diseases caused by exposure to electromagnetic radiation and ultrasound, the action of adverse factors of the industrial microclimate.**

Occupational diseases caused by exposure to electromagnetic radiation in the radio frequency range, laser radiation and ultrasound. Conditions of their development. Pathogenesis. Clinical picture, course, diagnosis. Prevention and treatment. Issues of medical and labor examination and labor rehabilitation.

Overheating, overcooling. Heat stroke, convulsive disease. Conditions of their occurrence. The pathogenesis of these conditions. Clinical picture, course. Prevention and treatment. Issues of medical and labor examination and labor rehabilitation.

**Topic 22. Diseases associated with overexertion of individual organs and systems.**

Dissociative motor disorders. Characteristics of the main types of production processes that cause occupational dyskinesia. Clinical classification of occupational forms of this pathology. Pathogenesis. Clinical picture, course, diagnosis. Prevention, treatment. Issues of medical and labor examination and labor rehabilitation.

Diseases of the peripheral nervous system: mono- and polyneuropathy of the upper and lower extremities, including compression and autonomic-sensory radiculopathy (cervical, lumbosacral levels), radiculomyelopathy (cervical and lumbosacral levels). Clinical picture. Diagnosis. Prevention. Treatment. Issues of medical and labor examination and labor rehabilitation.

Chronic myofibrosis of the forearm and shoulder girdle, stenotic ligamentosis, styloidosis (elbow, shoulder), epicondylitis, bursitis of the elbow and knee joints, periarthrosis (shoulder-scapular, elbow, knee), arthrosis, osteoarthritis, osteoarthritis, osteoarthritis, osteoarthritis. Clinical picture. Diagnosis. Prevention. Treatment. Issues of medical and labor examination and labor rehabilitation.

**SECTION 4 - CLINICAL IMMUNOLOGY AND ALLERGOLOGY**

**Current issues of clinical immunology and allergology**



### **TOPIC №23. Structure and principles of functioning of the immune system.**

Definitions and types of immunity. Central and peripheral organs of the immune system. Factors of innate immunity: cellular (monocytic-macrophage system, killer and granulocyte cells), humoral (complement system, cytokines, etc.). Antigens and their characteristics. Specific immunity, its features, stages of formation and cooperation of immunocompetent cells involved in the formation of the immune response. Populations (T- and B-lymphocytes) and subpopulations (T-helpers of types 1 and 2, T-regulatory, T-CTL) of lymphocytes, stages of their maturation and differentiation, their function. Immunoglobulins, structure, functions. Thymus-dependent and thymus-independent mechanism of antibody synthesis. Structure and properties of circulating immune complexes. The main complex of histocompatibility: structure, properties, function. Regulation of immunity.

Features of immunological anamnesis. Clinical methods of assessing the immune system. Instrumental methods for assessing the immune system. Laboratory methods for assessing the immune system. Humoral innate protection factors. Assessment of cellular immunity. Comprehensive assessment of local immunity.

A comprehensive approach to assessing human immune status. Immunogram, interpretation of results. Possibilities and limitations of immunological methods in the clinic. Features of immunological diagnosis.

Age features of bone marrow, thymus and peripheral lymphoid organs. Age features of functioning of immunocompetent cells. Age features of cytokine production. Age features of development of inflammatory reactions.

Thymus and aging. Immunoregulatory processes in old age. Immune theories of aging. Immunopathology in the elderly.

### **TOPIC №24. Immunological research methods. Basic rules for assessing immune status.**

A comprehensive approach to assessing human immune status. Features of immunological anamnesis. Clinical methods for assessing the state of the immune system. Instrumental methods for assessing the state of the immune system. Identification of the main symptoms and syndromes of immune disorders.

Laboratory methods for assessing the state of the immune system: humoral innate protective factors; assessment of cellular immunity; comprehensive assessment of local immunity.

Immunogram, interpretation of results. Possibilities and limitations of immunological methods in the clinic. Features of immunological diagnosis.

### **TOPIC №25. Congenital and acquired immunodeficiency diseases.**

Congenital immunodeficiency diseases: definition, classification, mechanisms of development. Clinical signs, immunodiagnosics, doctor's tactics, approaches to treatment: combined, T - and B - dependent immunodeficiencies caused by violation of the phagocytic immune system and deficiency of complement proteins.

Acquired immunodeficiency diseases: definition, causes, mechanisms of development, classification, diagnosis. The role of acquired immunodeficiency diseases in the pathogenesis of various diseases. Early detection of secondary immunological insufficiency in the body. The main approaches to treatment and prevention, taking into account the clinical manifestations and features of the course.

Classification of immunotropic drugs, mechanism of action, side effects. Principles of clinical use of immunotropic drugs, indications and contraindications for use.

**TOPIC №26. Immune aspects of autoimmune pathology.**

Definition of the concept of autoimmune reactions, autoimmune disease. Mechanisms of immunological tolerance failure, the role of genetic factors. Immunodiagnostics, immunopathogenesis. The role of immunological research methods in the early verification of the diagnosis of autoimmune diseases. Autoimmune component in the immunopathogenesis of various human diseases. Modern approaches to the use of new generation immunotropic drugs in the treatment of patients with autoimmune pathology.

**Allergic diseases.**

**TOPIC №27. Atopic diseases.**

The role of genetic factors and the environment in the immunopathogenesis of allergies. Modern ideas about allergies and atopy. Atopy as a systemic disease.

Types and main stages of immunological reactions. Methods of allergological examination (allergological anamnesis, fiscal examinations, skin tests) Modern aspects of allergological diagnostics. Screening methods in the assessment of allergies. Elimination and provocative tests in allergology.

Principles of treatment of allergic diseases. Allergen-specific immunotherapy, indications and contraindications. Features of immunopathogenesis of bronchial asthma, hay fever, allergic rhinitis, urticaria, etc. Drug allergy: causes, immunopathogenesis, clinic, allergy diagnosis and prevention.

**TOPIC №28. Allergic (non-atopic) diseases**

Classification of hypersensitivity reactions by Jell and Coombs. The main mechanisms of occurrence and development of immunopathological conditions, their role in the development of various diseases. Mechanisms of development of anaphylactic reactions. Mechanisms of development of humoral cytotoxic reactions. Mechanisms of development of reactions of formation of immune complexes. Mechanisms of development of pathological immune reactions mediated by T-sensitized lymphocytes. Mechanisms of development of autosensitization caused by antibodies.

Non-atopic diseases, immunopathogenesis, immunodiagnostics, clinical manifestations and differential diagnosis. Allergic diseases (serum sickness, exogenous allergic alveolitis, etc.): immunopathogenesis, clinic, immunodiagnostics, immunotherapy. Differential diagnosis of diseases caused by allergic processes and pseudoallergic reactions. Principles of antiallergic therapy and immunotropic treatments in allergology.

## **SECTION 5 - RHEUMATOLOGY**

### **Topical issues of diseases of the musculoskeletal system and connective tissue**

**Specific goals**

**Students be able to:**

- Conduct surveys and physical examinations of patients with major diseases of the musculoskeletal system and connective tissue.
- To determine the etiological and pathogenetic factors of the main diseases of the musculoskeletal system and connective tissue.

- Identify a typical clinical picture of major diseases of the musculoskeletal system and connective tissue.
- Identify the main variants of the course and complications of diseases of the musculoskeletal system and connective tissue.
- Formulate a preliminary diagnosis of major diseases of the musculoskeletal system and connective tissue.
- Make a plan of examination of patients with major diseases of the musculoskeletal system and connective tissue, justify the use of basic invasive and non-invasive diagnostic methods and determine the indications and contraindications for their implementation, possible complications.
- Based on the analysis of laboratory and instrumental examination data to make a differential diagnosis, substantiate and formulate a diagnosis of major diseases of the musculoskeletal system and connective tissue.
- Prescribe treatment, carry out primary and secondary prevention of major diseases of the musculoskeletal system and connective tissue.
- Assess the prognosis and performance in major respiratory diseases.
- Demonstrate mastery of moral and deontological principles of a medical specialist and the principles of professional subordination.

**Topic 29. Acute rheumatic fever.** Definition. The role of streptococcal infection and immunological reactivity in the development of acute rheumatic fever. Classification. Clinical picture (carditis, polyarthritis, chorea, skin lesions). The value of laboratory and instrumental research methods. Modern criteria for diagnosis. Differential diagnosis. Complications. Treatment taking into account the degree of activity. Primary and secondary prevention. Forecast and efficiency.

**Topic 30. Rheumatoid arthritis.** Definition. Etiology, pathogenesis. The role of immune status disorders in the development of the disease. Classification. Clinical picture taking into account the activity of the pathological process, the stage of the disease, systemic manifestations. The value of laboratory and instrumental methods for the diagnosis of the disease, its stage and activity. Criteria for diagnosis, the importance of the study of synovial fluid. Differential diagnosis. Complication. Treatment strategy. Basic therapy. Tactics of treatment with glucocorticoids and nonsteroidal anti-inflammatory drugs. Application of methods of efferent and physiotherapy, exercise therapy. Prevention. Forecast and efficiency.

**Topic 31. Systemic lupus erythematosus.** Definition. Etiological factors and pathogenesis. Classification. Clinical manifestations depending on the damage to organs and systems and disease activity. The value of laboratory, including immunological, research methods. Diagnostic criteria. Differential diagnosis. Complication. Principles of treatment taking into account the degree of activity. Pulse therapy. Prevention. Forecast and efficiency.

**Topic 32. Systemic vasculitis. Hemorrhagic vasculitis (Shenlein-Genoch vasculitis), hypersensitive vasculitis, nodular polyarteritis.** Definition. Etiology, pathogenesis. Clinical manifestations, diagnostic criteria. Differential diagnosis. Treatment. Prevention. Forecast and efficiency.

**Topic 33. Osteoarthritis.** Definition. Etiology, pathogenesis. Classification. Clinical picture depending on the predominant location of the lesions. Diagnosis. Differential diagnosis. Drug and non-drug treatment. Primary and secondary prevention. Forecast and efficiency.

**Topic 34. Gout.** Definition. Etiology, pathogenesis. Classification. Features of the joint syndrome and lesions of internal organs. Criteria for diagnosis. Differential diagnosis. Complication. Drug and non-drug treatment. Prevention. Forecast and efficiency.

**Topic 35. Seronegative spondyloarthropathy (ankylosing spondylitis, reactive arthritis).**

**Ankylosing spondylitis.** Definition. Etiology, pathogenesis. Classification. Clinical picture. The value of instrumental and laboratory methods. Criteria for diagnosis. Differential diagnosis. Drug and non-drug treatment. Prevention. Forecast and efficiency.

**Reactive arthritis .** Definition. Etiology, pathogenesis. Classification. Clinical manifestations of reactive arthritis of various etiologies. Reiter's syndrome, the importance of laboratory and instrumental diagnostic methods. Diagnostic criteria, Differential diagnosis. Treatment, the role of antibacterial therapy. Primary and secondary prevention. Forecast and efficiency.

## **BLOCK 2. FUNDAMENTALS OF DIAGNOSIS, TREATMENT AND PREVENTION OF PATHOLOGY OF INTERNAL ORGANS**

### **SECTION 6 - NEPHROLOGY**

**Fundamentals of diagnosis, treatment and prevention of major diseases of the urinary system**

**Specific objectives: students should be able to:**

- Conduct surveys and physical examinations of patients with diseases of the urinary system.
- To determine the etiological and pathogenetic factors of diseases of the urinary system.
- Identify a typical clinical picture of diseases of the urinary system.
- Identify the main options for the course and complications of diseases of the urinary system.
- Formulate a preliminary diagnosis of major diseases of the urinary system.
- Make a plan for examination of patients with diseases of the urinary system, justify the use of basic invasive and non-invasive diagnostic methods and determine the indications and contraindications for their implementation, possible complications. .
- On the basis of the analysis of data of laboratory and instrumental inspection to carry out the differential diagnosis, to substantiate and formulate the diagnosis at diseases of urinary system.
  - Prescribe treatment, carry out primary and secondary prevention of diseases of the urinary system .
  - Determine the prognosis and performance in major diseases of the urinary system.
  - Diagnose and care for acute kidney damage.
  - Catheterize the bladder with a soft catheter.
  - Demonstrate mastery of moral and deontological principles of a medical specialist and the principles of professional subordination.

**Topic 36. Glomerulonephritis. Renal amyloidosis.**

**Glomerulonephritis .** Definition. Etiology, role of streptococcal infection and immunological disorders in the development of the disease. Pathogenesis. Classification. Clinical manifestations and diagnosis of some forms. Differential diagnosis. Complications (eclampsia, acute left ventricular failure, etc.). Treatment taking into account the morphological variant and clinical course. Primary and secondary prevention. Forecast and efficiency.

**Amyloidosis** . Definition. Etiology. Pathogenesis. Classification. Clinical manifestations of renal amyloidosis. Diagnostic criteria. Differential diagnosis. Complication. Treatment. Primary and secondary prevention. Forecast and efficiency.

**Topic 37. Pyelonephritis. Tubulointerstitial nephritis.**

**Pyelonephritis** . Definition. The role of infection in inflammatory diseases of the kidneys and urinary tract. Classification. Clinical manifestations. Instrumental and laboratory diagnostic methods. Differential diagnosis. Complication. Treatment. Primary and secondary prevention. Forecast and efficiency.

**Tubulointerstitial nephritis** . Definition. Etiology. Pathogenesis. Clinical manifestations. Diagnostic criteria and differential diagnosis. Complication. Treatment. Primary and secondary prevention. Forecast and efficiency.

**Topic 38. Chronic kidney disease.** Definition. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Classification. Clinic and changes in laboratory parameters depending on the stage. Differential diagnosis. Complication. Treatment at different stages. Renal replacement therapy: hemodialysis, kidney transplantation. Indications and contraindications to renal replacement therapy, complications. Primary and secondary prevention. Forecast and efficiency.

**Topic 39. Acute kidney damage.** Definition. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Classification. Clinic and changes in laboratory parameters depending on the stage. Forecast and efficiency.

## **SECTION 7 - PULMONOLOGY**

### **Fundamentals of diagnosis, treatment and prevention of respiratory diseases**

#### **Specific goals**

#### **Students must be able to:**

- Conduct surveys and physical examinations of patients with respiratory diseases.
- To determine the etiological and pathogenetic factors of the main respiratory diseases.
- Identify a typical clinical picture of major respiratory diseases.
- Identify the main options for the course and complications of major respiratory diseases.
- Formulate a preliminary diagnosis of major respiratory diseases.
  - Make a plan for examination of patients with respiratory diseases, justify the use of basic invasive and non-invasive diagnostic methods and determine the indications and contraindications for their implementation, possible complications.
  - On the basis of the analysis of data of laboratory and instrumental inspection to carry out the differential diagnosis, to substantiate and formulate the diagnosis of the basic diseases of respiratory organs.
  - Prescribe treatment, carry out primary and secondary prevention of major respiratory diseases .
    - Assess the prognosis and performance in major respiratory diseases.
    - Diagnose and provide care for acute respiratory failure, severe exacerbation of bronchial asthma.
    - Demonstrate mastery of moral and deontological principles of a medical specialist and the principles of professional subordination.

**Topic 40. Chronic obstructive pulmonary disease.** Definition. The importance of smoking, environmental, occupational factors and infection in the development of chronic obstructive pulmonary disease . Classification. Clinical manifestations, data of laboratory and instrumental research methods depending on the stage (severity). Differential diagnosis. Complication. Treatment. Primary and secondary prevention. Forecast and efficiency.

**Topic 41. Bronchial asthma.** Definition. Etiology, features of pathogenesis. Classification. Clinical manifestations, data of laboratory and instrumental research methods . Differential diagnosis. Complication. Treatment. Emergency care for asthma attacks . Primary and secondary prevention. Forecast and efficiency.

**Topic 42. Pneumonia.** Definition. Etiology. Classification. Clinical manifestations and features of the course depending on the pathogen . D or laboratory and instrumental methods. Differential diagnosis. Complications ( acute respiratory distress syndrome, destruction of lung tissue, acute respiratory failure and others). Differentiated treatment. Primary and secondary prevention. Forecast and efficiency.

**Topic 43. Pleurisy.** Definition. Etiological factors. Classification. Clinical manifestations, data of laboratory and instrumental research methods. Differential diagnosis. Complication. Indications for pleural puncture and drainage of the pleural cavity. Treatment. Primary and secondary prevention. Forecast and efficiency.

**Topic 44. Infectious and destructive lung diseases.** Definition. Factors that contribute to the development of bronchiectasis, abscess and lung gangrene. Clinical manifestations, data of laboratory and instrumental research methods. Differential diagnosis. Complication. Treatment. Indications for surgical treatment. Primary and secondary prevention. Forecast and efficiency.

**Topic 45. Respiratory failure.** Definition. Classification. Causes. Features of the clinical course of different forms. Diagnosis, study of the function of external respiration, arterial and venous blood gases, indicators of acid-base status of blood. Differential diagnosis. Therapeutic tactics. Primary and secondary prevention. Forecast and efficiency.

## **SECTION 8 - GASTROENTEROLOGY**

### **Fundamentals of diagnosis, treatment and prevention of major digestive diseases**

#### **Specific goals**

##### **Students must be able to :**

- Conduct surveys and physical examinations of patients with diseases of the digestive system .
- To determine the etiological and pathogenetic factors of the main diseases of the digestive system .
- Identify a typical clinical picture of major diseases of the digestive system.
- Identify the main options for the course and complications of major diseases of the digestive system.
- Formulate a preliminary diagnosis of major digestive diseases.
- To make the plan of inspection of patients with the basic diseases of digestive organs, to substantiate application of the main invasive and noninvasive diagnostic methods and to define indications and contraindications for their carrying out, possible complications.
- On the basis of the analysis of data of laboratory and instrumental inspection to carry out the differential diagnosis, to substantiate and formulate the diagnosis at the basic diseases of digestive organs .

- Prescribe treatment, carry out primary and secondary prevention of major diseases of the digestive system.
- To determine the prognosis and efficiency in major diseases of the digestive system.
- Diagnose and provide care for emergencies (esophageal and gastrointestinal bleeding, acute liver failure, biliary colic).
- Demonstrate mastery of moral and deontological principles of a medical specialist and the principles of professional subordination.

**Topic 46. Gastroesophageal reflux disease.** Definition. Etiology, pathogenesis. Classification. Erosive and non-erosive GERD. Clinical manifestations depending on the variant and stage. Data of laboratory and instrumental research methods. Diagnosis criteria, differential diagnosis. Complication. Differentiated therapy. Primary and secondary prevention.

**Topic 47. Dyspepsia. Chronic gastritis. Peptic ulcer of the stomach and duodenum.** Determination of dyspepsia. Etiology and pathogenesis. The role of *N. rulari* in the occurrence of gastroduodenal pathology. Classification. Unexplored and functional dyspepsia. Criteria for diagnosis. Differential diagnosis. Modern approaches to the treatment of functional dyspepsia. Primary and secondary prevention. Forecast and efficiency.

Definition, etiology and pathogenesis of chronic gastritis. The role of *N. rulari* in the occurrence of chronic gastritis. Classification. Clinical manifestations, data of laboratory and instrumental research methods. The value of endoscopic (with morphology) research. Modern approaches to the treatment of various types of chronic gastritis. Primary and secondary prevention. Forecast and efficiency.

