



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 WITH IN-DEPTH STUDY OF CARDIOLOGY AND NEPHROLOGY"

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)

VI year

Developer	Zack M.Y.
Head of the Department of	
Developer	Zack M.Y.
Guarantor of the educational	Klimenko M.O.
program	
Director of the Institute	Grishchenko
	G.V.
Chief of EMD	Shkirchak S.I.

## Description of the academic discipline

Name of the indicator	Characteristics of the discipline	
Name of discipline	Internal medicine with in-depth study of cardiology and nephrology	
Branch of knowledge	22 "Health care"	
Specialty	222 "Medicine"	
Specialization (if any)		
Educational program	Medicine	
Level of higher education	Master	
Discipline status	Selective	
Curriculum	6th	
Academic year	2020-2021	
Semester numbers:	Full-time form	Part-time form
	11th, 12th	
Total number of ECTS credits / hours	14.5 credits (7.0 / 7.5) / 435 hours	
Course structure: - lectures - practical training - hours of independent work of students	Full-time form	Part-time form
	-	
	270 (130/140)	
	165 (80/85)	
Percentage of classroom load	62%	
Language of instruction		
Form of intermediate control (if any)	Attestation for the 11th semester	
Form of final control	Test - 12th semester	

## 1. Purpose, tasks and planned learning outcomes

**The purpose** of teaching / studying the discipline "Internal Medicine with in-depth study of cardiology and nephrology" is for students to master the 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 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 of the sections of internal diseases. standards of diagnosis and treatment, evidence-based medicine data, as well as emergencies in the internal medicine clinic.

**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
- 3) interpretation of the relationship between the patient's complaints and 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.

**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 human diseases
- Master the practical techniques and methods of physical and laboratory-instrumental examination of patients
- Master the general methodological approaches to clinical examination of the patient
- Diagnosis of certain internal human diseases with their typical manifestations

- Formation of students' moral, ethical and deontological qualities in professional communication with the patient
- 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 a 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 internal medicine clinic.
- 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 internal medicine clinic.
- Apply the basic algorithms of intensive care in emergencies in the clinic of internal medicine.
- Perform medical manipulations.
- Maintain medical records at the internal medicine clinic.
- 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 state of the cardiovascular 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.
  - Endocrine diseases, pathology of the blood system. Etiology, pathogenesis, clinic, diagnosis and treatment of diseases.
  - Rheumatological and pulmonological diseases. Etiology, pathogenesis, clinic, diagnosis and treatment of diseases.
  - Providing emergency care at the hospital stage of treatment of the above diseases.
- **BE ABLE:**
  - 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, spiromograms, 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 .

- **HAVE COMPETENCIES:**

- 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 (EPP)** and is focused on the formation of **competencies**:

- **general (GC) - GC1-GC3 EPP:**

- GC1. Ability to abstract thinking, analysis and synthesis, the ability to learn and master modern knowledge.
- GC2. Ability to apply knowledge in practical situations.
- GC3. Knowledge and understanding of the subject area and understanding.

- **professional (FC) - FC1 - FC6, FC11, FC16, FC18 EPP:**

- 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 disease treatment.
- FC11. Skills to perform medical manipulations.
- FC16. Ability to determine the tactics of management of persons subject to dispensary supervision.
- FC18. Ability to keep medical records.

According to the educational-professional program, the expected **program learning outcomes (PLO)** include the skills of **PLO11, PLO13-PLO18, PLO21-PLO28, PLO30, PLO 32, PLO 33, PLO 35, PLO41 EPP:**

- **PLO 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's survey. Under any

circumstances (in the 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 areas of the heart and superficial vessels, determination of percussion boundaries 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, chest palpation, percussion and auscultation lungs);

- to examine the condition of the abdominal organs (examination of the abdomen, palpation and percussion of the intestines, stomach, liver, spleen, palpation pancreas, kidneys, pelvic organs, finger rectal examination);

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

examine the state of the nervous system;

examine the condition of the genitourinary system;

- to assess the state of fetal development according to the calculation of fetal weight and auscultation of his heartbeat.