Definition. The main causes of peptic ulcers (*H. pylori*, medications, etc.). Classification. Clinical manifestations. Complications (perforation, penetration, bleeding,

№ s / n	Topic	Lectures	Practical classes	Individual work	
				CPC	Individual work
<b>BLOCK 1. CURRENT ISSUES OF CLINICAL PHARMACOLOGY, MILITARY THERAPY, OCCUPATIONAL DISEASES, CLINICAL IMMUNOLOGY, ALLERGOLOGIST</b>					
<b>Section 1 - Current issues of clinical pharmacology</b>					
1.	Topic 1. Subject, tasks of clinical pharmacology. Clinical pharmacokinetics, pharmacodynamics of drugs.	0	2	0	
2.	Topic 2. Clinical and pharmacological characteristics of antihypertensive and hypertensive drugs.	0	2	0	Report at clinical conferences of the bases of the department  Report of the abstract in a practical lesson.  Report of the patient's medical history in a practical lesson.  Writing abstracts, articles.
3.	Topic 3. Clinical and pharmacological characteristics of antianginal, antiischemic and hypolipidemic drugs.	0	2	0	
4.	Topic 4. Clinical pharmacology of drugs that affect the ability of blood to coagulate. Clinical and pharmacological characteristics of cardiac glycosides and non-glycoside positive inotropic drugs, antiarrhythmic drugs.	0	2	0	
5.	Topic 5. Clinical and pharmacological characteristics of anti-inflammatory drugs (nonsteroidal and steroidal).	0	2	0	
6.	Topic 6. Clinical and pharmacological characteristics of antibacterial drugs.	0	4	0	
7.	Topic 7. Clinical and pharmacological characteristics of drugs that affect bronchial patency. Clinical pharmacology of antiallergic drugs. Clinical pharmacology of psychotropic drugs.	0	2	0	
8.	Topic 8. Clinical and pharmacological characteristics of drugs that affect the functions of the gastrointestinal tract, hepatobiliary system and pancreas. Interaction of drugs, features of pharmacotherapy in children and old age.	0	2	0	



	Preparation and writing of the Protocol of drug pharmacodynamics research ”.				
<b>9.</b>	Topic 9. Final control of mastering the discipline	0	2	0	
	Independent / Individual work				1
	<b>Total hours - 20</b>	<b>0</b>	<b>20</b>	<b>0</b>	
	<b>ECTS credits - 1.0</b>				

### **Section 2 - Current issues of military therapy**

<b>10.</b>	Topic 10. Organization of therapeutic care in wartime and in emergencies in peacetime.	2	4	2	Report at clinical conferences of the bases of the department  Report of the abstract in a practical lesson.  Report of the patient's medical history in a practical lesson.  Writing abstracts, articles.
<b>11.</b>	Topic 11. Radiation damage. The concept of radiation injury, medical care at the stages of medical evacuation. Acute radiation sickness Atypical forms of radiation sickness. Stage treatment of patients with acute radiation sickness.	0	6	4	
<b>12.</b>	Topic 12. Diseases of the internal organs in combat surgical trauma and injuries in disasters and accidents in peacetime.	2	4	2	
<b>13.</b>	Topic 13. Burn disease. Diseases caused by exposure to thermal factors (heat and cold ). Prolonged compression syndrome.	0	6	2	
<b>14.</b>	Topic 14. Emergencies, providing therapeutic care in life-threatening conditions at the stages of medical evacuation. Combat mental trauma.	0	6	4	
<b>15.</b>	Topic 15. Defeat by poisonous substances in wartime and peace	0	4	3	
	Independent / individual work				
	<b>Total hours - 51</b>	<b>4</b>	<b>30</b>	<b>17</b>	
	<b>ECTS credits - 1.0</b>				

### **Section 3 - Occupational diseases in therapeutic practice**

*Features of diagnostics of occupational diseases*

<b>16.</b>	Topic 16. General issues of occupational pathology	1	2	1	
<i>Occupational diseases caused by dust aerosols</i>					
<b>17.</b>	Topic 17. Pneumoconiosis	1	2	1	
<i>Occupational toxic substances</i>					
<b>18.</b>	Topic 18. Occupational intoxication with benzene, amino and nitro compounds of benzene.	1	2	1	Report at clinical conferences of the bases of the department
<b>19.</b>	Topic 19. Occupational neurotoxicosis. Occupational intoxications used in agricultural work.	1	1	1	
<i>Diseases caused by physical factors and overexertion of certain organs and systems</i>					
<b>20.</b>	Topic 20. Vibration disease and neurosensory depression. Altitude and caisson diseases.	1	1	1	Report at clinical conferences of the bases of the department
<b>21.</b>	Topic 21. Occupational diseases caused by electromagnetic radiation and ultrasound, the action of adverse factors of the industrial microclimate.	1	0	1	
<b>22.</b>	Topic 22. Occupational diseases associated with overexertion of individual organs and systems.	0	1	2	
	Independent / individual work				1
	<b>Total hours - 23</b>	<b>6</b>	<b>9</b>	<b>8</b>	
	<b>ECTS credits - 1.0</b>				
<b>Section 4 - Current issues of clinical immunology and allergology</b>					
<i>Immune status, principles of assessment and ways of correction</i>					
<b>23.</b>	Topic №23. Structure and principles of functioning of the immune system.	2	1	0	Report of the abstract in a practical lesson.
<b>24.</b>	Topic №24. Immunological research methods. Basic rules for assessing immune status	0	2	0	
<i>Immunodeficiency diseases and immune-dependent pathology</i>					
<b>25.</b>	Topic № 25. Diseases of the immune system. Immunodeficiency diseases. Principles of immunodiagnostics,	0	2	0	Report at conferences

	immunotherapy, immunorehabilitation and immunoprophylaxis.				
<b>26.</b>	Topic №26. Immune aspects autoimmune pathology	0	2	0	
<i>Allergic diseases</i>					
<b>27.</b>	Topic №27. Atopic diseases	0	2	0	Writing abstracts for conferences
<b>28.</b>	Topic №28. Allergic (non-atopic) disease	2	2	0	
	Independent / individual work				
	<b>Total hours - 15</b>	<b>4</b>	<b>11</b>	<b>0</b>	
	<b>Credits - 1.0</b>				

*Section 5- Current issues of rheumatology*

<b>29.</b>	Rheumatic fever		4	3	Report at clinical conferences of the bases of the department Report of the abstract in a practical lesson. Report of the patient's medical history in a practical lesson. Writing abstracts, articles.
<b>30.</b>	Rheumatoid arthritis	2	5	4	
<b>31.</b>	Systemic connective tissue diseases	2	4	3	
<b>32.</b>	Systemic vasculitis	0	4	3	
<b>33.</b>	Osteoarthritis		4	3	
<b>34.</b>	Ankylosing spondylitis and reactive arthritis		4	4	
<b>35.</b>	Gout		4	4	
	Exam preparation	0	1	1	
	Preparing and writing a medical history				
	Independent / Individual work				<b>1</b>
	<b>Total hours - 59</b>	<b>4</b>	<b>30</b>	<b>25</b>	
	<b>ECTS credits -1.0</b>				
	<b>TOTAL BLOCK 1 year. - 168 LOANS - 5.0</b>	<b>18</b>	<b>100</b>	<b>50</b>	

**BLOCK 2. FUNDAMENTALS OF DIAGNOSIS, TREATMENT AND PREVENTION OF PATHOLOGY OF INTERNAL ORGANS**

*Section 6 - Basics of diagnosis, treatment and prevention of diseases of the urinary system*

<b>36.</b>	Topic 36. Glomerulonephritis and nephrotic syndrome and renal amyloidosis	0	5	3	Report at clinical conferences of the bases of the department Report of the abstract in a practical lesson. Report of the patient's medical history in a practical lesson.
<b>37.</b>	Topic 38. Pyelonephritis, tubulointerstitial nephritis	0	4	3	
<b>38.</b>	Topic 38. Chronic kidney disease	2	6	3	

<b>39.</b>	Topic 39. Acute renal failure.	0	4	3	Writing abstracts, articles.
	Exam preparation	0	1		
	Preparing and writing a medical history			2	
	Independent / Individual work				
	<b>Total hours - 36</b>	<b>2</b>	<b>20</b>	<b>14</b>	
	<b>ECTS credits -1.5</b>				

**Section 7 - Basics of diagnosis, treatment and prevention of respiratory diseases**

<b>40.</b>	Topic 40. Chronic obstructive pulmonary disease.	2	6	1	Report at clinical conferences of the bases of the department Report of the abstract in a practical lesson. Report of the patient's medical history in a practical lesson. Writing abstracts, articles.
<b>41.</b>	Topic 41. Bronchial asthma.	2	5	1	
<b>42.</b>	Topic 42. Pneumonia.	2	4	2	
<b>43.</b>	Topic 43. Pleurisy.	0	4	1	
<b>44.</b>	Topic 44. Infectious and destructive lung diseases.	0	4	1	
<b>45.</b>	Topic 45. Respiratory failure	0	4	2	
	Exam preparation				
	Preparing and writing a medical history	0	1	1	
	Independent / Individual work				<b>1</b>
	<b>Total hours - 43</b>	<b>6</b>	<b>28</b>	<b>9</b>	
	<b>ECTS credits -1.0</b>				

**Section 8 - Basics of diagnosis, treatment and prevention of diseases of the digestive system**

<b>46.</b>	Topic 46. Gastroesophageal reflux disease.	0	2	3	Report at clinical conferences of the bases of the department Report of the abstract in a practical lesson. Report of the patient's medical history in a practical lesson. Writing abstracts, articles.
<b>47.</b>	Topic 47. Dyspepsia. Chronic gastritis. Peptic ulcer of the stomach and duodenum.	2	2	3	
<b>48.</b>	Topic 48. Celiac disease and other enteropathies.	0	2	3	
<b>49.</b>	Topic 49. Inflammatory bowel disease. Irritable bowel syndrome.	0	4	3	

50.	Topic 50. Gallstone disease, chronic cholecystitis and functional biliary disorders.	0	4	3	
51.	Topic 51. Chronic hepatitis. Cirrhosis of the liver.	2	4	5	
52.	Topic 52. Chronic pancreatitis.	0	4	5	
	Exam preparation Preparing and writing a medical history	0	0	2	
	Independent / Individual work				1
	<b>Total hours - 53</b>	<b>4</b>	<b>22</b>	<b>27</b>	
	<b>ECTS credits -2.5</b>				
	<b>TOTAL HOURS FROM BLOCK 2– 132, Credits -5.0</b>	<b>12</b>	<b>70</b>	<b>50</b>	
	<b>TOTAL OF THE DISCIPLINE - 300 hours. ECTS CREDITS - 10.0</b>	<b>30</b>	<b>170</b>	<b>100</b>	

stenosis, malignancy). The value of instrumental and laboratory diagnostic methods. Methods of diagnosis of Hp infection. Tactics of patient management. Eradication therapy, control of eradication efficiency. Drug therapy of Hp-negative ulcers. Indications for surgical treatment. Primary and secondary prevention. Forecast and efficiency.

**Topic 48. Celiac disease and other enteropathies.** Definition. Etiology, pathogenesis. The role of intolerance of food components, immune factors and enzymopathies (lactose intolerance, fructose, galactose, etc.). Malabsorption and maldigestion syndromes. Diagnosis criteria, differential diagnosis. Complication. Differentiated therapy. Primary and secondary prevention. Forecast and efficiency.

**Topic 49. Inflammatory bowel disease. Irritable bowel syndrome.** Nonspecific ulcerative colitis and Crohn's disease: definition, etiology and pathogenesis. Classification. Features of the clinical course depending on the degree of activity, severity and phase of the course. Laboratory and instrumental diagnostics. Diagnosis criteria, differential diagnosis. Intestinal and extraintestinal complications and diseases associated with inflammatory bowel disease (toxic dilatation, perforation, sclerosing cholangitis, spondylitis, arthritis, dermatoses, uveitis, etc.). Treatment. Primary and secondary prevention. Forecast and efficiency.

Irritable bowel syndrome, definition .. Etiology and pathogenesis. Classification. Clinical manifestations of different variants. Roman diagnostic criteria. Differential diagnosis. Treatment of various forms. Primary and secondary prevention. Forecast and efficiency.

**Topic 50. Gallstone disease, chronic cholecystitis and functional biliary disorders.** Definition. Etiology, pathogenesis. Significance of infection, motility disorders and dyscholia in the development of chronic cholecystitis, cholangitis and gallstone disease. Classification. Features of the clinical course. Laboratory and instrumental diagnostic methods. Differential diagnosis. Complications of gallstone disease. Treatment . Indications for surgical treatment. Primary and secondary prevention. Forecast and efficiency.

**Topic 51. Chronic hepatitis. Cirrhosis of the liver.** Definition. Classification. The role of persistence of the virus, toxic and medicinal agents, immune disorders and alcohol. Methods of diagnosis of viral infection. Autoimmune hepatitis, chronic viral, toxic ( drug) hepatitis. Alcoholic liver disease. Basic clinical and biochemical syndromes. Features of the clinical course and diagnosis of individual forms. Differential diagnosis. Complication. Features of treatment of various forms. Primary and secondary prevention. Forecast and efficiency.

Determination of **liver cirrhosis**. Significance of viral infection, nutritional factors, alcohol, toxic substances and immune disorders. Classification. Features of clinical manifestations and diagnosis of different options. Differential diagnosis. Liver failure and other complications. Differentiated therapy. Urgent therapy for complications. Primary and secondary prevention. Forecast and efficiency.

**Topic 52. Chronic pancreatitis.** Definition. Significance of various etiological factors. Classification. Features of the clinical course, diagnosis and differential diagnosis depending on the form and location of the pathological process. Complication. Research methods in the diagnosis of pancreatitis. Differentiated treatment. Primary and secondary prevention. Forecast and efficiency.

**STRUCTURE OF THE COURSE**  
**"INTERNAL MEDICINE, INCLUDING CLINICAL PHARMACOLOGY, CLINICAL IMMUNOLOGY AND ALLERGOLOGY, OCCUPATIONAL DISEASES"**

**4.1. THEMATIC PLAN OF LECTURES**

<b>№ s / n</b>	<b>Topic</b>	<b>Number of hours</b>
1.	Organization of therapeutic care in wartime and in peacetime emergencies	2
2.	Diseases of the internal organs in combat surgical trauma and injuries in conditions of catastrophes and accidents in peacetime.	2
<b>TOGETHER</b>		<b>4</b>

**BLOCK 1. CURRENT ISSUES OF CLINICAL PHARMACOLOGY, MILITARY THERAPY, OCCUPATIONAL DISEASES, CLINICAL IMMUNOLOGY, ALLERGOLOGY AND TECHNOLOGY**

**Section 2**  
**Current issues of military therapy**

**Section 3**  
**Occupational diseases in therapeutic practice**

<b>№</b>	<b>Topic</b>	<b>Kiel - bone hours</b>
3.	General issues of occupational pathology	1
	Pneumoconiosis	1
4.	Occupational neurotoxicosis .	1
	Occupational benzene intoxication. Occupational intoxication with compounds used in agricultural work	1

5.	Vibration disease and neurosensory deafness. Altitude and caisson diseases	1
	Occupational diseases associated with overexertion of individual organs and systems	1
<b>Together</b>		<b>6</b>

#### **Section 4**

#### **Current issues of clinical immunology and allergology**

<b>Nº p / p</b>	<b>Topic</b>	<b>Number of hours</b>
6.	Principles of functioning of the immune system, clinical and laboratory assessment of its disorders.	2
7.	Allergic diseases. Classification, diagnosis and treatment, clinical examples.	2
<b>Total</b>		<b>4</b>

#### **Section 5.**

#### **Current issues of rheumatology**

<b>Nº s / n</b>	<b>Topic</b>	<b>Number of hours</b>
8.	Rheumatoid arthritis	2
9.	Systemic connective tissue diseases.	2
<b>TOGETHER</b>		<b>4</b>

**TOTAL LECTURES FROM BLOCK 1:18 p.m.**

### **BLOCK 2. FUNDAMENTALS OF DIAGNOSIS, TREATMENT AND PREVENTION OF PATHOLOGY OF INTERNAL ORGANS**

#### **Section 6.**

#### **Fundamentals of diagnosis, treatment and prevention of major diseases of the urinary system**

<b>Nº s / n</b>	<b>Topic</b>	<b>Number of hours</b>
10.	Chronic kidney disease	2
<b>TOGETHER</b>		<b>2</b>

#### **Section 7.**

#### **Basics of diagnosis, treatment and prevention of major respiratory diseases**

<b>Nº s / n</b>	<b>Topic</b>	<b>Number of hours</b>
11.	Chronic obstructive pulmonary disease.	2
12.	Bronchial asthma.	2
13.	Pneumonia.	2

**TOGETHER****6****Section 8****Fundamentals of diagnosis, treatment and prevention of major digestive diseases**

<b>№ s / n</b>	<b>Topic</b>	<b>Number of hours</b>
14.	Gastric dyspepsia. Chronic gastritis. Peptic ulcer of the stomach and duodenum.	2
15.	Chronic hepatitis. Cirrhosis of the liver.	2
<b>TOGETHER</b>		<b>4</b>

***BLOCK 2 LECTURES - 12 hours.***

***TOTAL LECTURES IN THE DISCIPLINE IN TWO BLOCKS: 30 hours.***

**4.2. THEMATIC PLAN OF PRACTICAL CLASSES**

**BLOCK 1. CURRENT ISSUES OF CLINICAL PHARMACOLOGY, MILITARY THERAPY, OCCUPATIONAL DISEASES, CLINICAL IMMUNOLOGY, ALLERGOLOGY AND TECHNOLOGY**

**Section 1****Current issues of clinical pharmacology**

<b>№ s / n</b>	<b>Topic</b>	<b>Number hours</b>
1.	Subject, tasks of clinical pharmacology. Clinical pharmacokinetics, pharmacodynamics of drugs.	2
2.	Clinical and pharmacological characteristics of antihypertensive and hypertensive drugs.	2
3.	Clinical and pharmacological characteristics of antianginal, antiischemic and hypolipidemic drugs.	2
4.	Clinical pharmacology of drugs that affect the ability of blood to coagulate (thrombolytics, anticoagulants, antiplatelets, coagulants).	2
5.	Clinical and pharmacological characteristics of anti-inflammatory drugs (nonsteroidal and steroidal).	2
6.	Clinical and pharmacological characteristics of antibacterial drugs.	4
7.	Clinical and pharmacological characteristics of drugs that affect bronchial patency.	2
8.	Clinical and pharmacological characteristics of drugs that affect the functions of the gastrointestinal tract, hepatobiliary system and pancreas.	2
9.	Final control of mastering the discipline - difzalik.	2
	<b>Together</b>	<b>20</b>



## Section 2

### Current issues of military therapy

Nº s / n	Topic	Number of hours
10.	Organization of therapeutic care in wartime and in emergencies in peacetime.	2
11.	Radiation damage. The concept of radiation injury, medical care at the stages of medical evacuation. Acute radiation sickness Atypical forms of radiation sickness. Stage treatment of patients with acute radiation sickness.	6
12.	Diseases of internal organs at combat surgical trauma and injuries in the conditions of catastrophes and accidents of peacetime	4
13.	Burn disease. Diseases caused by exposure to thermal factors (heat and cold ). Prolonged compression syndrome.	6
14.	Emergencies, providing therapeutic care in life-threatening conditions at the stages of medical evacuation. Combat mental trauma.	6
15.	Defeat by poisonous substances in wartime and peace.	6
<b>TOGETHER</b>		<b>30</b>

## Section 3

### Occupational diseases in therapeutic practice

Nº	Topic	Kiel - bone hours
16.	General issues of occupational pathology	2
17.	Pneumoconiosis	2
18.	Occupational neurotoxicosis	1
19.	Occupational intoxication with benzene, amino, nitro compounds of benzene. Occupational intoxication with compounds used in agricultural work	2
20.	Vibration disease and neurosensory deafness. Altitude and caisson diseases	1
21.	Occupational diseases associated with overexertion of individual organs and systems	1
	<b>Total</b>	<b>9</b>

## Section 4

### Current issues of clinical immunology and allergology

Nº topics	Name topics	Number of hours
22.	Structure and principles of functioning of the immune system.	1
23.	Immunological research methods. Basic rules for assessing immune status	2
24.	Congenital and acquired immunodeficiency states	2
25.	Immune aspects of autoimmune pathology	2
26.	Atopic diseases	2

27.	Allergic (non-atopic) diseases	2
<b>Total</b>		<b>11</b>

### **Section 5**

#### **Current issues of rheumatology**

<b>№ s / n</b>	<b>Topic</b>	<b>Number of hours</b>
28.	Rheumatic fever	4
29.	Rheumatoid arthritis	5
30.	Systemic connective tissue diseases	4
31.	Systemic vasculitis	4
32.	Osteoarthritis	4
33.	Ankylosing spondylitis and reactive arthritis	4
34.	Gout	4
	Exam preparation	<b>1</b>
	<b>TOGETHER</b>	<b>30</b>

**TOGETHER OF PRACTICAL CLASSES FROM BLOCK 1: 100.**

## **BLOCK 2. FUNDAMENTALS OF DIAGNOSIS, TREATMENT AND PREVENTION OF PATHOLOGY OF INTERNAL ORGANS**

### **Section 6**

#### **Fundamentals of diagnosis, treatment and prevention of major diseases of the urinary system**

<b>№ s / n</b>	<b>Topic</b>
35.	Glomerulonephritis and nephrotic syndrome and renal amyloidosis
36.	Pyelonephritis, tubulointerstitial nephritis
37.	Chronic kidney disease
38.	Acute renal failure.
	Exam preparation
	<b>TOGETHER</b>

### **Section 7**

#### **Basics of diagnosis, treatment and prevention of major respiratory diseases**

<b>№ s / n</b>	<b>Topic</b>
39.	Chronic obstructive pulmonary disease.
40.	Bronchial asthma.
41.	Pneumonia.
42.	Pleurisy.
43.	Infectious and destructive lung diseases.

44.	Respiratory failure.
	Exam preparation
<b>TOGETHER</b>	

### **Section 8**

#### **Fundamentals of diagnosis, treatment and prevention of major digestive diseases**

<b>№ s / n</b>	<b>Topic</b>	<b>Number of hours</b>
45.	Gastroesophageal reflux disease.	2
46.	Dyspepsia. Chronic gastritis. Peptic ulcer of the stomach and duodenum.	2
47.	Celiac disease and other enteropathies.	2
48.	Inflammatory bowel disease. Irritable bowel syndrome .	4
49.	Gallstone disease, chronic cholecystitis and functional biliary disorders.	4
50.	Chronic hepatitis. Cirrhosis of the liver.	4
51.	Chronic pancreatitis.	4
	<b>TOGETHER</b>	<b>22</b>

***PRACTICAL HOURS TOGETHER WITH UNIT 2: 70 hours.***

***TOGETHER FROM THE DISCIPLINE OF PRACTICAL HOURS: 170 hours.***

### **4.3. THEMATIC PLAN OF INDEPENDENT WORK OF STUDENTS**

<b>№ s / n</b>	<b>Topic</b>	<b>Number of hours</b>
<b>TOTAL NUMBER OF HOURS OF INDEPENDENT WORK</b>		
<b>BLOCK 1. CURRENT ISSUES OF CLINICAL PHARMACOLOGY, MILITARY THERAPY, OCCUPATIONAL DISEASES, CLINICAL IMMUNOLOGY, ALLERGOLOGY AND TECHNOLOGY</b>		
1	Preparation for practical classes - theoretical training and development of practical skills	38
2	Preparing and writing a medical history	2
3	Preparation for the final modular control	3
4	Individual work:	7

	<ul style="list-style-type: none"> <li>• Report of the abstract in a practical lesson.</li> <li>• Report at clinical conferences of departments.</li> <li>• Report of medical history in a practical lesson</li> <li>• Writing abstracts, articles</li> </ul>	
<b>Together with BLOCK 1</b>		<b>50 years</b>
<p><b>TOTAL NUMBER OF HOURS OF INDEPENDENT WORK</b></p> <p><b>BLOCK 2 . FUNDAMENTALS OF DIAGNOSIS, TREATMENT AND PREVENTION OF PATHOLOGY OF INTERNAL ORGANS</b></p>		
1	Preparation for practical classes - theoretical training and development of practical skills	37
2	Preparing and writing a medical history	3
3	Preparation for the final modular control	3
4	Individual work: <ul style="list-style-type: none"> <li>• Report of the abstract in a practical lesson.</li> <li>• Report at clinical conferences of departments.</li> <li>• Report of medical history in a practical lesson</li> <li>• Writing abstracts, articles</li> </ul>	7
<b>Together with BLOCK 2</b>		<b>50 years</b>

***TOTAL HOURS OF INDEPENDENT WORK ON THE DISCIPLINE: 100 hours.***

**BLOCK 1. CURRENT ISSUES OF CLINICAL PHARMACOLOGY, MILITARY THERAPY, OCCUPATIONAL DISEASES, CLINICAL IMMUNOLOGY, ALLERGOLOGY AND TECHNOLOGY**

1. Clinical pharmacodynamics, definition, place and role in the choice of pharmacotherapy.
2. Clinical pharmacokinetics, definitions, basic concepts, role in the choice of pharmacotherapy.
3. Classification of lipid-lowering drugs.
4. Mechanism of action, pharmacokinetics and pharmacodynamics, indications and contraindications to statins.
5. Classification of dyslipidemias. Differentiated approach to the use of lipid-lowering drugs.
6. Groups of drugs related to antianginal and antiischemic drugs.
7. Mechanism of action, pharmacological effects, indications and contraindications to the appointment of nitrates.
8. Mechanism of action, pharmacological effects, indications and contraindications to beta-blockers.

9. Mechanism of action, pharmacological effects, indications and contraindications to the appointment of calcium channel blockers.
10. Antiplatelet drugs. Classification. Mechanisms of action. Dosage methods.
11. Thrombolytic agents. Indications and contraindications to thrombolysis. Schemes of appointment.
12. Anticoagulants. Classification. Mechanisms of action. Side effects.
13. Principles of drug selection for the treatment of angina pectoris, acute myocardial infarction.
14. Classification of antihypertensive drugs.
15. Differentiated approach to the appointment of antihypertensive therapy in the presence of comorbidities (diabetes, asthma, pregnancy, old age, pheochromocytoma, etc.).
16. The mechanism of antihypertensive action, side effects when prescribing calcium channel blockers. Principles of dosing.
17. Mechanism of antihypertensive action, side effects when prescribing beta-blockers. Principles of dosing.
18. The mechanism of antihypertensive action, pharmacological effects, indications and contraindications, side effects when prescribing angiotensin-converting enzyme inhibitors. Principles of dosing.
19. Mechanism of antihypertensive action, pharmacological effects, indications and contraindications, side effects when prescribing angiotensin II receptor antagonists. Principles of dosing.
20. Principles of combined use of antihypertensive drugs.
21. Differentiated choice of drugs for the treatment of hypertensive crises.
22. Classification of antiarrhythmic drugs. Differentiated approach to the appointment of antiarrhythmic drugs.
23. Classification of cardiac glycosides. Principles of dosing. Cardiac and noncardiac effects of cardiac glycosides. Indications for use.
24. Clinical and ECG signs of cardiac glycoside intoxication. Principles of treatment of cardiac glycoside intoxication.
25. Differentiated choice of drugs for the treatment of cardiac asthma, pulmonary edema.
26. Classification of diuretic drugs.
27. Mechanism of action, pharmacokinetics and pharmacodynamics, indications and contraindications to the appointment of loop diuretics.
28. Mechanism of action, pharmacokinetics and pharmacodynamics, indications and contraindications for thiazide and thiazide-like diuretics. Principles of dosing.
29. Mechanism of action and pharmacological effects of potassium-sparing diuretics. Indications and contraindications to use. Dosing mode.
30. Differentiated approach to the choice of diuretic depending on the presence of comorbidities (effects on lipid and carbohydrate metabolism).
31. Classification of drugs that affect bronchial patency.
32. Mechanism of action, pharmacokinetics, indications and contraindications to the appointment of short-acting and long-acting beta-2 agonists. Principles of dosing.
33. Methylxanthines, mechanism of action, pharmacological effects, side effects. Principles of dosing.
34. Glucocorticosteroids. Pharmacokinetics and pharmacodynamics. Advantages of inhaled glucocorticoids. Dosage regimens.
35. Side effects that occur with long-term use of glucocorticosteroids.
36. Mucolytic drugs. Pharmacokinetics and pharmacodynamics. Dosage regimens.
37. Interaction of drugs. See. Clinical examples.
38. Types of side effects when using drugs.
39. Clinical and pharmacological classification of nonsteroidal anti-inflammatory drugs.
40. Mechanism of action, pharmacological effects of nonsteroidal anti-inflammatory drugs.

41. Indications and contraindications. Side effects with the use of nonsteroidal anti-inflammatory drugs, their prevention and treatment.
42. Modern principles of selection of antimicrobial drugs.
43. Adverse effects of antibacterial therapy, their prevention and treatment.
44. Classification, spectrum of activity, mechanism of action, features of clinical application of penicillins. Principles of dosing.
45. Classification, spectrum of activity, mechanism of action, features of clinical application of cephalosporins. Principles of dosing.
46. Spectrum of activity, mechanism of action, features of clinical application of carbapenems. Principles of dosing.
47. Classification, spectrum of activity, mechanism of action, features of clinical application of aminoglycosides. Principles of dosing.
48. Classification, spectrum of activity, mechanism of action, features of clinical application of macrolides. Principles of dosing.
49. Classification, spectrum of activity, mechanism of action, features of clinical application of fluoroquinolones. Principles of dosing.
50. Spectrum of activity, mechanism of action, features of clinical application of glycopeptides. Principles of dosing.
51. Spectrum of activity, mechanism of action, features of clinical application of nitroimidazoles and nitrofurans. Principles of dosing.
52. Clinical and pharmacological characteristics of drugs that stimulate gastrointestinal motor function. Principles of dosing.
53. Clinical and pharmacological characteristics of drugs that inhibit the motor-evacuatory function of the gastrointestinal tract. Principles of dosing.
54. Hepatoprotectors. Classification. Pharmacokinetics and pharmacodynamics. Indications and contraindications to the appointment. Principles of dosing.
55. Cholagogues and choleretics. Clinical and pharmacological features. Indications and contraindications to the appointment. Principles of dosing.
56. Polyzyme replacement therapy. Pharmacological features. Indications for use. Side effects. Principles of dosing.
57. The main biological tasks and functions of the body's immune system.
58. Classification of immune system organs. Apoptosis (concept and role in the functioning of the organism).
  - a. Classification of immunodeficiency states. Diagnostic criteria.
59. Classification of immunodeficiency states. Primary immunodeficiency states with disorders in the humoral (B-cell) and T-cell links: basic syndromes, features of the clinical course, diagnosis, principles of therapy.
60. Classification of immunodeficiency states. Primary immunodeficiency states with deficiency of phagocyte functions, insufficiency of the complement system and combined primary immunodeficiency states: basic syndromes, features of the clinical course, diagnosis, principles of therapy.
61. Acute rheumatic fever. Definition. The role of streptococcal infection and immunological reactivity in the development of acute rheumatic fever. Classification. Clinical picture (carditis, polyarthritis, chorea, skin lesions). The value of laboratory and instrumental research methods. Criteria for diagnosis. Differential diagnosis. Complications. Treatment taking into account the degree of activity. Primary and secondary prevention. Forecast and efficiency.
62. Systemic lupus erythematosus. Definition. Etiological factors and pathogenesis. Classification. Clinical manifestations depending on the damage to organs and systems and disease activity. The value of laboratory, including immunological, research methods. Diagnostic criteria. Differential diagnosis. Complication. Principles of treatment

taking into account the degree of activity. Pulse therapy. Prevention. Forecast and efficiency.

63. Systemic connective tissue diseases (systemic scleroderma, dermatomyositis). Definition. Etiological factors, pathogenesis. Classification. Clinical picture depending on the damage to organs and systems. Diagnostic criteria, Differential diagnosis. Complication. Principles of treatment. Prevention. Forecast and efficiency.
64. Systemic vasculitis. Hemorrhagic vasculitis (Shenlein-Genoch vasculitis), hypersensitive vasculitis, nodular polyarteritis. Definition. Etiology, pathogenesis. Clinical manifestations, diagnostic criteria. Differential diagnosis. Treatment. Prevention. Forecast and efficiency.
65. Rheumatoid arthritis. Definition. Etiology, pathogenesis. The role of immune status disorders in the development of the disease. Classification. Clinical picture taking into account the activity of the pathological process, the stage of the disease, systemic manifestations. The value of laboratory and instrumental methods for the diagnosis of the disease, its stage and activity. Criteria for diagnosis, the importance of the study of synovial fluid. Differential diagnosis. Complication. Treatment strategy. Basic therapy. Tactics of treatment with glucocorticoids and nonsteroidal anti-inflammatory drugs. Prevention. Forecast and efficiency.
66. Osteoarthritis. Definition. Etiology, pathogenesis. Classification. Clinical picture depending on the predominant location of the lesions. Diagnosis. Differential diagnosis. Drug and non-drug treatment. Primary and secondary prevention. Forecast and efficiency.
67. Gout. Definition. Etiology, pathogenesis. Classification. Features of the joint syndrome and lesions of internal organs. Criteria for diagnosis. Differential diagnosis. Complication. Drug and non-drug treatment. Prevention. Forecast and efficiency.
68. Seronegative spondyloarthropathy (ankylosing spondylitis, reactive arthritis). Ankylosing spondylitis. Definition. Etiology, pathogenesis. Classification. Clinical picture. The value of instrumental and laboratory methods. Criteria for diagnosis. Differential diagnosis. Drug and non-drug treatment. Prevention. Forecast and efficiency. Reactive arthritis. Definition. Etiology, pathogenesis. Classification. Clinical manifestations of reactive arthritis of various etiologies. Reiter's syndrome, the importance of laboratory and instrumental diagnostic methods. Diagnostic criteria, Differential diagnosis. Treatment, the role of antibacterial therapy. Primary and secondary prevention. Forecast and efficiency.
69. Organization of therapeutic care in wartime and in emergencies in peacetime. General issues of organization of therapeutic care in wartime and in emergencies in peacetime. Characteristics of modern combat therapeutic pathology . Structure and nature of sanitary losses of therapeutic profile. Principles of medical sorting of patients and victims of therapeutic profile. Types and scope of medical care for the affected and patients of therapeutic profile at the stages of medical evacuation.
70. Radiation damage. The concept of radiation injury, medical care at the stages of medical evacuation.
71. Acute radiation sickness. Stage treatment of patients with acute radiation sickness. Atypical forms of radiation sickness. Types of ionizing radiation, units of measurement and dosimetry. The main links of biological action of ionizing radiation and pathogenesis of the main clinical forms of radiation damage. Clinic and diagnosis of various forms of acute radiation sickness.
72. Features of radiation damage in peacetime. Classification of bone marrow form of acute radiation sickness. Features of the clinical picture in different periods of the disease. differential diagnostic criteria for the severity of the disease. identification of life-threatening conditions at each stage of the evacuation.
73. Principles of pathogenetic treatment of acute radiation sickness taking into account the leading manifestations of the disease. the amount of medical care at the stages of medical evacuation. Types of atypical forms of acute radiation sickness.

74. Features of the clinic of acute radiation sickness with external uneven irradiation, combined radiation damage, internal irradiation, combined irradiation, neutron lesions and prolonged exposure to small doses. Providing medical care at the stages of medical evacuation.
75. Diseases of the internal organs in combat surgical trauma and injuries in disasters and accidents in peacetime. Classification of pathological changes of internal organs in the wounded. General gunshot wound syndromes. Diseases of the internal organs in the wounded. Treatment of diseases of internal organs in the wounded at the stages of medical evacuation. Prevention.
76. Burn disease. Definition, pathogenesis and classification. The main clinical manifestations and complications. Diagnosis. Staged treatment of patients with burns. Features of treatment of burn shock.
77. Prolonged compression syndrome. Definition. Pathogenesis, classification, clinical manifestations. The amount of assistance at the stages of medical evacuation.
78. The concept of overheating, hypothermia. Complications from internal organs under the influence of thermal factors. Features of the clinic, diagnosis. Prevention and staged treatment.
79. Combat mental trauma and its consequences. The concept of acute reaction to combat stress and post-traumatic stress disorder. Features of the clinic, diagnosis. Emergency care in crisis situations.
80. Emergencies (acute heart failure, coma, fainting, acute respiratory failure, impaired water-electrolyte metabolism, etc.). Terminal states. Providing emergency care at the stages of medical evacuation.
81. Defeat by poisonous substances in wartime and peace. Classification of toxic substances. Mechanism of toxic action. Clinical manifestations of lesions of toxic substances (chlorine-containing, fluorine-containing, carbon monoxide, ammonia, cyanides, etc.). Diagnosis. Stage treatment of those affected by toxic substances. Volumes of medical care.

### **Questions of occupational pathology**

Occupational pathology as a clinical discipline. Classification of occupational diseases.

Historical information on the development of occupational pathology.

Organization of occupational pathology service and structure of occupational morbidity in Ukraine.

Features of clinical examination and diagnosis of occupational diseases.

Organization and conduct of preliminary and periodic medical examinations of employees.

Principles of prevention of occupational diseases and poisonings.

Medical and labor examination for occupational diseases, medical and occupational rehabilitation.

Pneumoconiosis: etiology, pathogenesis, classification, diagnosis. Treatment.

The main issues of prevention of pneumoconiosis. Examination of working capacity.

Silicosis. Pathogenesis. Clinical picture. Diagnosis. Treatment. Examination of working capacity.



. Coniotuberculosis. Pathogenesis. Classification. Clinic. Diagnosis. Treatment. Prevention. Examination of working capacity.  
. Silicosis (asbestosis, cement pneumoconiosis). Clinical picture. Diagnosis. Treatment. Examination of working capacity.  
. Carboconiosis (anthracnose, graphitosis). Clinical picture. Diagnosis. Treatment. Examination of working capacity.  
. Metalloconiosis (siderosis, aluminosis). Clinical picture. Diagnosis. Treatment. Examination of working capacity.  
. Pneumoconiosis of electric welders. Clinical picture. Diagnosis. Treatment. Prevention. Examination of working capacity.  
. Hypersensitive pneumonia. Features of the clinical course. Diagnosis.

. Berylliosis. Pathogenesis. Clinic. Diagnosis. Treatment. Prevention. Examination of working capacity.  
. Bisinosis. Features of the clinical picture. Diagnosis. Treatment. Examination of working capacity.  
. Exogenous allergic alveolitis. Etiology. Pathogenesis. Clinical manifestations. Diagnosis. Prevention. Issues of medical and labor examination and labor rehabilitation.  
. Chronic obstructive disease of lung dust etiology. Reasons. Pathogenesis. Classification. Clinic. Differential diagnosis. Treatment. Prevention. Examination of working capacity.  
. Benzene intoxication. Classification. Mechanism of action. Clinical picture. Diagnosis. Treatment. Prevention. Examination of working capacity.  
. Intoxication by amino and nitro compounds. Pathogenesis. Clinical picture. Diagnosis. Treatment. Examination of working capacity. Prevention.  
. Carbon (II) oxide poisoning. Mechanism of action. Classification. Clinical picture. Diagnosis. Examination of working capacity.  
. Lead intoxication . Features of the clinical picture. Forms of the disease.

. The main diagnostic criteria of sideroachrestic anemia in lead intoxication

. Methods of treatment of lead intoxication. Preventive measures. Examination of working capacity.  
. Modern ideas about the mechanism of action of toxic and chemical agents on the development of pathology of the bronchopulmonary system.  
. Acute respiratory lesions of toxic-chemical etiology. Pathogenesis, clinic, diagnosis, treatment, examination of efficiency, prevention.

. Chronic lung lesions of toxic-chemical etiology. Pathogenesis. Clinic. Diagnosis. Treatment. Prevention. Examination of working capacity.  
. Mercury poisoning . Pathogenesis. Classification, clinical picture. Diagnosis. Treatment. Prevention. Examination of working capacity.  
. Manganese poisoning. Pathogenesis. Classification ". Clinic. Diagnosis. Treatment. Prevention. Examination of working capacity.