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

- Be able to identify and record the leading clinical symptom or syndrome (according to list 1) by making an informed decision, using preliminary data of the patient's history, data of physical examination of the patient, knowledge of the person, his organs and systems, adhering to the relevant ethical and legal norms.

- Be able to establish the most probable or syndromic diagnosis of the disease (according to list 2) by making an informed decision, by comparing with standards, using previous history and examination of the patient, based on the leading clinical symptom or syndrome, using knowledge about the person, his organs and system, adhering to the relevant ethical and legal norms.

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

- Assign laboratory and / or instrumental examination of the patient (according to list 4) by making an informed decision, based on the most probable or syndromic diagnosis, according to standard schemes, using knowledge about the person, his organs and systems, adhering to relevant ethical and legal norms.

- Carry out differential diagnosis of diseases (according to list 2) by making an informed decision, according to a certain algorithm, using the most probable or syndromic diagnosis, laboratory and instrumental examination of the patient, knowledge about the person, his organs and systems, adhering to ethical and legal norms.

- Establish a preliminary clinical diagnosis (according to list 2) by making an informed decision and logical analysis, using the most probable or syndromic diagnosis, laboratory and instrumental examination of the patient, the conclusions of differential diagnosis, knowledge of man, his organs and systems, adhering to the relevant ethical and legal norms.

- **PLO 15.** Determine the necessary mode of work and rest in the treatment of the disease (according to list 2), in a health care facility, at home and at the stages of medical evacuation, including in the field, based on a preliminary clinical diagnosis, using knowledge of man, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision according to existing algorithms and standard schemes.

- **PLO 16.** Determine the necessary medical nutrition in the treatment of the disease (according to list 2), in a health care facility, at home and at the stages of medical evacuation, including in the field on the basis of a preliminary clinical diagnosis, using knowledge about the person, his bodies and systems, adhering to the relevant ethical and legal norms, by making an

informed decision according to existing algorithms and standard schemes.

- **PLO 17.** Determine the nature of treatment (conservative, operative) of the disease (according to list 2), in a health care facility, at the patient's home and at the stages of medical evacuation, including in the field on the basis of a previous clinical diagnosis, using knowledge about the person, its bodies and systems, adhering to the relevant ethical and legal norms, by making an informed decision according to existing algorithms and standard schemes. Determine the principles of treatment of the disease (according to list 2), in a health care facility, at the patient's home and at the stages of medical evacuation, including field conditions, based on a preliminary clinical diagnosis, using knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision according to existing algorithms and standard schemes.

- **PLO 18.** Establish a diagnosis (according to list 3) by making an informed decision and assessing the human condition, under any circumstances (at home, on the street, health care facility, its units), including in an emergency, in the field, in conditions of lack of information and limited time, using standard methods of physical examination and possible anamnesis, knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms.

- **PLO 21.** Organize medical and evacuation measures among the population and servicemen, in emergency situations, including in the field, during the detailed stages of medical evacuation, taking into account the existing system of medical and evacuation support.

- **PLO 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.

- **PLO 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:

- evaluate the patient and medical eligibility criteria method of contraception;
- determine the patient's examination plan before choosing a method of contraception;
- provide family planning counseling;
- to select a modern method of contraception for different categories people.

- **PLO 25.** To form, in the conditions of a health care institution, its division on production, using the generalized procedure of an estimation 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).

- **PLO 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 impact on the environment, using existing methods, within the primary health care, of:

- organization of 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 pregnancies;
- promoting a healthy lifestyle.



- **PLO 27.** Implement a system of primary prevention measures, based on data on the health status of the population served and the presence of the determinants of health, in the health care facility and outside it using existing methods, within the primary care. sanitary assistance 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.

- **PLO 28.** Organize secondary and tertiary prevention measures among the assigned contingent of the 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 relevant ethical and legal norms, by making an informed decision, in a health care facility, in particular:

to form groups of dispensary supervision;

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

- **PLO 30.** Carry out in the conditions of a health care institution, its subdivision:

- detection and early diagnosis of infectious diseases (according to the list2);
- \* primary anti-epidemic measures in the center of an infectious disease.