- . Tetraethyl lead poisoning. Mechanism of action. Classification. Clinic. Treatment. Prevention. Examination of working capacity.
- . Poisoning by organochlorine compounds. Pathogenesis. Clinical picture. Treatment. Examination of working capacity. Prevention.
- . Poisoning by organophosphorus compounds. Pathogenesis. Clinic. Treatment. Examination of working capacity. Prevention.
- . Poisoning by organomercury compounds. Pathogenesis. Clinic. Treatment. Examination of working capacity. Prevention.
- . Basic principles of emergency care and antidote therapy for acute occupational poisoning.
- . Occupational bronchial asthma. Characteristics of allergens that cause occupational bronchial asthma.
- . Classification of occupational bronchial asthma. Pathogenesis.
- . Clinical manifestations of occupational bronchial asthma. Features of diagnostics. Prevention. Examination of working capacity.
- . Vibration disease due to local vibration. Pathogenesis, classification, features of clinic, diagnostics, differential diagnostics, treatment, examination of working capacity, prevention.
- . Vibration disease due to the action of general vibration. Pathogenesis, classification, features of clinic, diagnostics, differential diagnostics, treatment, examination of working capacity, prevention.
- . Methods of laboratory and instrumental diagnosis of vibration pathology.
- . Neurosensory deafness. Pathogenesis, classification, clinic, diagnosis, treatment, examination of efficiency, prevention.
- . Caisson disease. Pathogenesis. Clinic. Diagnosis. Treatment. Prevention. Examination of working capacity.
- . Altitude sickness. Mechanism of action of reduction of partial pressure of oxygen in the inhaled air. Clinic. Treatment. Prevention.
- . Influence of electromagnetic waves of radio frequencies on a human body. Mechanism of action. The main clinical syndromes. Treatment. Prevention. Examination of working capacity.
- . Occupational diseases caused by ultrasound.
- . Overheating in the production environment. Pathogenesis. Clinical picture. Diagnosis. Treatment. Prevention. Examination of working capacity.
- . Supercooling in a production environment. Pathogenesis. Clinical picture. Diagnosis. Treatment. Prevention. Examination of working capacity.
- . Identify the main professions that belong to the risk group for the development of occupational diseases of the musculoskeletal system.
- . The main clinical forms of occupational dyskinesias. Pathogenesis. Clinical picture. Diagnosis. Treatment. Prevention. Examination of working capacity.
- . Differential diagnosis of occupational diseases of the musculoskeletal system.
- . Chronic myofibrosis. Pathogenesis. Clinical picture. Diagnosis. Treatment. Prevention. Examination of working capacity.
- . Bursitis. Pathogenesis. Clinical picture. Diagnosis. Treatment. Prevention. Examination of working capacity.
- . Periarthritis of the shoulder joint. Pathogenesis. Clinic. Diagnosis. Treatment. Prevention. Examination of working capacity.
- . Mono- and polyneuropathy of the upper and lower extremities. Vegetative- sensory radiculopathy and radiculomyelopathy. Clinical picture. Diagnosis. Treatment. Prevention.

Examination of working capacity.

## **BLOCK 2. FUNDAMENTALS OF DIAGNOSIS, TREATMENT AND PREVENTION OF PATHOLOGY OF INTERNAL ORGANS**

1. Glomerulonephritis. Definition. Etiology, role of streptococcal infection and immunological disorders in the development of the disease. Pathogenesis. Classification. Clinical manifestations and diagnosis of some forms. Differential diagnosis. Complications (eclampsia, acute left ventricular failure, etc.). Treatment taking into account the morphological variant and clinical course. Primary and secondary prevention. Forecast and efficiency.
2. Amyloidosis. Definition. Etiology. Pathogenesis. Classification. Clinical manifestations of renal amyloidosis. Diagnostic criteria. Differential diagnosis. Complication. Treatment. Primary and secondary prevention. Forecast and efficiency.
3. Pyelonephritis. Definition. The role of infection in inflammatory diseases of the kidneys and urinary tract. Classification. Clinical manifestations. Instrumental and laboratory diagnostic methods. Differential diagnosis. Complication. Treatment. Primary and secondary prevention. Forecast and efficiency.
4. Tubulointerstitial nephritis. Definition. Etiology. Pathogenesis. Clinical manifestations. Diagnostic criteria and differential diagnosis. Complication. Treatment. Primary and secondary prevention. Forecast and efficiency.
5. Acute kidney damage. Chronic kidney disease. Definition. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Classification. Clinic and changes in laboratory parameters depending on the stage. Differential diagnosis. Complication. Treatment at different stages. Renal replacement therapy: hemodialysis, kidney transplantation. Indications and contraindications to renal replacement therapy, complications. Primary and secondary prevention. Forecast and efficiency.
6. Chronic obstructive pulmonary disease. Definition. The importance of smoking, environmental, occupational factors and infection in the development of chronic obstructive pulmonary disease. Classification. Clinical manifestations, data of laboratory and instrumental research methods. Differential diagnosis. Complication. Treatment. Primary and secondary prevention. Forecast and efficiency.
7. Bronchial asthma. Definition. Etiology, features of pathogenesis. Classification. Clinical manifestations, data of laboratory and instrumental research methods. Differential diagnosis. Complication. Treatment. Emergency care for asthma attacks. Primary and secondary prevention. Forecast and efficiency.
8. Pneumonia. Definition. Etiology. Classification. Clinical manifestations and features of the course depending on the pathogen. D or laboratory and instrumental methods. Differential diagnosis. Complications (acute respiratory distress syndrome, destruction of lung tissue, acute respiratory failure and others). Differentiated treatment. Primary and secondary prevention. Forecast and efficiency.
9. Pleurisy. Definition. Etiological factors. Classification. Clinical manifestations, data of laboratory and instrumental research methods. Differential diagnosis. Complication. Indications for pleural puncture and drainage of the pleural cavity. Treatment. Primary and secondary prevention. Forecast and efficiency.
10. Infectious and destructive lung diseases. Definition. Factors that contribute to the development of bronchiectasis, abscess and lung gangrene. Clinical manifestations, data of laboratory and instrumental research methods. Differential

- diagnosis. Complication. Treatment. Indications for surgical treatment. Primary and secondary prevention. Forecast and efficiency.
11. Respiratory failure. Definition. Classification. Causes. Features of the clinical course of different forms. Diagnosis, study of the function of external respiration, arterial and venous blood gases, indicators of acid-base status of blood. Differential diagnosis. Therapeutic tactics. Primary and secondary prevention. Forecast and efficiency.
  12. Gastroesophageal reflux disease. Definition. Etiology, pathogenesis. Classification. Erosive and non-erosive GERD. Clinical manifestations depending on the variant and stage. Data of laboratory and instrumental research methods. Diagnosis criteria, differential diagnosis. Complication. Differentiated therapy. Primary and secondary prevention.
  13. Dyspepsia .. Definition of dyspepsia. Etiology and pathogenesis. The role of *N. rulari* in the occurrence of gastroduodenal pathology. Classification. Unexplored and functional dyspepsia. Criteria for diagnosis. Differential diagnosis. Modern approaches to the treatment of functional dyspepsia. Primary and secondary prevention. Forecast and efficiency.
  14. Chronic gastritis Definition, etiology and pathogenesis of chronic gastritis. The role of *N. rulari* in the occurrence of chronic gastritis. Classification. Clinical manifestations, data of laboratory and instrumental research methods. The value of endoscopic (with morphology) research. Modern approaches to the treatment of various types of chronic gastritis. Primary and secondary prevention. Forecast and efficiency.
  15. Peptic ulcer of the stomach and duodenum. Definition. The main causes of peptic ulcers (*H. pylori*, medications, etc.). Classification. Clinical manifestations. Complications (perforation, penetration, bleeding, stenosis, malignancy). The value of instrumental and laboratory diagnostic methods. Methods of diagnosis of *Hp* infection. Tactics of patient management. Eradication therapy, control of eradication efficiency. Drug therapy of *Hp*-negative ulcers. Indications for surgical treatment. Primary and secondary prevention. Forecast and efficiency.
  16. Celiac disease and other enteropathies. Definition. Etiology, pathogenesis. The role of intolerance of food components, immune factors and enzymopathies (lactose intolerance, fructose, galactose, etc.). Malabsorption and maldigestion syndromes. Diagnosis criteria, differential diagnosis. Complication. Differentiated therapy. Primary and secondary prevention. Forecast and efficiency.
  17. Inflammatory bowel disease. Nonspecific ulcerative colitis and Crohn's disease: definition, etiology and pathogenesis. Classification. Features of the clinical course depending on the degree of activity, severity and phase of the course. Laboratory and instrumental diagnostics. Diagnosis criteria, differential diagnosis. Intestinal and extraintestinal complications and diseases associated with inflammatory bowel disease (toxic dilatation, perforation, sclerosing cholangitis, spondylitis, arthritis, dermatoses, uveitis, etc.). Treatment. Primary and secondary prevention. Forecast and efficiency.
  18. Irritable bowel syndrome, definition .. Etiology and pathogenesis. Classification. Clinical manifestations of different variants. Roman diagnostic criteria. Differential diagnosis. Treatment of various forms. Primary and secondary prevention. Forecast and efficiency.
  19. Gallstone disease, chronic cholecystitis and functional biliary disorders. Definition. Etiology, pathogenesis. Significance of infection, motility disorders and dyscholia in the development of chronic cholecystitis, cholangitis and gallstone disease. Classification. Features of the clinical course. Laboratory and instrumental diagnostic methods. Differential diagnosis. Complications of gallstone disease. Treatment. Indications for surgical treatment. Primary and secondary prevention. Forecast and efficiency.

20. Chronic hepatitis. Definition. Classification. The role of persistence of the virus, toxic and medicinal agents, immune disorders and alcohol. Methods of diagnosis of viral infection. Autoimmune hepatitis, chronic viral, toxic ( drug) hepatitis. Alcoholic liver disease. Basic clinical and biochemical syndromes. Features of the clinical course and diagnosis of individual forms. Differential diagnosis. Complication. Features of treatment of various forms. Primary and secondary prevention. Forecast and efficiency.
21. Cirrhosis of the liver. Definition. Significance of viral infection, nutritional factors, alcohol, toxic substances and immune disorders. Classification. Features of clinical manifestations and diagnosis of different options. Differential diagnosis. Liver failure and other complications. Differentiated therapy. Urgent therapy for complications. Primary and secondary prevention. Forecast and efficiency.
22. Chronic pancreatitis. Definition. Significance of various etiological factors. Classification. Features of the clinical course, diagnosis and differential diagnosis depending on the form and location of the pathological process. Complication. Research methods in the diagnosis of pancreatitis. Differentiated treatment. Primary and secondary prevention. Forecast and efficiency.

### **Individual tasks**

Selection and review of scientific literature on the subject of the program of internal medicine of the student's choice with the writing of an abstract and its public defense.

Selection and review of scientific literature on the subject of research work of the department with the preparation of a scientific report at a meeting of the SNT or at student conferences.

Scientific research on the topic of research work of the department with the publication of results in scientific journals.

At the request of the student during the study of relevant topics, he can perform individual work, which is carried out in extracurricular activities and if it is successfully completed, it is additionally evaluated by the teacher.

The list and content of individual tasks can be determined in each case depending on the logistics of the departments.

Approximate list of individual tasks:

1. Interrogation of an indicative patient, his general examination and examination of the head, neck, extremities with the selection of the main symptoms and syndromes of the disease.
2. Carrying out of researches of function of external respiration at indicative patients, processing of the received data and the report at employment
3. Registration ECG part in instrumental studies of the cardiovascular system by - kazovyh patients with data processing and presentation in class
4. Carrying out of physical and instrumental inspection of the demonstrative patient with preparation of the review of scientific literature concerning the investigated case
5. Work with the literature and other sources of information and preparation of an abstract report on modern methods of examination of patients in the clinic of internal medicine
6. Work with the literature and other sources of information and preparation of an abstract report on the features of the syndrome diagnosis of a disease with a typical course, selected at the request of the student

### **Tasks for independent work**

The basic list of types of independent work of students, developed in accordance with the structure of the discipline, is presented in the section "Independent work". Mandatory type of independent work of students is the supervision of patients and writing a detailed medical history, which is provided in the study of the relevant tasks for independent work are:

1. Weekly observation of a patient (questioning, physical examination, evaluation of the results of instrumental and laboratory examinations) with pathology of the cardiovascular system with writing a medical history and presenting a clinical case in practice
2. Weekly observation of a patient (questioning, physical examination, evaluation of the results of instrumental and laboratory examinations) with pathology of the broncho-pulmonary system with writing a medical history and presenting a clinical case in practice
3. Weekly observation of a patient (questioning, physical examination, evaluation of the results of instrumental and laboratory examinations) with pathology of the digestive system with writing a medical history and presenting a clinical case in practice
4. Weekly observation of a patient (questioning, physical examination, evaluation of the results of instrumental and laboratory examinations) with pathology of the urinary system with writing a medical history and presenting a clinical case in practice
5. Weekly observation of a patient (questioning, physical examination, evaluation of the results of instrumental and laboratory examinations) with pathology of the endocrine system with writing a medical history and presenting a clinical case in practice
6. Weekly observation of a patient (questioning, physical examination, evaluation of the results of instrumental and laboratory examinations) with pathology of the hematopoietic system with writing a medical history and presenting a clinical case in practice

The student independently chooses the disease for which he will conduct curation (questioning, examination) of the patient.

### **Typical test problems to be solved in practical classes:**

1. A 22-year-old woman notices rapid fatigue. From early childhood doctors

listened to her noise in the heart. Pulse 87 / min, rhythmic. Blood pressure 95/60 mm Hg  
The percussion boundaries of the heart are not changed. Systolic murmur is best heard in the second intercostal space  
to the left of the sternum, the second tone is weakened. On the chest radiograph - enlargement trunk and left branch of the pulmonary artery. Most likely in the patient

- A* Pulmonary artery stenosis
- B* Aortic valve stenosis
- C* Functional systolic murmur
- D* Mitral valve prolapse
- E* Pulmonary artery valve insufficiency

2. A 35-year-old woman was taken with complaints of severe diffuse pain throughout the abdomen,

nausea, vomiting. The deterioration occurred 2 days before hospitalization, when on the skin limbs there was a small-spot hemorrhagic rash, there were cramping pains in abdominal, bloody discharge from the rectum. 2 weeks before that she suffered acute

viral infection. Objectively: blood pressure 90/60 mm Hg. st., heart rate? 95 / min, abdomen on palpation

tense, there are symptoms of peritoneal irritation. In the study of blood neutrophilic leukocytosis and eosinophilia, decrease in number are observed erythrocytes and hemoglobin. What diagnosis can be made in a patient?

- A** Hemorrhagic vasculitis
- B** Hemophilia
- C** Thrombocytopenic purpura
- D** Crohn's disease
- E** Hemorrhoidal bleeding

**3.** A 50-year-old patient complains of severe weakness, dizziness, spots on the skin. Moon

ago I had a sore throat, was treated with antibiotics. Objectively:

the general condition is severe, the skin and mucous membranes are pale. On the skin of the face and torso

spots of different sizes, blue and brown. On palpation of the abdomen painless, the liver +1.5 cm protrudes from the edge of the right costal arch. General blood test: EP - 1,2? 1012 / l, HB - 50 g / l, KP 0,70, thrombocytes - 2? 109 / l, anisopoikilocytosis. ESR - 55 mm / year. What is the previous diagnosis?

- A** Thrombocytopenic purpura
- B** Hemorrhagic vasculitis, abdominal form
- C** Acute posthemorrhagic anemia
- D** Myeloma
- E** Hemophilia

#### **4.4. Ensuring the educational process**

1. Multimedia projectors, computers, screens for multimedia presentations, lecture presentations.

2. Demonstration screens, laptops, files in Power Point and Word with tasks "Step-2" for practical and final classes.

3. Exam tickets.

When studying the discipline , all types of teaching methods recommended for higher education are used, namely:

- by sources of knowledge: verbal (explanation, lecture, conversation, discussion); visual (demonstration); practical (practical work, mastering practical skills), on which special emphasis is placed on the study of the discipline;

- by the logic of the educational process: analytical (selection of individual symptoms of the disease), synthetic (clarification of the relationship of symptoms and selection of disease syndromes), their combination - analytical-synthetic, as well as inductive method (mainly in the study of block 1), deductive (in the study block 2), their combination - a translational method (in the study of both blocks);

- by the level of independent mental activity: problem, partial-search, research.

Combining and generalizing the above teaching methods, when studying the discipline it is advisable to implement such methods of organizing classes as:

- method of clinical cases,
- problem-research method,

- method of individual educational and research tasks,
- method of competitive groups,
- method of training technologies,
- method of conducting scientific conferences with the use of interactive, interdisciplinary and information and computer technologies

Types of educational activities of the student, according to the curriculum, are lectures, practical classes, independent work of students.

Lecture and practical stages of students' learning are formed in such a sequence, if possible, that the topics of lectures precede practical classes.

Practical classes lasting 2 academic hours (80 minutes) are held in a therapeutic clinic (therapeutic department) and consist of four structural parts:

- 1) mastering the theoretical part of the topic,
- 2) demonstration by the teacher of methods of research of the thematic patient,
- 3) the work of students to practice practical skills at the patient's bedside under the supervision of a teacher,
- 4) solving situational problems and test-control of mastering the material.

When conducting practical classes, the main place is occupied by mastering practical skills in physical examination of the patient and working directly with patients.

On the basis of mastering clinical methods of examination of the patient, the ability to synthesize and interpret, evaluate and analyze them, the student develops clinical thinking and skills of diagnosis, appointment of additional examination and therapeutic treatment, which is the main task of internal medicine.

Independent work of students occupies an important place in the study of the discipline. In addition to traditional pre-classroom training on theoretical issues of internal medicine, it includes students' work in therapeutic departments, clinical laboratories and functional diagnostics departments in extracurricular activities, the effectiveness of which should be ensured by teachers and support staff of internal medicine. Independent work includes curation of patients with writing a medical history, which involves questioning and complete physical examination of the patient to identify the leading syndromes and symptoms, the appointment of diagnostic manipulations and participation in the algorithm of medical care for this patient.

## **5. Final control**

### **List of final control (exam) questions**

#### **BLOCK 1. CURRENT ISSUES OF CLINICAL PHARMACOLOGY, MILITARY THERAPY, OCCUPATIONAL DISEASES, CLINICAL IMMUNOLOGY, ALLERGOLOGY AND TECHNOLOGY**

1. Clinical pharmacodynamics, definition, place and role in the choice of pharmacotherapy.
2. Clinical pharmacokinetics, definitions, basic concepts, role in the choice of pharmacotherapy.
3. Classification of lipid-lowering drugs.
4. Mechanism of action, pharmacokinetics and pharmacodynamics, indications and contraindications to statins.
5. Classification of dyslipidemias. Differentiated approach to the use of lipid-lowering drugs.
6. Groups of drugs related to antianginal and antiischemic drugs.



7. Mechanism of action, pharmacological effects, indications and contraindications to the appointment of nitrates.
8. Mechanism of action, pharmacological effects, indications and contraindications to beta-blockers.
9. Mechanism of action, pharmacological effects, indications and contraindications to the appointment of calcium channel blockers.
10. Antiplatelet drugs. Classification. Mechanisms of action. Dosage methods.
11. Thrombolytic agents. Indications and contraindications to thrombolysis. Schemes of appointment.
12. Anticoagulants. Classification. Mechanisms of action. Side effects.
13. Principles of drug selection for the treatment of angina pectoris, acute myocardial infarction.
14. Classification of antihypertensive drugs.
15. Differentiated approach to the appointment of antihypertensive therapy in the presence of comorbidities (diabetes, asthma, pregnancy, old age, pheochromocytoma, etc.).
16. The mechanism of antihypertensive action, side effects when prescribing calcium channel blockers. Principles of dosing.
17. Mechanism of antihypertensive action, side effects when prescribing beta-blockers. Principles of dosing.
18. The mechanism of antihypertensive action, pharmacological effects, indications and contraindications, side effects when prescribing angiotensin-converting enzyme inhibitors. Principles of dosing.
19. Mechanism of antihypertensive action, pharmacological effects, indications and contraindications, side effects when prescribing angiotensin II receptor antagonists. Principles of dosing.
20. Principles of combined use of antihypertensive drugs.
21. Differentiated choice of drugs for the treatment of hypertensive crises.
22. Classification of antiarrhythmic drugs. Differentiated approach to the appointment of antiarrhythmic drugs.
23. Classification of cardiac glycosides. Principles of dosing. Cardiac and noncardiac effects of cardiac glycosides. Indications for use.
24. Clinical and ECG signs of cardiac glycoside intoxication. Principles of treatment of cardiac glycoside intoxication.
25. Differentiated choice of drugs for the treatment of cardiac asthma, pulmonary edema.
26. Classification of diuretic drugs.
27. Mechanism of action, pharmacokinetics and pharmacodynamics, indications and contraindications to the appointment of loop diuretics.
28. Mechanism of action, pharmacokinetics and pharmacodynamics, indications and contraindications for thiazide and thiazide-like diuretics. Principles of dosing.
29. Mechanism of action and pharmacological effects of potassium-sparing diuretics. Indications and contraindications to use. Dosing mode.
30. Differentiated approach to the choice of diuretic depending on the presence of comorbidities (effects on lipid and carbohydrate metabolism).
31. Classification of drugs that affect bronchial patency.
32. Mechanism of action, pharmacokinetics, indications and contraindications to the appointment of short-acting and long-acting beta-2 agonists. Principles of dosing.
33. Methylxanthines, mechanism of action, pharmacological effects, side effects. Principles of dosing.
34. Glucocorticosteroids. Pharmacokinetics and pharmacodynamics. Advantages of inhaled glucocorticoids. Dosage regimens.
35. Side effects that occur with long-term use of glucocorticosteroids.

36. Mucolytic drugs. Pharmacokinetics and pharmacodynamics. Dosage regimens.
37. Interaction of drugs. See. Clinical examples.
38. Types of side effects when using drugs.
39. Clinical and pharmacological classification of nonsteroidal anti-inflammatory drugs.
40. Mechanism of action, pharmacological effects of nonsteroidal anti-inflammatory drugs.
41. Indications and contraindications. Side effects with the use of nonsteroidal anti-inflammatory drugs, their prevention and treatment.
42. Modern principles of selection of antimicrobial drugs.
43. Adverse effects of antibacterial therapy, their prevention and treatment.
44. Classification, spectrum of activity, mechanism of action, features of clinical application of penicillins. Principles of dosing.
45. Classification, spectrum of activity, mechanism of action, features of clinical application of cephalosporins. Principles of dosing.
46. Spectrum of activity, mechanism of action, features of clinical application of carbapenems. Principles of dosing.
47. Classification, spectrum of activity, mechanism of action, features of clinical application of aminoglycosides. Principles of dosing.
48. Classification, spectrum of activity, mechanism of action, features of clinical application of macrolides. Principles of dosing.
49. Classification, spectrum of activity, mechanism of action, features of clinical application of fluoroquinolones. Principles of dosing.
50. Spectrum of activity, mechanism of action, features of clinical application of glycopeptides. Principles of dosing.
51. Spectrum of activity, mechanism of action, features of clinical application of nitroimidazoles and nitrofurans. Principles of dosing.
52. Clinical and pharmacological characteristics of drugs that stimulate gastrointestinal motor function. Principles of dosing.
53. Clinical and pharmacological characteristics of drugs that inhibit the motor-evacuatory function of the gastrointestinal tract. Principles of dosing.
54. Hepatoprotectors. Classification. Pharmacokinetics and pharmacodynamics. Indications and contraindications to the appointment. Principles of dosing.
55. Cholagogues and choleretics. Clinical and pharmacological features. Indications and contraindications to the appointment. Principles of dosing.
56. Polyzyme replacement therapy. Pharmacological features. Indications for use. Side effects. Principles of dosing.
57. The main biological tasks and functions of the body's immune system.
58. Classification of immune system organs. Apoptosis (concept and role in the functioning of the organism).

Classification of immunodeficiency states. Diagnostic criteria.

59. Classification of immunodeficiency states. Primary immunodeficiency states with disorders in the humoral (B-cell) and T-cell links: basic syndromes, features of the clinical course, diagnosis, principles of therapy.
60. Classification of immunodeficiency states. Primary immunodeficiency states with deficiency of phagocyte functions, insufficiency of the complement system and combined primary immunodeficiency states: basic syndromes, features of the clinical course, diagnosis, principles of therapy.

61. Acute rheumatic fever. Definition. The role of streptococcal infection and immunological reactivity in the development of acute rheumatic fever. Classification. Clinical picture (carditis, polyarthritis, chorea, skin lesions). The value of laboratory and instrumental research methods . Criteria for diagnosis. Differential diagnosis Complications. Treatment taking into account the degree of activity. Primary and secondary prevention. Forecast and efficiency.
62. Systemic lupus erythematosus. Definition. Etiological factors and pathogenesis. Classification. Clinical manifestations depending on the damage to organs and systems and disease activity. The value of laboratory, including immunological, research methods. Diagnostic criteria. Differential diagnosis. Complication. Principles of treatment taking into account the degree of activity. Pulse therapy. Prevention. Forecast and efficiency.
63. Systemic connective tissue diseases (systemic scleroderma, dermatomyositis). Definition. Etiological factors, pathogenesis. Classification. Clinical picture depending on the damage to organs and systems. Diagnostic criteria, Differential diagnosis. Complication. Principles of treatment. Prevention. Forecast and efficiency.
64. Systemic vasculitis. Hemorrhagic vasculitis (Shenlein-Genoch vasculitis), hypersensitive vasculitis, nodular polyarteritis. Definition. Etiology, pathogenesis. Clinical manifestations, diagnostic criteria. Differential diagnosis. Treatment. Prevention. Forecast and efficiency.
65. Rheumatoid arthritis. Definition. Etiology, pathogenesis. The role of immune status disorders in the development of the disease. Classification. Clinical picture taking into account the activity of the pathological process, the stage of the disease, systemic manifestations. The value of laboratory and instrumental methods for the diagnosis of the disease, its stage and activity. Criteria for diagnosis, the importance of the study of synovial fluid. Differential diagnosis. Complication. Treatment strategy. Basic therapy. Tactics of treatment with glucocorticoids and nonsteroidal anti-inflammatory drugs. Prevention. Forecast and efficiency.
66. Osteoarthritis. Definition. Etiology, pathogenesis. Classification. Clinical picture depending on the predominant location of the lesions. Diagnosis. Differential diagnosis. Drug and non-drug treatment. Primary and secondary prevention. Forecast and efficiency.
67. Gout. Definition. Etiology, pathogenesis. Classification. Features of the joint syndrome and lesions of internal organs. Criteria for diagnosis. Differential diagnosis. Complication. Drug and non-drug treatment. Prevention. Forecast and efficiency.
68. Seronegative spondyloarthropathy (ankylosing spondylitis, reactive arthritis). Ankylosing spondylitis. Definition. Etiology, pathogenesis. Classification. Clinical picture. The value of instrumental and laboratory methods. Criteria for diagnosis. Differential diagnosis. Drug and non-drug treatment. Prevention. Forecast and efficiency. Reactive arthritis. Definition. Etiology, pathogenesis. Classification. Clinical manifestations of reactive arthritis of various etiologies. Reiter's syndrome, the importance of laboratory and instrumental diagnostic methods. Diagnostic criteria, Differential diagnosis. Treatment, the role of antibacterial therapy. Primary and secondary prevention. Forecast and efficiency.
69. Organization of therapeutic care in wartime and in emergencies in peacetime. General issues of organization of therapeutic care in wartime and in emergencies in peacetime. Characteristics of modern combat therapeutic pathology . Structure and nature of sanitary losses of therapeutic profile. Principles of medical sorting of patients and victims of therapeutic profile. Types and scope of medical care for the affected and patients of therapeutic profile at the stages of medical evacuation.

70. Radiation damage. The concept of radiation injury, medical care at the stages of medical evacuation.
71. Acute radiation sickness. Stage treatment of patients with acute radiation sickness. Atypical forms of radiation sickness. Types of ionizing radiation, units of measurement and dosimetry. The main links of biological action of ionizing radiation and pathogenesis of the main clinical forms of radiation damage. Clinic and diagnosis of various forms of acute radiation sickness.
72. Features of radiation damage in peacetime. Classification of bone marrow form of acute radiation sickness. Features of the clinical picture in different periods of the disease. differential diagnostic criteria for the severity of the disease. identification of life-threatening conditions at each stage of the evacuation.
73. Principles of pathogenetic treatment of acute radiation sickness taking into account the leading manifestations of the disease. the amount of medical care at the stages of medical evacuation. Types of atypical forms of acute radiation sickness.
74. Features of the clinic of acute radiation sickness with external uneven irradiation, combined radiation damage, internal irradiation, combined irradiation, neutron lesions and prolonged exposure to small doses. Providing medical care at the stages of medical evacuation.
75. Diseases of the internal organs in combat surgical trauma and injuries in disasters and accidents in peacetime. Classification of pathological changes of internal organs in the wounded. General gunshot wound syndromes. Diseases of the internal organs in the wounded. Treatment of diseases of internal organs in the wounded at the stages of medical evacuation. Prevention.
76. Burn disease. Definition, pathogenesis and classification. The main clinical manifestations and complications. Diagnosis. Staged treatment of patients with burns. Features of treatment of burn shock.
77. Prolonged compression syndrome. Definition. Pathogenesis, classification, clinical manifestations. The amount of assistance at the stages of medical evacuation.
78. The concept of overheating, hypothermia. Complications from internal organs under the influence of thermal factors. Features of the clinic, diagnosis. Prevention and staged treatment.
79. Combat mental trauma and its consequences. The concept of acute reaction to combat stress and post-traumatic stress disorder. Features of the clinic, diagnosis. Emergency care in crisis situations.
80. Emergencies (acute heart failure, coma, fainting, acute respiratory failure, impaired water-electrolyte metabolism, etc.). Terminal states. Providing emergency care at the stages of medical evacuation.
81. Defeat by poisonous substances in wartime and peace. Classification of toxic substances. Mechanism of toxic action. Clinical manifestations of lesions of toxic substances (chlorine-containing, fluorine-containing, carbon monoxide, ammonia, cyanides, etc.). Diagnosis. Stage treatment of those affected by toxic substances. Volumes of medical care.

## **BLOCK 2. FUNDAMENTALS OF DIAGNOSIS, TREATMENT AND PREVENTION OF PATHOLOGY OF INTERNAL ORGANS**

1. Glomerulonephritis. Definition. Etiology, role of streptococcal infection and immunological disorders in the development of the disease. Pathogenesis. Classification. Clinical

- manifestations and diagnosis of some forms. Differential diagnosis. Complications (eclampsia, acute left ventricular failure, etc.). Treatment taking into account the morphological variant and clinical course. Primary and secondary prevention. Forecast and efficiency.
2. Amyloidosis. Definition. Etiology. Pathogenesis. Classification. Clinical manifestations of renal amyloidosis. Diagnostic criteria. Differential diagnosis. Complication. Treatment. Primary and secondary prevention. Forecast and efficiency.
  3. Pyelonephritis. Definition. The role of infection in inflammatory diseases of the kidneys and urinary tract. Classification. Clinical manifestations. Instrumental and laboratory diagnostic methods. Differential diagnosis. Complication. Treatment. Primary and secondary prevention. Forecast and efficiency.
  4. Tubulointerstitial nephritis. Definition. Etiology. Pathogenesis. Clinical manifestations. Diagnostic criteria and differential diagnosis. Complication. Treatment. Primary and secondary prevention. Forecast and efficiency.
  5. Acute kidney damage. Chronic kidney disease. Definition. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Classification. Clinic and changes in laboratory parameters depending on the stage. Differential diagnosis. Complication. Treatment at different stages. Renal replacement therapy: hemodialysis, kidney transplantation. Indications and contraindications to renal replacement therapy, complications. Primary and secondary prevention. Forecast and efficiency.
  6. Chronic obstructive pulmonary disease. Definition. The importance of smoking, environmental, occupational factors and infection in the development of chronic obstructive pulmonary disease . Classification. Clinical manifestations, data of laboratory and instrumental research methods. Differential diagnosis. Complication. Treatment. Primary and secondary prevention. Forecast and efficiency.
  7. Bronchial asthma. Definition. Etiology, features of pathogenesis. Classification. Clinical manifestations, data of laboratory and instrumental research methods . Differential diagnosis. Complication. Treatment. Emergency care for asthma attacks . Primary and secondary prevention. Forecast and efficiency.
  8. Pneumonia. Definition. Etiology. Classification. Clinical manifestations and features of the course depending on the pathogen . D or laboratory and instrumental methods. Differential diagnosis. Complications ( acute respiratory distress syndrome, destruction of lung tissue, acute respiratory failure and others). Differentiated treatment. Primary and secondary prevention. Forecast and efficiency.
  9. Pleurisy. Definition. Etiological factors. Classification. Clinical manifestations, data of laboratory and instrumental research methods. Differential diagnosis. Complication. Indications for pleural puncture and drainage of the pleural cavity. Treatment. Primary and secondary prevention. Forecast and efficiency.
  10. Infectious and destructive lung diseases. Definition. Factors that contribute to the development of bronchiectasis, abscess and lung gangrene. Clinical manifestations, data of laboratory and instrumental research methods. Differential diagnosis. Complication. Treatment. Indications for surgical treatment. Primary and secondary prevention. Forecast and efficiency.
  11. Respiratory failure. Definition. Classification. Causes. Features of the clinical course of different forms. Diagnosis, study of the function of external respiration, arterial and venous blood gases, indicators of acid-base status of blood. Differential diagnosis. Therapeutic tactics. Primary and secondary prevention. Forecast and efficiency.
  12. Gastroesophageal reflux disease. Definition. Etiology, pathogenesis. Classification. Erosive and non-erosive GERD. Clinical manifestations

- depending on the variant and stage. Data of laboratory and instrumental research methods. Diagnosis criteria , differential diagnosis. Complication. Differentiated therapy. Primary and secondary prevention.
13. Dyspepsia .. Definition of dyspepsia. Etiology and pathogenesis. The role of *N. rulari* in the occurrence of gastroduodenal pathology. Classification. Unexplored and functional dyspepsia. Criteria for diagnosis. Differential diagnosis . Modern approaches to the treatment of functional dyspepsia. Primary and secondary prevention. Forecast and efficiency.
  14. Chronic gastritis Definition, etiology and pathogenesis of chronic gastritis. The role of *N. rulari* in the occurrence of chronic gastritis. Classification. Clinical manifestations, data of laboratory and instrumental research methods. The value of endoscopic (with morphology) research. Modern approaches to the treatment of various types of chronic gastritis. Primary and secondary prevention. Forecast and efficiency.
  15. Peptic ulcer of the stomach and duodenum. Definition. The main causes of peptic ulcers (*H. pylori*, medications, etc.). Classification. Clinical manifestations. Complications (perforation, penetration, bleeding, stenosis, malignancy). The value of instrumental and laboratory diagnostic methods. Methods of diagnosis of *Hp* infection. Tactics of patient management. Eradication therapy, control of eradication efficiency. Drug therapy of *Hp*-negative ulcers. Indications for surgical treatment. Primary and secondary prevention. Forecast and efficiency.
  16. Celiac disease and other enteropathies. Definition. Etiology, pathogenesis. The role of intolerance of food components, immune factors and enzymopathies (lactose intolerance, fructose, galactose, etc.). Malabsorption and maldigestion syndromes. Diagnosis criteria, differential diagnosis. Complication. Differentiated therapy. Primary and secondary prevention. Forecast and efficiency.
  17. Inflammatory bowel disease. Nonspecific ulcerative colitis and Crohn's disease: definition, etiology and pathogenesis. Classification. Features of the clinical course depending on the degree of activity, severity and phase of the course. Laboratory and instrumental diagnostics. Diagnosis criteria, differential diagnosis. Intestinal and extraintestinal complications and diseases associated with inflammatory bowel disease (toxic dilatation, perforation, sclerosing cholangitis, spondylitis, arthritis, dermatoses, uveitis, etc.). Treatment. Primary and secondary prevention. Forecast and efficiency.
  18. Irritable bowel syndrome, definition .. Etiology and pathogenesis. Classification. Clinical manifestations of different variants. Roman diagnostic criteria. Differential diagnosis. Treatment of various forms. Primary and secondary prevention. Forecast and efficiency.
  19. Gallstone disease, chronic cholecystitis and functional biliary disorders. Definition. Etiology, pathogenesis. Significance of infection, motility disorders and dyscholia in the development of chronic cholecystitis, cholangitis and gallstone disease. Classification. Features of the clinical course. Laboratory and instrumental diagnostic methods. Differential diagnosis. Complications of gallstone disease. Treatment . Indications for surgical treatment. Primary and secondary prevention. Forecast and efficiency.
  20. Chronic hepatitis. Definition. Classification. The role of persistence of the virus, toxic and medicinal agents, immune disorders and alcohol. Methods of diagnosis of viral infection. Autoimmune hepatitis, chronic viral, toxic ( drug) hepatitis. Alcoholic liver disease. Basic clinical and biochemical syndromes. Features of the clinical course and diagnosis of individual forms. Differential diagnosis. Complication. Features of treatment of various forms. Primary and secondary prevention. Forecast and efficiency.
  21. Cirrhosis of the liver. Definition. Significance of viral infection, nutritional factors, alcohol, toxic substances and immune disorders. Classification. Features of clinical manifestations and diagnosis of different options. Differential diagnosis. Liver failure and

other complications. Differentiated therapy. Urgent therapy for complications. Primary and secondary prevention. Forecast and efficiency.

22. Chronic pancreatitis. Definition. Significance of various etiological factors. Classification. Features of the clinical course, diagnosis and differential diagnosis depending on the form and location of the pathological process. Complication. Research methods in the diagnosis of pancreatitis. Differentiated treatment. Primary and secondary prevention. Forecast and efficiency.

Sets of practical tasks are formed directly from the list of practical skills that the student must master while studying each of the two blocks of the discipline, which are standardized by the method of practical work.

### **The list of practical skills that the student must learn when studying block 1:**

1. Interrogate the patient. Make a conclusion about the obtained anamnestic data. Identify the main symptoms and syndromes.
2. Conduct a general examination of the indicative patient. Identify the leading symptoms.
3. Examine the head and neck of a demonstrative patient. Determine the clinical significance of symptoms.
4. Examine the torso and limbs of the patient. Determine the clinical significance of symptoms.
5. Examine the chest of a patient with broncho-pulmonary pathology, assess static and dynamic signs.
6. Examine the atrial area to determine the clinical significance of symptoms.
7. Examine the abdomen, determine the clinical significance of symptoms.
8. Conduct a palpation of the chest to determine the clinical significance of symptoms.
9. Conduct a palpation of the lymph nodes, evaluate the results.
10. Conduct a palpation examination of the thyroid gland, evaluate the data obtained.
11. Conduct a palpation of the pulse, determine the clinical significance of symptoms.
12. Conduct a palpation of the atrial area, determine the clinical significance of symptoms.
13. Conduct a superficial palpation of the abdomen, determine the clinical significance of symptoms.
14. Conduct palpation of the sigmoid colon, determine the clinical significance of symptoms.
15. Conduct a palpation of the cecum, determine the clinical significance of symptoms.
16. Conduct a palpation of the ascending colon to determine the clinical significance of symptoms.
17. Conduct a palpation examination of the descending part of the colon, to determine the clinical significance of symptoms.
18. Conduct a palpation of the transverse colon, determine the clinical significance of symptoms.
19. Conduct a palpation of the liver to determine the clinical significance of symptoms.
20. Conduct palpation of the spleen, determine the diagnostic value of symptoms.
21. Conduct palpation and percussion examination of the kidneys, to determine the diagnostic value of symptoms.
22. Determine the lower limit of the stomach, evaluate the data obtained.
23. Determine the presence of fluid in the abdominal cavity, give a clinical assessment.
24. Measure blood pressure in the upper extremities, evaluate the data obtained.
25. Measure blood pressure in the lower extremities, evaluate the data obtained.