- **PLO 32.** In the health care facility, or at the patient's home on the basis of the obtained data on the patient's health, using standard schemes, using knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision:

- to determine the tactics of examination and secondary prevention of patients subject to dispensary supervision;
- to determine the tactics of examination and primary prevention of healthy persons subject to dispensary supervision;
- calculate and prescribe the necessary food for children in the first year of life.

- **PLO 33.** Determine the presence and degree of limitations of life, type, degree and duration of disability with the issuance of relevant documents in a health care institution on the basis of data on the disease and its course, features of professional activity.

- **PLO 35.** On the territory of service according to standard methods of descriptive, analytical epidemiological and medical-statistical researches:

- to carry out screening for the detection of the most important non-communicable diseases;
- assess in the dynamics and in comparison with the average static data indicators of morbidity, including chronic non-communicable diseases, disability, mortality, integrated health indicators;

identify risk factors for the occurrence and course of diseases;

to form risk groups of the population.

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

- to select and use unified clinical protocols for the provision of medical care, developed on the basis of evidence-based medicine;
- participate in the development of local protocols for medical care;
- to control the quality of medical care on the basis of statistical data, expert evaluation and sociological research data using indicators of structure, process and results of activities;
- identify factors that hinder the improvement of the quality and safety of medical care.

### 3. The program of the discipline

The organization of the educational process is carried out according to the European credit transfer-accumulative system (ECTS).

The curriculum consists of two blocks:

#### **BLOCK 1. MANAGEMENT OF PATIENTS WITH MAIN SYMPTOMS AND SYNDROMES IN THE THERAPEUTIC CLINIC.**

##### **SECTIONS:**

1. Management of patients with the main symptoms and syndromes in the cardiac clinic (90/1,75).
2. Management of patients with the main symptoms and syndromes in the rheumatology clinic (21/1,75).
3. Management of patients with the main symptoms and syndromes in the gastroenterological clinic (44/1,75).
4. Management of patients with the main symptoms and syndromes in the pulmonology and allergology clinic (55/1,75).

#### **BLOCK 2. EMERGENCY CONDITIONS IN THERAPY**

##### **SECTIONS:**

5. Management of patients with the main symptoms and syndromes in the endocrinology clinic (28/1,07).
6. Management of patients with the main symptoms and syndromes in the nephrology clinic (50/1,07).
7. Management of patients with the main symptoms and syndromes in the hematology clinic (31/1,07).
8. Emergencies in cardiorheumatology (38/1,07).
9. Emergencies in pulmonology and allergology (21/1,07).
10. Emergencies in gastroenterology and nephrology (38/1,07).
11. Emergencies in endocrinology and hematology (19/1,07).

#### **BLOCK 1. MANAGEMENT OF PATIENTS WITH MAIN SYMPTOMS AND SYNDROMES IN THE THERAPEUTIC CLINIC**

##### TABLE OF CONTENTS 1

##### "MANAGEMENT OF PATIENTS WITH MAIN SYMPTOMS AND SYNDROMES IN THE CARDIOLOGICAL CLINIC"

##### *Specific goals*

Students must be able to:

- Conduct interviews and physical examinations of patients with the main symptoms and syndromes in the cardiac clinic.
- Preliminary diagnosis of major cardiovascular diseases and identify their complications.
- Make a plan for examination of patients and justify the use of each non-invasive and invasive diagnostic method used in cardiology.
- Evaluate the results of basic instrumental and laboratory diagnostic methods in the

cardiac clinic.

- Make a differential diagnosis of the main symptoms and syndromes in a cardiac clinic.
- Justify and formulate the clinical diagnosis of major diseases of the cardiovascular system.
- Determine the prognosis of patients with major cardiovascular diseases.
- Prescribe non-drug and drug treatment, including prognosis-modifying, to carry out non-drug and drug primary and secondary prophylaxis at the basic diseases in cardiac clinic.
- Measure blood pressure and interpret the data obtained.
- Record and interpret ECG in 12 leads.
- Demonstrate mastery of moral and deontological principles of a medical professional and the principles of professional subordination.