26. Conduct a comparative percussion of the lungs and determine the clinical significance of symptoms.
27. Carry out topographic percussion of the lungs and determine the diagnostic value of symptoms.
28. Conduct a percussion examination of the heart, determine the limits of relative dullness of the heart, give a clinical assessment.
29. Conduct a percussion examination of the heart, determine the limits of absolute dullness of the heart, give a clinical assessment.
30. Percussion method to determine the boundaries of the liver, to assess the diagnostic value of symptoms.
31. Percussion method to determine the boundaries of the spleen, to give a clinical assessment.
32. Carry out auscultation of the lungs, determine the quantitative and qualitative changes in respiration, give a clinical assessment.
33. Carry out auscultation of the lungs, determine additional respiratory noises, give a clinical assessment.
34. Conduct a study of bronchophonia, give a clinical assessment.
35. Auscultate the arteries, determine the diagnostic value of symptoms.
36. Carry out auscultation of the heart, determine changes in its tones, give a clinical assessment.
37. Carry out auscultation of the heart, determine the diagnostic value of heart murmurs.
38. To analyze the ECG of a patient with impaired automaticity of the heart.
39. Analyze the ECG of a patient with impaired cardiac excitability. Carry out differential diagnosis of extrasystoles.
40. Analyze the ECG of a patient with impaired cardiac conduction.
41. To analyze the ECG of a patient with a combined violation of excitability and conduction of the heart.
42. Analyze the FCG of a patient with heart disease.

**The list of practical skills that a student must learn when studying block № 2:**

1. Conduct a physical examination of a patient with mitral heart disease. Identify the leading symptoms and syndromes.
2. Conduct a physical examination of a patient with aortic heart disease. Identify the leading symptoms and syndromes.
3. Conduct a physical examination of a patient with hypertension. Identify the leading symptoms and syndromes.
4. To interrogate a patient with coronary heart disease (stable angina pectoris), to detail the pain syndrome, to determine the functional class of the patient.
5. Conduct a general examination and physical examination of a patient with acute myocardial infarction. Identify the main symptoms and syndromes.
6. Evaluate the ECG of a patient with acute myocardial infarction, determine the nature and location of heart muscle damage.
7. Conduct a physical examination of a patient with heart failure. Identify the main symptoms and syndromes, establish the functional class of the patient.
8. Interrogate and examine a patient with obstructive pulmonary disease. Identify the main symptoms and syndromes, taking into account the data of spirometry to establish the stage of the disease.
9. Palpation, chest percussion and lung auscultation in a patient with obstructive pulmonary disease. Identify the main symptoms and syndromes.



10. Conduct an interrogation and physical examination of a patient with pneumonia. Identify the main symptoms and syndromes.
11. To interrogate and physically examine a patient with pleurisy. Determine the nature of pleurisy, the main symptoms and syndromes.
12. Conduct questioning, examination and palpation of the abdomen in a patient with chronic gastritis. Identify the leading syndromes.
13. Analyze the results of intragastric pH-metry in a patient with chronic gastritis. Assess the acid-forming function of the stomach.
14. Conduct questioning, examination and palpation of the abdomen in a patient with peptic ulcer of the stomach / duodenum. Identify the main syndromes, recognize the possible location of the ulcer.
15. Conduct questioning, examination and palpation of the abdomen in a patient with chronic cholecystitis. Check the main symptoms characteristic of gallbladder damage. Identify the main syndromes.
16. Conduct questioning, examination and palpation of the abdomen in a patient with chronic cholangitis. Identify the main syndromes.
17. Evaluate the data of multi-moment duodenal sounding of a patient with biliary tract disease. Identify the main symptoms and location of the lesion.
18. Examine and examine a patient with hepatitis (or liver cirrhosis). Identify the main symptoms and syndromes.
19. Conduct a physical examination of a patient with hepatitis (or cirrhosis of the liver). Identify the main syndromes based on biochemical blood tests and urine tests.
20. Conduct a physical examination of a patient with kidney disease (pyelonephritis or glomerulonephritis). Identify the main syndromes.
21. To analyze the general clinical analysis of urine of a patient with kidney disease, urine analysis according to the methods of Zymnytsky and Nechyporenko. Identify the main symptoms and syndromes. To draw a conclusion about the nature of kidney damage.
22. Conduct a physical examination of a patient with anemia. Identify the main symptoms and syndromes, taking into account the general blood test to determine the nature of anemia.
23. To conduct an interrogation and general examination of a patient with diabetes, to examine the pulse in the vessels of the upper and lower extremities, to measure blood pressure. Identify the main symptoms and syndromes.
24. Work with the patient:

- Collect complaints, medical history, life history;
  - Collect information about the general condition of the patient (consciousness, constitution, fatness) and evaluate the appearance (examination of the skin, subcutaneous fat layer, palpation of lymph nodes, thyroid and mammary glands), examine the condition of the musculoskeletal system, joints;
  - Examine the condition of the respiratory organs (examination of the chest, palpation of the chest, percussion and auscultation of the lungs);
  - Examine the state of the circulatory system (examination and palpation of the heart and blood vessels, percussion of the heart and auscultation of the heart and blood vessels);
  - Examine the condition of the digestive organs (examination, percussion, superficial and deep palpation);
  - Examine the condition of the urinary system (examination of the lumbar region, palpation of the kidneys).
- Make a preliminary diagnosis of the disease (List 1).
  - Assign and justify laboratory and / or instrumental examination of a patient with diseases (List 1).

- Interpret the results of laboratory and instrumental research (List 2)
- Carry out differential diagnosis of diseases (List 1).
- Make a clinical diagnosis of the disease (List 1).
- Determine the necessary regime and diet of a patient with diseases (List 1).
- Determine the principles and nature of treatment (conservative, operative) of diseases (List1).
- Diagnose and provide emergency care (List 3)
- Perform medical manipulations (List 4)
- Determine the tactics of secondary prevention of patients subject to dispensary supervision.
- Maintain medical records (List 5), prescribe essential medicines (List 6)

### **List 1 (Syndromes and Symptoms)**

1. ANEMIA ( acute and chronic posthemorrhagic anemia, iron deficiency, B12-deficiency, folate deficiency, aplastic, hemolytic)
2. ARTERIAL HYPERTENSION ( essential arterial hypertension, secondary arterial hypertension: renal - renovascular, renoparenchymatous; endocrine - Itsenko-Cushing's syndrome and disease, pheochromocytoma, primary hyperaldosteronism, thyrotoxicosis, isoartial vasculitis, coarctation)
3. ASCITIS ( cirrhosis and liver tumors, right ventricular heart failure, including constrictive pericarditis, hepatic vein thrombosis, thrombosis of the portal vein or its branches, thrombosis, stenosis, obliteration of the inferior vena cava at or above the hepatic veins, etc.).
4. CHEST PAIN ( acute coronary syndrome, angina pectoris, aortic stenosis, hypertrophic cardiomyopathy, mitral valve prolapse, coronary artery disease, myocarditis, acute pericarditis, aortic dissection, aortic dissection, pleurisy , spasm of the esophagus, hernia of the esophageal orifice of the diaphragm, peptic ulcer of the stomach and duodenum, osteochondrosis of the thoracic spine, shingles, myositis, costochondritis, intercostal neuralgia, neurocirculatory dystonia, and syndrome .
5. ABDOMINAL PAIN ( cholecystitis, dyskinesia of the gallbladder and sphincter of Oddi, gallstone disease, pancreatitis, chronic gastritis, peptic ulcer of the stomach and duodenum, irritable bowel syndrome, celiac disease and other enteropathies, necrocytic disease, Crohn's disease) ).
6. LIMBS AND BACK PAIN ( ankylosing spondylitis, osteoarthritis, osteochondrosis, osteoporosis, dermatomyositis / polymyositis, neuropathy, particularly vasculitis and diabetes).
7. BRONCHOOBSTRUCTIVE SYNDROME ( chronic obstructive pulmonary disease, bronchial asthma, tumors of the trachea, bronchi and mediastinum).
8. EFFUSION INTO THE PLEURAL CAVITY ( tuberculosis, pneumonia, malignant tumors of the pleura and lungs, heart failure, acute pancreatitis, liver cirrhosis, nephrotic syndrome, chest injuries, hypothyroidism, systemic connective tissue diseases ).
9. HEMORRHAGIC SYNDROME ( hemorrhagic vasculitis, nodular polyarteritis, hypersensitive vasculitis, hemophilia, idiopathic thrombocytopenic purpura, disseminated intravascular coagulation syndrome, malignant diseases of the hematopoietic system accompanied by thrombocytopenia ).
10. HEPATOMEGALY AND HEPATOLIENAL SYNDROME ( acute and chronic hepatitis, cirrhosis and liver cancer, hepatic vein thrombosis, leukemia, lymphogranulomatosis, erythremia, right ventricular heart failure, including constrictive pericarditis, accumulation diseases, in particular, hemochromatosis).

11. **DYSPEPSIA** ( gastroesophageal reflux disease, gastric cancer, chronic gastritis, peptic ulcer of the stomach and duodenum, chronic pancreatitis, pancreatic cancer, toxic goiter, diabetes, hypo- and hyperthyroidism).
12. **DYPHAGIA** (esophagitis, including gastroesophageal reflux disease, esophageal cancer, diffuse esophageal spasm, achalasia of the cardia, esophageal diverticula, dysphagia with lesions of the central and peripheral nervous system and muscular system, systemic scleroderma).
13. **JAUNDICE** ( acute and chronic hepatitis, cirrhosis and liver cancer, hemolytic anemia, gallstone disease, pancreatic head cancer, vater nipple cancer, benign hyperbilirubinemia, malaria, leptospirosis, yersiniosis).
14. **SHORTNESS OF BREATH** (in heart failure with preserved and reduced systolic function of the left ventricle; respiratory failure due to impaired bronchial patency and diseases of the lungs and pleura, including pneumonia, tuberculosis and pneumothorax; pulmonary vascular pathology, including pulmonary embolism and pulmonary artery disease) muscles, hyperventilation syndrome in neurosis and neurocirculatory dystonia, lesions of the respiratory center in organic diseases of the brain, anemia, botulism).
15. **CONSTIPATION** ( irritable bowel syndrome, bowel cancer, anorectal diseases, hypothyroidism, situational, iatrogenic, psychogenic and neurogenic constipation, eating disorders).
16. **GOITER** ( non-toxic and toxic goiter, thyroiditis, thyroid cancer).
17. **COUGH** ( chronic obstructive pulmonary disease, bronchial asthma, pulmonary tuberculosis, bronchiectasis, pneumonia, pneumoconiosis, malignant tumors of the lungs and bronchi, left ventricular heart failure, postnasal drip syndrome, gastroesophageal reflux disease).
18. **HEMOPTYSIS** ( pulmonary tuberculosis, malignant tumors of the bronchi and lungs, pneumonia, bronchiectasis, lung abscess, mitral stenosis, pulmonary infarction).
19. **PULMONARY INFILTRATE** (pneumonia, infiltrative pulmonary tuberculosis, eosinophilic pulmonary infiltrate, heart attack and lung cancer, benign lung tumors, pulmonary sarcoidosis, focal pneumosclerosis)
20. **LYMPHADENOPATHY** ( tuberculosis, sarcoidosis, infectious mononucleosis, systemic connective tissue diseases, metastatic lesions, acute and chronic lymphoid and myeloid leukemias, Hodgkin's disease, non-Hodgkin's malignant lymphomas, reactive lymphadenitis, sepsis).
21. **FEVER** ( rheumatoid arthritis, infectious endocarditis, malignant neoplasms, including leukemia, lymphoma, myeloma, lymphogranulomatosis, sepsis, tuberculosis, systemic connective tissue diseases, nodular polyarteritis, purulent cholangitis, internal organs, abscesses ).
22. **EDEMATOUS SYNDROME** (venous edema: chronic venous insufficiency, venous outflow disorders, deep vein thrombophlebitis; lymphatic edema: inflammatory, obstructive; fatty, orthostatic and idiopathic; in the musculoskeletal system: arthritis, tendrovaginitis; with the development of heart failure, liver disease, in particular cirrhosis of the liver and other hypoproteinemic conditions: exudative enteropathy, malabsorption syndrome, alimentary and cachectic edema; edema due to medication and endocrine diseases: hypothyroidism).
23. **UNCONSCIOUSNESS** (cardiogenic causes: in particular, in structural pathology - valvular heart disease, including stenosis of the mouth of the aorta, hypertrophic cardiomyopathy, pericarditis / tamponade of the heart, dysfunction of the prosthetic valve, aortic dissection, high pulmonary arterial hypertension, hypertensive hypertension; paroxysmal cardiac arrhythmias, sinus node dysfunction, high-grade atrioventricular block, artificial pacemaker dysfunction, reflex, including vasovagal, situational, carotid sinus irritation and orthostatic hypotension).
24. **NEPHROTIC SYNDROME** ( acute and chronic glomerulonephritis, renal amyloidosis, diabetic nephropathy, myeloma).
25. **OLIGOANURIA** (prerenal, renal, postrenal).

26. SPIRIT (gastroesophageal reflux disease, chronic gastritis, unexamined dyspepsia, peptic ulcer of the stomach and duodenum).
27. PORTAL HYPERTENSION ( chronic viral hepatitis, cirrhosis and liver tumors, right ventricular heart failure, including constrictive pericardium, thrombosis of the hepatic veins, thrombosis of the portal vein or its branches, thrombosis, stenosis, obliteration of the inferior vena cava at or above the liver , etc.).
28. HEART RHYTHM DISORDERS (extrasystole, atrial fibrillation and flutter, paroxysmal tachycardia ).
29. URINARY SYNDROME ( acute and chronic glomerulonephritis, urolithiasis, tubulointerstitial kidney disease, pyelonephritis, diabetic nephropathy, renal infarction, renal tuberculosis, hypernephroma, cystitis, urethritis, hemorrhagic vasculitis).
30. JOINT SYNDROME (rheumatoid arthritis, osteoarthritis, ankylosing spondylitis, reactive arthritis, gout, systemic lupus erythematosus, systemic scleroderma, acute rheumatic fever).
31. WEIGHT LOSS (cancer, systemic lupus erythematosus, nodular polyarteritis, diseases of the digestive tract, lungs, including tuberculosis, cardiovascular system, alimentary and psychogenic weight loss, HIV infection).
32. LONG-TERM DIARRHEA SYNDROME (chronic atrophic gastritis, operated gastric disease, Zollinger-Ellison syndrome, Crohn's disease, nonspecific ulcerative colitis, celiac disease, Whipple's disease, syndrome of excessive bacterial growth in diarrheal bacterial growth amyloidosis, acquired immunodeficiency syndrome).
33. DYSPNOEA AND LOCAL CYANOSIS ( lung and heart involvement, including congenital heart defects in Eisenmenger syndrome and acquired heart defects - mitral stenosis, tricuspid valve insufficiency, heart and respiratory failure and in the formation of pathological hemo .
34. GASTROINTESTINAL BLEEDING (varicose veins of the esophagus, gastric erosion, peptic ulcer and other ulcers of the stomach and duodenum, malignant tumors, nonspecific ulcerative colitis, hemorrhagic vasculitis, hemorrhoids).
35. HEART NOISE: congenital heart defects: ventricular septal defect, atrial septal defect, open ductus arteriosus, aortic coarctation, acquired heart defects: mitral stenosis, mitral valve insufficiency (organic and relative), mitral valve prolapse, aortic valve prolapse, aortic stenosis, hypertrophic cardiomyopathy, tricuspid valve insufficiency (organic and relative), innocent systolic murmur in young people).

## **List 2 (diseases)**

### **Diseases of the cardiovascular system**

1. Essential hypertension (hypertension).
  1. Secondary (symptomatic) hypertension:
    - renal (renovascular, renoparenchymatous);
    - endocrine (Itsenko-Cushing's syndrome and disease, pheochromocytoma, primary hyperaldosteronism, thyrotoxicosis);
    - coarctation of the aorta;
    - isolated systolic arterial hypertension;
    - hypertension during pregnancy;
  2. Neurocirculatory dystonia.
  3. Atherosclerosis.
  4. Chronic forms of coronary heart disease.
  5. Acute coronary syndrome (unstable angina, acute myocardial infarction).
  6. Pericarditis.

7. Pulmonary heart.
8. Acquired heart defects: mitral, aortic and tricuspid valves, combined mitral and aortic defects.
9. Congenital heart defects: atrial, interventricular septal defect, open ductus arteriosus, aortic coarctation.
10. Infectious endocarditis.
11. Myocarditis and cardiomyopathy.
12. Pulmonary artery thromboembolism.
13. Cardiac arrhythmias.
14. Impaired conduction of the heart.
15. Heart failure.

### **Respiratory diseases**

1. Chronic obstructive pulmonary disease.
2. Bronchial asthma.
3. Pneumonia.
4. Pleurisy.
5. Infectious and destructive lung diseases .
6. Respiratory failure .

### **Diseases of the digestive system**

1. Chronic esophagitis and gastroesophageal reflux disease.
2. Functional disorders of the stomach, gallbladder, biliary tract and intestine.
3. Chronic gastritis and duodenitis.
4. Peptic ulcer of the stomach and duodenum.
5. Celiac disease and other enteropathies.
6. Not specific ulcerative colitis, Crohn's disease .
7. Gallstone disease; chronic cholecystitis.
8. Chronic hepatitis.
9. Cirrhosis of the liver.
10. Chronic pancreatitis.

### **Diseases of the musculoskeletal system and connective tissue**

1. Osteoarthritis.
2. Systemic lupus erythematosus . .
3. Systemic scleroderma .
4. Gout.
5. Reactive arthritis.
6. Acute rheumatic fever.
7. Rheumatoid arthritis.
8. Dermatomyositis / poliomyositis.
9. Ankylosing spondylitis.
10. Systemic vasculitis (hypersensitive and hemorrhagic vasculitis, nodular polyarteritis).

### **Diseases of the urinary system**

1. Pyelonephritis.
2. Tubulo-interstitial nephritis.
3. Acute and chronic glomerulonephritis.
4. Renal amyloidosis.
5. Nephrotic syndrome.
6. Chronic kidney disease.

### List 3 (laboratory and instrumental research methods)

1. Adrenocorticotrophic hormone, cortisol, aldosterone and blood renin
2. Analysis of pleural fluid
3. Analysis of ascitic fluid
4. Analysis of synovial fluid
5. Analysis of urine for diastase
6. Urine analysis by Nechiporenko
7. Urine analysis according to Zymnysky
8. Biochemical markers of myocardial necrosis, D-dimer
9. Biochemical parameters of serum iron metabolism.
10. Acute blood parameters, total blood protein and its fractions.
11. General blood test.
12. General analysis of urine, test for microalbuminuria.
13. General analysis of sternal punctate
14. General analysis of sputum
15. General immunological profile of blood
16. Blood electrolytes
17. Enzyme-linked immunosorbent assay, immunochemical, molecular biological study of blood
18. Ketone bodies of blood and urine, ioduria.
19. Coagulogram
20. Coprocytogram
21. Creatinine and blood urea, glomerular filtration rate
22. Blood lipid spectrum
23. Alkaline phosphatase, blood alpha-amylase
24. Markers of viral hepatitis
25. Metanephrines in urine
26. Microbiological study of biological fluids and secretions
27. Indicators of acid-base status of blood
28. Serological reactions in autoimmune diseases
29. Blood uric acid
30. Glucose tolerance test, glycemic profile, C-peptide, glycated hemoglobin, fructosamine
31. Blood transaminases, total bilirubin and its fractions
32. TSH, T<sub>4</sub>, T<sub>3</sub>, antibodies to thyroperoxidase (ATPO), antibodies to TSH receptors, antibodies to thyroglobulin
33. Fecal elastase-1
34. Respiratory tests with <sup>13</sup>C-urea, <sup>13</sup>C-triglycerides, <sup>13</sup>C-starch, <sup>13</sup>C-lactose and respiratory hydrogen tests with glucose and lactulose
35. Study of the function of external respiration
36. Examination of bile
37. Electrocardiographic examination
38. Echocardiography
39. Endoscopic examination of the bronchi
40. Endoscopic examination of the digestive tract
41. Samples with dosed exercise
42. Radiation examination of the abdominal cavity
43. Radiation examination of the thoracic cavity
44. Radiation study of the genitourinary system
45. Radiation examination of the skull, bones and joints
46. Sonography, thyroid scan

47. X-ray contrast angiography
48. pH-metry of the stomach, esophagus
49. Cytological examination of a lymph node biopsy.

**List 4 (EMERGENCY STATES)**

- Addisonic crisis
- Hypertensive crisis
- Acute coronary syndrome
- Acute heart failure
- Acute respiratory failure
- Acute hepatic encephalopathy
- Acute kidney damage
- Circulatory and respiratory arrest
- Komi
- Bleeding (esophageal and gastrointestinal)
- Quincke's edema / laryngeal edema
- Paroxysmal cardiac arrhythmias and cardiac conduction disorders (paroxysmal tachycardia and atrial fibrillation / flutter, high-grade atrioventricular block, Morgan-Edems-Stokes syndrome)
- Spontaneous pneumothorax
- Cardiac tamponade
- Thyrotoxic crisis
- Pulmonary artery thromboembolism
- Syncope
- Shocks

**List 5 (MEDICAL MANIPULATIONS)**

1. Inject drugs (subcutaneous, intramuscular, intravenous jet and drip).
2. Determine blood type.
3. Measure blood pressure
4. Record the ECG in 12 leads
5. Perform artificial lung ventilation and perform indirect heart massage
6. Catheterize the bladder with a soft catheter
7. Carry out injections of medicinal substances
8. Determine blood type

**List 6**

**KNOW THE CLINICAL PHARMACOLOGY OF THE MAIN GROUPS OF MEDICINES**

1. Antibacterial
2.  $\alpha$  and  $\beta$ -blockers
3. Expectorants
4. Hemostatics
5. Proton pump inhibitors
6. H<sub>2</sub>-histamine blockers
7. Oral hypoglycemic agents and preparations of insulin, thyroxine, imidazole derivatives
8. Iron supplements

9. Cholinolytics

**"0" version of the exam ticket**

**Petro Mohyla Black Sea National University**

Educational qualification level - master

Field of knowledge: 22 Health care

specialty 222 Medicine

**Course - "INTERNAL MEDICINE, INCLUDING CLINICAL PHARMACOLOGY, CLINICAL IMMUNOLOGY AND ALLERGOLOGY, OCCUPATIONAL DISEASES"**

**Option № 0**

1. Gout. Definition. Etiology, pathogenesis. Classification. Features of the joint syndrome and lesions of internal organs. Criteria for diagnosis. Differential diagnosis. Complication. Drug and non-drug treatment. Prevention. Forecast and efficiency. - **maximum number of points - 20.**
2. Classification of cardiac glycosides. Principles of dosing. Cardiac and noncardiac effects of cardiac glycosides. Indications for use. - **maximum number of points - 20.**
3. **Practical skill:** algorithm of catheterization of the bladder with a soft catheter. - **maximum number of points - 20.**
4. **Situational task :** The patient is 82 years old, was admitted to the intensive care unit with complaints of acute chest pain, shortness of breath, weakness. At X-ray inspection of bodies of a thoracic cavity the cross size of a heart shadow is increased, the form of a shadow is triangular with the rounded cardiaphragmatic corners. Heart contractions of small amplitude, arrhythmic. Preliminary diagnosis? With what diseases it is necessary to carry out differential diagnosis? What is the treatment for this disease? - **maximum number of points - 20.**

*Approved at the meeting of the Department of "therapeutic and surgical disciplines", the protocol № \_\_\_ from "\_\_\_" \_\_\_\_\_ 2020.*

**Head of Department                  Professor Zak M.Yu.**

**Examiner                                  Professor Zak M.Yu.**

**An example of the final control work on block 1**

**Solving problems Step-2**

1. The patient after lifting a heavy bag suddenly developed acute low back pain. Movements in spines are limited. The Achilles' reflex on the left is not caused, anesthesia has appeared pain sensitivity on the outer surface of the left leg. What a disease do you suspect

**A** Lumbosacral radiculitis

**B** Lumbago



- C* Low back pain
- D* Femoral nerve neuritis
- E* Spinal arachnoiditis

2. In a patient with severe meningeal syndrome, petechial rash on skin, chills, body temperature 39 (C, inflammatory changes in peripheral blood and neutrophilic pleocytosis in the cerebrospinal fluid was diagnosed with purulent meningitis. Which of the available

syndromes in a patient is crucial for the diagnosis of meningitis?

- A* Neutrophilic pleocytosis
- B* Petechial rash on the skin
- C* Meningeal syndrome
- D* Rising body temperature
- E* Inflammatory changes in the blood

3. A 60-year-old patient had severe pain in his right arm for 2 days. On the 3rd day they appeared blistering rash in the form of a chain on the skin of the shoulder, forearm and hand. Sensitivity in the area of the rash is reduced. What disease can be diagnosed?

- A* Herpetic ganglionitis
- B* Dermatitis
- C* Cervical and thoracic radiculitis
- D* Psoriasis
- E* Allergy

4. The patient 70 years after hypothermia developed severe pain in the left half of the head in the forehead and left eye. After 3 days on the background of fever to 37.6 (C appeared blistering rash on the forehead on the left and left upper eyelid. What can the disease be diagnosed?

- A* Herpetic ganglionitis
- B* Trigeminal neuralgia
- C* Cold allergy
- D* Allergic Dermatitis
- E* Trigeminal neuritis

5. The patient on the background of burning girdle pain in the right half of the chest appeared on the skin blistering rash in the form of a chain in the middle chest department on the right. What disease should you think about?

- A* Herpetic thoracic ganglionitis
- B* Thoracic sciatica
- C* Vertebrogenic thoracalgia
- D* Intercostal neuralgia
- E* Myalgia

6. A patient injured with a fracture of the clavicle, appeared flaccid atrophic paralysis of the right hand with a violation of all types of sensitivity in it. What disease should I think?

- A* Plexitis of the humeral plexus
- B* Cervical and thoracic radiculitis
- C* Cubital canal syndrome
- D* Cervicothoracalgia
- E* Polyneuritis

7. A patient with Morgan-Edem-Stokes syndrome lost while climbing stairs consciousness. The skin is pale, the pupils are wide, clonic - tonic convulsions, chest motionless. Diagnosis:

- A Clinical death
- B Social death
- C Preagony
- D Agony
- E Biological death

8. A young woman lost 8 kg of weight in 3 months, complains of palpitations, thickening neck, feeling of "lump" when swallowing, irritability, trembling fingers, protrusion eyes, low-grade fever. The most likely preliminary diagnosis?

- A Thyrotoxicosis
- B Hysteria.
- C Brain tumor.
- D Chroniosepsis.
- E Rheumatism.

9. A 25-year-old woman had an abortion six months ago. complains of loss of appetite, weakness, arthralgia, two weeks later appeared dark urine, and jaundice, on the background whose general condition continues to deteriorate. Suspected viral hepatitis Which of markers of viral hepatitis are more likely to be positive in the patient?

- A Anti-HBc IgM.
- B Anti-HEV IgM.
- C Anti-CMV IgM.
- D Anti-HBs
- E Anti-HAV IgM

10. A 37-year-old patient , 2 days after incision of the heifer, had a spot on his arm, which day turned into a pustule with a black bottom, painless to the touch, with a crown daughter vesicles on the periphery. Painless swelling on the arm and shoulder. Increased to 39 0 body temperature. Pulse-100, AT-95/60, BH-30 per minute. Which diagnosis is the most probable?

- A Anthrax
- B Plague
- C Tularemia
- D Brucellosis
- E Herpes zoster

**And so 30 problems with the subsequent analysis of typical errors.**

**An example of the final control work on block 2**

### **Solving problems Step-2**

1. The patient is 82 years old, was admitted to the intensive care unit with complaints of acute chest pain, shortness of breath, weakness. At X-ray examination of the thoracic cavity, the transverse size of the shadow of the heart is increased, the shape of the shadow is triangular with rounded cardiaphragmatic angles. Abbreviation hearts of small amplitude, arrhythmic. The radiological signs with the greatest are revealed

probability correspond to:

- A** Exudative pericarditis
- B** Articular stenosis
- C** Fallo's Triad
- D** Dilated cardiomyopathy
- E** Myocarditis

**2.** A 52-year-old patient complains of difficulty passing food. For the first time dysphagic phenomena

noticed 6 months ago. They have intensified in the last two months. At the time of the delay in in the esophagus of dense food there are pains behind the sternum. When reviewing changes in internal

organs not detected. In the blood test: leukocytosis 11.109 without changes in the formula, ESR 57mm / year. There are traces of protein in the urine. During the X-ray examination of the esophagus in

phase of "tight filling" is determined by the narrowing of the lumen of the esophagus in the middle third for 6 cm on the front wall is a filling defect with

uneven contours, the rear wall at this level is uneven. The upper third of the chest department is slightly expanded, has clear contours. The lower third of the esophagus is not changed. Clinical and radiological diagnosis?

- A** Esophageal cancer
- B** Varicose veins of the esophagus
- C** Cicatricial narrowing of the esophagus
- D** Achalasia of the esophagus
- E** Esophageal spasm

**3.** A 27-year-old woman complains of shortness of breath, heart pain, palpitations, cough.

Heart tones are arrhythmic, 1 tone at the top is clapping. At X-ray examination

pulmonary pattern is enhanced by venous stasis. The roots of the lungs

extended, unstructured. The middle shadow is enlarged, protruding along the left contour pulmonary artery arc. In the first oblique position retrocardial space

narrowed by an enlarged left atrium, which displaces the esophagus back along the arc of the small radius. In the second oblique position there is an increase in the arch of the right ventricle.

The aorta is not changed. The most likely conclusion?

- A** Mitral stenosis
- B** Aortic valve insufficiency
- C** Cardiomyopathy
- D** Aortic aneurysm
- E** Fallot's tetrad

**4.** A 17-year-old patient at the draft board complained of tinnitus, which is amplified

during exercise. Blood pressure 150/30 mm Hg, diastolic noise was heard over

aorta. On a review radiograph, the shadow of the heart of the aortic configuration is enlarged arch of the aorta and left ventricle. The pulmonary pattern is not changed. Aortic pulsation

reinforced. The detected radiological changes are most likely to correspond to:

- A** Aortic insufficiency
- B** Aortic atherosclerosis
- C** Hypertension
- D** Dextroposition of the aorta
- E** Aortic coarctation

**5.** A 42-year-old man is worried about chest pain, palpitations. Recently increased shortness of breath during exercise, asthma attacks at night. Intense systolic murmur with the epicenter on the left edge of the sternum is not performed on the vessels of the neck, the second tone is preserved. According to echocardiography: pronounced

hypertrophy of the upper third of the interventricular septum, left ventricle normal size, the fraction of its release? 65%. Progression of heart failure in the patient is due

- A** Diastolic left ventricular dysfunction
- B** Left ventricular systolic dysfunction
- C** Left atrial insufficiency
- D** Systolic dysfunction of the right ventricle
- E** Pulmonary arterial hypertension

**6.** At the athlete of 20 years at echocardiographic research small is found defect in the muscular part of the interventricular septum with blood discharge from left to right. Which

data from a previous clinical examination could indicate such a heart defect?

- A** Rough systolic murmur on the left edge of the sternum
- B** Diffuse cyanosis during exercise
- C** Accent II tone over the pulmonary artery
- D** Fingers - "drumsticks"
- E** Epigastric pulsation of the right ventricle

**7.** The addict has a body temperature of 26 years for 2 months 38-39 (C, shortness of breath, swelling of the legs. Determined positive venous pulse, pulsation of the liver. Aloud systolic is heard above the lower part of the sternum noise that increases during inhalation. Echocardiographic examination is required for diagnostics

- A** Insufficiency of the three-leaf valve
- B** Aortic valve insufficiency
- C** Exudative pericarditis
- D** Mitral valve insufficiency
- E** Pulmonary artery valve insufficiency

**8.** A 22-year-old woman notes rapid fatigue. From early childhood doctors listened to her noise in the heart. Pulse 87 / min, rhythmic. Blood pressure 95/60 mm Hg The percussion boundaries of the heart are not changed. Systolic murmur is best heard in the second intercostal space

to the left of the sternum, the second tone is weakened. On the chest radiograph - enlargement trunk and left branch of the pulmonary artery. Most likely in the patient

- A** Pulmonary artery stenosis
- B** Aortic valve stenosis
- C** Functional systolic murmur
- D** Mitral valve prolapse
- E** Pulmonary artery valve insufficiency

**9.** A 35-year-old woman was taken with complaints of severe diffuse pain throughout the abdomen, nausea, vomiting. The deterioration occurred 2 days before hospitalization, when on the skin limbs there was a small-spot hemorrhagic rash, there were cramping pains in

abdominal, bloody discharge from the rectum. 2 weeks before that she suffered acute viral infection. Objectively: blood pressure 90/60 mm Hg. st., heart rate? 95 / min, abdomen on palpation

tense, there are symptoms of peritoneal irritation. In the study of blood neutrophilic leukocytosis and eosinophilia, decrease in number are observed erythrocytes and hemoglobin. What diagnosis can be made in a patient?

- A** Hemorrhagic vasculitis
- B** Hemophilia
- C** Thrombocytopenic purpura
- D** Crohn's disease
- E** Hemorrhoidal bleeding

**10.** A 50-year-old patient complains of severe weakness, dizziness, spots on the skin. Moon ago I had a sore throat, was treated with antibiotics. Objectively: the general condition is severe, the skin and mucous membranes are pale. On the skin of the face and torso

spots of different sizes, blue and brown. On palpation of the abdomen painless, the liver +1.5 cm protrudes from the edge of the right costal arch. General blood test: EP - 1,2? 1012 / 1, HB - 50 g / l, KP 0,70, thrombocytes - 2? 109 / l, anisopoikilocytosis. ESR - 55 mm / year. What is the previous diagnosis?

- A** Thrombocytopenic purpura
- B** Hemorrhagic vasculitis, abdominal form
- C** Acute posthemorrhagic anemia
- D** Myeloma
- E** Hemophilia

**11.** A 65-year-old patient complains of shortness of breath, severe cough with a small amount sputum with streaks of blood, weight loss, then 37.2, loss of appetite, weakness. It hurts many years ago, the condition worsened a year ago and shortness of breath appeared 3 weeks ago. All my life

smokes, works as a carpenter. About: normal physique, exhausted. Depression right half of the chest, restriction of the tour, the participation of additional muscles in breaths, the number of breaths 22 per minute Percussion over the upper right lobe, auscultatory: no breathing, vesicular rigid throughout. On Rtg OGK: the upper right lobe is reduced in size, above it is a homogeneous eclipse, associated with the root, the root is deformed, the organs of the interstitium are slightly shifted to the right.

Which diagnosis is most likely?

- A** Obstructive atelectasis of the lungs
- B** Pneumothorax
- C** Lung sarcoidosis
- D** Pulmonary tuberculosis
- E** Fibrous alveolitis

**12.** A 20-year-old patient suddenly had an attack of shortness of breath during sports training, intense prickly pain in the right chest and cough. About: the patient is sitting in bed, pale. Chest symmetrical, limited tour of the right half, the number of breaths 22 per minute Above the right half of the chest percussion sound with tympanic shade, above the left - a clear lung. Auscultatory case is sharply weakened vesicular respiration, on palpation there is significantly weakened vocal tremor. On Rtg OGK: right clear field without pulmonary pattern, lung reduced, lying

closer to the root, the organs of the interstitium are shifted to the left. Which diagnosis is the most reliable?

**A** Spontaneous pneumothorax

**B** Acute pneumonia

**C** Pulmonary infarction

**D** Intercostal neuralgia

**E** Thromboembolism of small branches of the pulmonary artery

**And so 30 problems with the subsequent analysis of typical errors.**

## **6. Evaluation criteria and tools for diagnosing learning outcomes**

### **TEACHING METHODS**

a) lectures, b) practical classes, c) independent work of students, d) consultations.

Thematic plans of lectures, practical classes and VTS reveal the problematic issues of the relevant sections of internal medicine. Didactic tools (multimedia presentations, slides, educational films, demonstration of thematic patients) are used as much as possible in the lecture course. Lecture and practical stages of students' learning are composed, mainly, in such a way that lectures or preceded by appropriate practical classes, and when rotating thematic sections, are read in one block.

Practical classes are held on the clinical base of the department. Methods of organizing practical classes in internal medicine requires:

- to make the student a participant in the process of providing medical care to patients from the moment of their hospitalization, examination, diagnosis, treatment to discharge from the hospital;
- to master professional practical skills; skills of teamwork of students, doctors, other participants in the process of providing medical care;
- to form in the student, as in the future specialist, an understanding of responsibility for the level of their training, its improvement during training and professional activity.

To implement this, it is necessary at the first lesson of the relevant section of the student is given a detailed plan of work in the clinic and provide conditions for its implementation. This plan should include:

- research that the student must master (or get acquainted with);
- algorithms (protocols) of examinations, diagnosis, treatment, prevention in accordance with the standards of evidence-based medicine;
- patient supervision to be performed by the student during the cycle;
- reports of the patient's medical history in the study group, at clinical rounds, practical conferences.

#### **Patient supervision involves:**

- 1) clarification of the patient's complaints, medical history and life, conducting surveys of organs and systems;
- 2) conducting a physical examination of the patient and determining the main symptoms of the disease;
- 3) analysis of laboratory and instrumental examination data;
- 4) formulation of the diagnosis;
- 5) appointment of treatment;
- 6) determination of primary and secondary prevention measures;
- 7) report on the results of examination of the patient by a team of students in the study group, analysis under the guidance of the teacher of the correctness of diagnosis, differential diagnosis, scheduled examination, treatment tactics, assessment of prognosis and performance, prevention.

In practical classes, students are encouraged to keep protocols in which it is necessary to enter brief information about the patients examined during the practical lesson, diagnosis, examination plan and prescribed treatment.

VTS and individual work of students is 30-56% in the curriculum. It includes:

- ✓ pre-classroom and extracurricular training of students on the course of the discipline;
- ✓ work of students in departments on the clinical base of the department, including in laboratories and departments (offices) of functional diagnostics, interpretation of data of laboratory and instrumental methods of research at internal pathology in extracurricular time;
- ✓ mastering practical skills by working with patients;
- ✓ individual VTS (speech at the scientific-practical conference of the clinic, writing articles, report of the abstract at the practical lesson, participation in the work of the student group, competitions in the discipline , etc.);
- ✓ work in a computer class in preparation for the Step-2 exam;
- ✓ elaboration of topics that are not included in the classroom plan.

Teachers of the department provide the opportunity to carry out VTS during practical classes and monitor and evaluate its implementation. Topics submitted for self-study are evaluated during the final control.

## METHODS OF CONTROL

It is recommended to conduct practical classes with the inclusion of:

- 1) control of the initial level of knowledge by means of tests;
- 2) survey of students on the topic of the lesson;
- 3) management of 1-2 patients with diseases and conditions corresponding to the subject of the lesson, followed by discussion of the correctness of diagnosis, differential diagnosis and treatment with the use of evidence-based medicine and in accordance with National and European guidelines and protocols;
- 4) consideration of the results of additional research methods (laboratory and instrumental) used in the diagnosis and differential diagnosis, consideration of which is provided by the topic of practical training;
- 5) control of the final level of knowledge on the test tasks made in the format of Step-2.

Assimilation of the topic ( **current control** ) is controlled in a practical lesson in accordance with specific goals, assimilation of semantic sections - in practical final lessons. It is recommended to use the following tools to assess the level of preparation of students: computer tests, solving situational problems, conducting laboratory research and interpretation and evaluation of their results, analysis and evaluation of instrumental research and parameters characterizing human body functions, control of practical skills.

The current control is carried out by the teacher of the academic group after the students have mastered each topic of the discipline and grades are set using a 200-point scale of the university, which corresponds to the 200-point scale of ECTS.

**Final lesson (SO)** - is conducted after the logically completed part of the discipline, consisting of a set of educational elements of the work program, which combines all types of training (theoretical, practical, etc.), elements of educational and professional program (academic discipline, all types of practices) , certification), implemented by appropriate forms of the educational process. The department provides information for preparation for the software on the information stand and on the website of the department the following materials:

- basic and anchor test tasks LII "Step-2";
- list of theoretical questions (including questions on independent work);

- list of practical skills;
- a list of drugs, prescriptions of which must be prescribed by the student;
- list of medical records;
- criteria for assessing the knowledge and skills of students;
- schedule of students completing missed classes during the semester.

#### **Conducting the final lesson:**

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

- basic test tasks in the discipline, which cover the content of the educational material of the final lesson in the amount of **30 tests** that correspond to the database "Step-2" . Evaluation criterion - **70.0% of** correctly solved tasks; "Passed" or "did not pass");

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

3. During the assessment of the student's knowledge on theoretical issues, as well as questions for independent work, which are included in this final lesson, the student is given a grade on a multi-point scale, as well as a grade on IPA .

4. Tasks for practical and professional training that reflect the skills and abilities during the curation of thematic patients, evaluation of the results of laboratory and instrumental research methods and the choice of treatment tactics, which are defined in the list of work program of the discipline.

5. Tasks for diagnosis and care in emergencies.

The final lesson is accepted by the teacher of the academic group . Forms of software should be standardized and include control of all types of training (theoretical, practical, independent, etc.), solving test tasks "Step-2", provided by the work program of the discipline . At the beginning of the lesson students solve test tasks "Step-2" in the amount of 30 tasks, then at the patient's bedside the group teacher takes practical skills, which are assessed "performed", "failed", then students write written work, each ticket contains 5 theoretical questions, which include questions submitted for independent work, followed by an oral interview with the student, followed by a grade for the software.

**The final semester control** is carried out after the end of the semester in the form of a final control work (SQR).

**PKR** is conducted by a teacher of the academic group in the last lesson of the semester. Students who have scored at least 70 points in the autumn semester and 40 points in the spring semester as a result of the current control are admitted to the RCC. The maximum score in the autumn semester is 120, in the spring - 80. At the RCC in the autumn semester, a student can get from 50 to 80 points, in the spring - from 30 to 40 (see table below).

**Assessment of individual student tasks.** The meeting of the department approved a list of individual tasks (participation with reports in student conferences, profile competitions, preparation of analytical reviews with presentations with plagiarism) and determined the number of points for their implementation, which can be added as incentives ( **not more than 10**). Points for individual tasks are accrued to the student once only on a commission basis (commission - head of the department, head teacher, group teacher) only if they are successfully completed and defended. In no case may the total amount of points for IPA exceed 120 points.

**Assessment of independent work of students.** Assimilation of topics that are submitted only for independent work is checked during the final classes and final tests.

In order to assess the learning outcomes of the discipline, the **final control** is conducted **in the form of an exam, which is recommended for academic disciplines, which is part of the integrated test exams EDKI and "Step-2"**. Only students who have passed both final tests (according to blocks 1 and 2) in the discipline are admitted to the exam.



The exam in the discipline "Internal Medicine, including clinical pharmacology, clinical immunology and allergology, occupational diseases" is a process during which the results obtained for the 5th year are checked:

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

The department provides the following materials for preparation for the exam on the information stand and on the website of the department:

- basic and anchor test tasks "Step";
- list of theoretical questions (including questions on independent work);
- list of practical skills;
- a list of drugs, prescriptions of which must be prescribed by the student;
- criteria for assessing the knowledge and skills of students;
- schedule of students completing missed classes during the semester.

#### **Conducting an exam.**

1. Assessment of theoretical knowledge on the tickets drawn up at the department, which contain two theoretical questions from the sections of the discipline, which were studied during the academic year.

2. Assessment of practical skills acquisition.

3. Evaluation of the solution of the situational problem.

Distribution of points in the assessment - see above in the example of the exam ticket. The maximum score on the exam is 80 points, the exam is considered passed if at least 50 points are scored (see the table below).

#### **Distribution of points received by students**

As mentioned above, each block (semester) uses a 200-point scale.

**In the first block (in the autumn semester)** on the current control the maximum sum of points makes 120, the minimum - 70.

This semester 50 practical classes (100 academic hours).

Current control is carried out in 49 practical classes.

Accordingly, the **maximum score for each current practical lesson** is: 120 points: 49 lessons = **2.45 points. The minimum score** is 70 points: 49 classes = **1.43 points.**

A score lower than 1.43 points means "unsatisfactory", the lesson is not credited and must be practiced in the prescribed manner.

Final control (RCC) is carried out at the last, 50th, practical lesson. According to the RCC for block 1, a student can get a maximum of 80 points. PKR is considered credited if the student scored at least 50 points.

**In the second block (in the spring semester)**, on the current control the maximum sum of points makes 80, the minimum - 40.

This semester there are 35 practical classes (70 academic hours).

Current control is carried out in 34 practical classes.

That is, the **maximum score for each current practical lesson** is: 80 points: 34 lessons = **2.35 points, the minimum** - 40 points: 34 lessons = **1.18 points.**

A score lower than 1.18 points means "unsatisfactory", the lesson is not credited and must be practiced in the prescribed manner.

PKR on block 2 is carried out on the last, 35th, practical employment. In this case, the student can get a maximum of 40 points. The minimum positive score is 30 points.

At the exam, the maximum positive grade is 80 points, the minimum - 50.

### Assessment of student performance

Type of activity (task)	Maximum number of points
<b>Block 1</b>	
Practical classes from 1 to 49	2.45 points for each lesson
Total for 49 classes	120
Final control work on block 1 (practical lesson 50)	80
Together for block 1	200
<b>Block 2</b>	
Practical classes from 1 to 34	2.35 points for each lesson
A total of 34 lessons	80
Final control work on block 2 (practical lesson 35)	40
Together for block 2	120
Examination	80
Together for block 2 and the exam	200

#### Criteria for assessing knowledge

Score of 2.45 points in the autumn semester (2.35 points in the spring semester), 71-80 points on the RCC in the autumn semester (38-40 points in the spring semester) and 71-80 points on the exam (A on the ECTS scale and 5 on a national scale) **the student's response is evaluated if it demonstrates a deep knowledge of all theoretical principles and the ability to apply theoretical material for practical analysis and has no inaccuracies.**

A score of 1.94 points in the fall semester (1.77 points in the spring semester), 61-70 points on the RCC in the fall semester (35-37 points on the RCC in the spring semester) and 61-70 points on the exam (B and C for ECTS scale and 4 on the national scale) **the answer is evaluated if it shows knowledge of all theoretical provisions, the ability to apply them in practice, but some fundamental inaccuracies are allowed.**

A score of 1.43 points in the fall semester (1.18 points in the spring semester), 50-60 points on the RCC in the fall semester (30-34 points on the RCC in the spring semester) and 50-60 points on the exam (D and E for ECTS scale and 3 on the national scale) **the student's answer is evaluated provided that he knows the main theoretical principles and can use them in practice.**

## 7. RECOMMENDED BOOKS

### 7.1. Basic

1. Internal Medicine: General Practitioner's Guide: A Textbook. / A.C. Svintsitsky, ОО Абрагамович, П.М. Bodnar and others; For order. prof. A.S. Svintsitsky. - VSV "Medicine", 2014. - 1272 p. + 16s. colors. incl.
2. Gastroenterology. Textbook: In 2 T. -Vol.1 / ed. Prof. NV Kharchenko., O.Ya. Babaka. - Kirovograd: Polyum, 2016. - 488 p.
3. Gastroenterology. Textbook: In 2 T. -Vol.2 / ed. Prof. NV Kharchenko., O.Ya. Babaka. - Kirovograd: Polyum, 2017. - 432 p.
4. Endocrinology: a textbook (PM Bodnar, GP Mikhalchyshyn, YI Komisarenko, etc.), ed. Professor P.M. Bodnara, - Type. 4, reworked. and ext. - Vinnytsia: Nova Kniga, 2017. - 456 p.

5. Order of the Ministry of Health of Ukraine dated 27.06.2013 № 555 "On approval and implementation of medical and technological documents for the standardization of medical care for chronic obstructive pulmonary disease." Unified clinical protocol of primary, secondary (specialized) and tertiary (highly specialized) medical care and medical rehabilitation "Chronic obstructive pulmonary disease".
6. Order of the Ministry of Health of Ukraine dated 08.10.2013 № 868 "On approval and implementation of medical and technological documents for the standardization of medical care for bronchial asthma." Unified clinical protocol of primary, secondary (specialized) medical care "Bronchial asthma".
7. Order of the Ministry of Health of Ukraine dated 08.10.2013 № 866 "On approval and implementation of medical and technological documents for the standardization of medical care for non-Hodgkin's lymphoma and Hodgkin's lymphoma." Unified clinical protocol of primary, secondary (specialized), tertiary (highly specialized) medical care "Non-Hodgkin's lymphoma and Hodgkin's lymphoma" .
8. Order of the Ministry of Health of Ukraine dated 31.10.2013 № 943 "On approval and implementation of medical and technological documents for the standardization of medical care for gastroesophageal reflux disease." Unified clinical protocol of primary, secondary (specialized) medical care "Gastroesophageal reflux disease" .
9. Order of the Ministry of Health of Ukraine dated 15.01.2014 №34 " **On approval and implementation of medical and technological documents for standardization of emergency medical care**". Unified clinical protocol of emergency medical care "Acute poisoning", "Hemophilia", "Hypertensive crisis", "Hyperthermia", "Hypovolemic shock", "Acute respiratory failure", "Sudden cardiac death", "Pulmonary artery thromboembolism".
10. Order of the Ministry of Health of Ukraine dated 03.09.2014 № 613 "On approval and implementation of medical and technological documents for standardization of medical care for peptic ulcer of the stomach and duodenum." Unified clinical protocol of primary, secondary (specialized) medical care "Peptic ulcer of the stomach and duodenum in adults".
11. Order of the Ministry of Health of Ukraine dated 06.11.2014 № 826 "On approval and implementation of medical and technological documents for the standardization of medical care for chronic non-infectious hepatitis". Unified clinical protocol of primary, secondary (specialized) medical care "Non-alcoholic steatohepatitis" .
12. Order of the Ministry of Health of Ukraine №1021 dated 29.12.2014 "Unified clinical protocol of primary, emergency, secondary (specialized) and tertiary (highly specialized) medical care" Type 1 diabetes mellitus in young people and adults " .
13. Order of the Ministry of Health of Ukraine dated 8.06.2015 №327 " On approval and implementation of medical and technological documents for the standardization of medical care for cough". Unified clinical protocol of primary care "Cough in adults".
14. Order of the Ministry of Health of Ukraine dated 02.11.2015 № 709 "On approval and implementation of medical and technological documents for the standardization of medical care for iron deficiency anemia." Unified clinical protocol of primary and secondary (specialized) medical care "Iron deficiency anemia" .
15. Order of the Ministry of Health of Ukraine dated 02.11.2015 № 710 "On approval and implementation of medical and technological documents for the standardization of medical care for multiple myeloma". Unified clinical protocol of primary, secondary (specialized), tertiary (highly specialized) medical care "Multiple myeloma" .
16. Order of the Ministry of Health of Ukraine dated 02.11.2015 № 711 "On approval and implementation of medical and technological documents for the standardization of medical care for chronic myeloid leukemia." Unified clinical protocol of primary, secondary (specialized), tertiary (highly specialized) medical care "Chronic myeloid leukemia" .
17. Order of the Ministry of Health of Ukraine dated 11.02.2016 № 90 "On approval and implementation of medical and technological documents for the standardization of medical care

for inflammatory bowel disease." Unified clinical protocol of primary, secondary (specialized), tertiary (highly specialized) medical care "Inflammatory bowel disease (Crohn's disease, ulcerative colitis)" .

18. Order of the Ministry of Health of Ukraine dated 12.05.2016 № 439 "On approval and implementation of medical and technological documents for the standardization of medical care for chronic lymphoid leukemia" . Unified clinical protocol of primary, secondary (specialized), tertiary (highly specialized) medical care "Chronic lymphoid leukemia" .
19. Order of the Ministry of Health of Ukraine dated 21.06.2016 №613 "On approval and implementation of medical and technological documents for the standardization of medical care for viral hepatitis B". Unified clinical protocol of primary, secondary (specialized) medical, tertiary (highly specialized) care "Viral hepatitis B in adults" .
20. Order of the Ministry of Health of Ukraine dated 18.07.2016 №729 "On approval and implementation of medical and technological documents for the standardization of medical care for viral hepatitis C". Unified clinical protocol of primary, secondary (specialized) medical, tertiary (highly specialized) care "Viral hepatitis C in adults" .
21. Unified protocol for providing medical care to adult patients with community-acquired pneumonia. Nosocomial pneumonia in adults: etiology, pathogenesis, classification, diagnosis, antibacterial therapy and prevention - Kyiv, National Academy of Medical Sciences of Ukraine - 2016.
22. Endocrinology: a textbook (PN Bodnar, GP Mikhalchishin, YI Komissarenko, etc.), ed. Professor P.N. Bodnara, - Ed. 2, reworked. and add. - Vinnytsia: Nova Kniga, 2016. - 488 p.
23. Davidson's Principles and Practice of Medicine 23rd Edition. Editors: Stuart Ralston, Ian Penman, Mark Strachan Richard Hobson. Elsevier. - 2018. - 1440p.
24. Endocrinology: textbook / Ed. by prof. Petro M. Bodnar.- 4th ed. updated - Vinnitsa: Nova Knyha, 2017. - 328 p.
25. Principles and Practice of Infectious Diseases. 2-Volume set / JE Bennet, R. Dolin, MJ Blaser - 8th edition: Saunders Publisher, 2014.
26. USMLE Step 2 CK Lecture Notes 2017: Internal Medicine (Kaplan Test Prep). - 2016. - Published by Kaplan Medical. - 474 pages.

## **7.2.Auxiliary**

1. Adapted evidence-based clinical guideline "Viral hepatitis C in adults" , Kyiv - 2016.
2. Adapted evidence-based clinical guideline "Viral hepatitis B (chronic)" , Kyiv - 2016.
3. Adapted evidence-based clinical guideline "Viral hepatitis B. WHO position" , Kyiv - 2016.
4. Algorithms in the practice of gastroenterologist // Edited by O. Babak. - Kyiv: LLC "Library of Health of Ukraine", 2015. - 162 p.
5. Internal Medicine. In 3 vols. Vol. 1 / Ed. prof. K.M. Amosova. - К .: Медицина, 2008. - 1056 с.
6. Internal Medicine. In 3 vols. Vol. 2 / AS Svintsytsky, LF Konoplyova, YI Feshchenko, etc .; For order. prof. K.M. Amosova. - К .: Медицина, 2009. - 1088 с.
7. WHO. Newsletter No. 387 February 2016 <http://www.who.int/mediacentre/factsheets/fs387/>
8. Diagnosis and treatment of diseases of the blood system: Manual [for students. and interns]: to the 170th anniversary of the Nat. honey. Bogomolets University / AS Svintsytsky, SA Guseva, SV Skrypnychenko, IO Rodionova. - К.: Медкнига, 2011. - 335 с.
9. Zak KP, Tronko MD, Popova VV, Butenko AK Diabetes, immunity and cytokines. Kyiv: Book-plus, 2014. - 500 p.
10. Classifications of diseases of the digestive system: a handbook / edited by NV Харченко / О.Я. Babak, О.А. Голубовська, Н.Б. Hubergritz, А.Е. Dorofeev, TD Zvyagintseva,

IM Skripnik, S.M. Weaver, G.D. Fadeenko, NV Харченко, М.Б. Shcherbinina - Kirovograd: PE "Polyum", 2015. - 54 p.

11. Clinical and radiological atlas for the diagnosis of lung diseases: a textbook / L.D. Todoriko, IO Semyaniv, A.V. Boyko, VP Шаповалов. - Chernivtsi: Medical University, 2014. - 342 p.
12. Order of the Ministry of Health of Ukraine dated 03.08.2012 № 600 "On approval and implementation of medical and technological documents for standardization of medical care for dyspepsia." Unified clinical protocol of primary care "Dyspepsia".
13. Order of the Ministry of Health of Ukraine №1118 dated 21.12.2012 "Unified clinical protocol of primary and secondary (specialized) medical care" Type 2 diabetes mellitus".
14. Fundamentals of nephrology / ed. М.О.Колесника. - Kyiv: Health of Ukraine Library, 2013. - 340 p.
15. Workshop on internal medicine: textbook. pos. / К.М. Amosova, LF Konoplyova, LL Sidorova, GV Mostbauer et al. - Kyiv: Ukrainian Medical Bulletin, 2012. - 416 p.
16. Standards for providing medical care to patients with pathological conditions of the thyroid and thyroid glands under the influence of negative environmental factors (third edition, extended) / Ed. O.B. Kaminsky. - Kharkiv: Uright, 2017. - 312p.
17. Todoriko LD Basic syndromes and methods of examination in pulmonology and tuberculosis: a textbook / L.D. Todoriko, A.V. Boyko. - Київ: Медкнига, 2013. - 432 с.
18. Tronko ND, Sokolova LK, Kovzun EI, Pasteur IP Insulin therapy: yesterday, today, tomorrow. - К.: Медкнига, 2014. - 192с.
19. 100 selected lectures on endocrinology. / Ed. Yu.I. Караченцева, А.В. Казакова, Н.А. Kravchun, IM Ilyina. - X: 2014. - 948 с.
20. *International* Textbook of Diabetes Mellitus, 2 Volume Set. Ed. by RA Defronzo, E. Ferrannini, P. Zimmet, G. Alberti. 4<sup>th</sup> Edition, 2015. - 1228p.
21. Harrison's Endocrinology. Ed. by J. Larry Jameson, Mc Graw - Hill., New York, Chicago, Toronto. ea 4rd edition, 2016. - 608 p.
22. *Williams* Textbook of Endocrinology. Ed. by Henry M. Kronenberg, Shlomo Melmed, Kenneth S. Polonsky, P. Reed Larsen. Saunders. 13 edition, 2015. - 1936p.

### 7.3.Information resources

1. <https://www.aasld.org/>
2. <http://www.acc.org/guidelines#sort=%40foriginalz32xpostedz32xdate86069%20descending>
3. <https://www.asn-online.org/education/training/fellows/educational-resources.aspx#Guidelines>
4. [www.brit-thoracic.org.uk/standards-of-care/guidelines](http://www.brit-thoracic.org.uk/standards-of-care/guidelines)
5. <https://cprguidelines.eu/>
6. <https://www.diabetes.org>
7. <https://www.escardio.org/Guidelines/Clinical-Practice-Guidelines>
8. <http://www.eagen.org/>
9. <http://www.ers-education.org/guidelines.aspx>
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