#### **Topic 1. Management of a patient with hypertension**

The main diseases and conditions accompanied by arterial hypertension: essential and secondary arterial hypertension, in particular, renal (renovascular, renoparenchymal); endocrine (Itsenko-Cushing's syndrome and disease, pheochromocytoma, primary hyperaldosteronism, thyrotoxicosis); aortic coarctation, isolated systolic arterial hypertension, arterial hypertension during pregnancy. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by hypertension. Primary and secondary prevention. Forecast and efficiency.

#### **Topic 2. Management of a patient with chronic (recurrent) chest pain.**

The main diseases and conditions accompanied by chronic chest pain: diseases of the cardiovascular system (ischemic heart disease, in particular, stable angina, stenosis of the aortic orifice, hypertrophic cardiomyopathy, neurocirculatory dystonia); diseases of the digestive system (gastroesophageal reflux disease, cardiospasm, esophageal spasm, hernia of the esophageal orifice of the diaphragm, peptic ulcer of the stomach and duodenum); diseases of the musculoskeletal system (osteocondrosis of the thoracic spine); panic attack syndrome. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by chronic chest pain. Primary and secondary prevention. Forecast and efficiency.

#### **Topic 3. Management of a patient with acute chest pain.**

The main diseases and conditions accompanied by acute chest pain: diseases of the cardiovascular system (acute coronary syndrome, acute pericarditis, acute myocarditis, coronary heart disease, aortitis, aortic dissection, pulmonary embolism); respiratory diseases (pleurisy, pneumothorax); diseases of the musculoskeletal system (myositis, costochondritis); diseases of the nervous system (shingles, intercostal neuralgia). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by acute chest pain. Primary and secondary prevention. Forecast and efficiency.

#### **Topic 4. Management of a patient with cardiac arrhythmias.**

Differential diagnosis of supraventricular and ventricular arrhythmias, atrial fibrillation and flutter. Tactics of patient management. The main classes of antiarrhythmic drugs, indications for their use, side effects. Electropulse therapy. Non-drug treatments for arrhythmias, including catheter procedures. Primary and secondary prevention. Forecast and efficiency.

#### **Topic 5. Management of a patient with impaired cardiac conduction.**

Violations of sinoatrial conduction, atrioventricular blockade of various degrees, blockade of the legs of the His bundle. Syndrome of sinus node weakness. Frederick's syndrome. ECG

diagnostics. Tactics of patient management, additional instrumental methods of examination. Pacemaking methods. Primary and secondary prevention, prognosis and efficiency.

**Topic 6. Management of a patient with shortness of breath.**

The main diseases and conditions accompanied by shortness of breath: 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; pulmonary vascular pathology, in particular pulmonary embolism and chest or respiratory muscle disease; anemia; hyperventilation syndrome in neurosis and neurocirculatory dystonia; lesions of the respiratory center in organic diseases of the brain. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by shortness of breath. Primary and secondary prevention. Forecast and efficiency.

**Topic 7. Management of a patient with edema syndrome**

The main diseases and conditions accompanied by edema syndrome: local (venous edema: chronic venous insufficiency, venous outflow disorders, deep vein thrombophlebitis; lymphatic edema: inflammatory, obstructive; edema in the musculoskeletal system: arthritis, tendonitis; orthostatic, idiopathic and general edema (nephrotic syndrome, cardiovascular disease with development of heart failure, liver disease, in particular, liver cirrhosis and other hypoproteinemic conditions: exudative enteropathy, malabsorption syndrome, alimentary and cachectic diseases; edema caused by medication). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnosis. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by edema m syndrome. Primary and secondary prevention. Forecast and efficiency.

**Topic 8. Management of a patient with pulmonary hypertension.**

Major diseases and conditions accompanied by pulmonary hypertension: idiopathic, hereditary, associated with medication or toxins, connective tissue diseases (systemic lupus erythematosus, systemic scleroderma), HIV infection, portal hypertension (cirrhosis of the liver), congenital heart disease Eisenmeger syndrome, acquired heart defects (mitral stenosis); associated with lung disease / hypoxia (chronic obstructive pulmonary disease), diseases that limit the movement of the chest (Bechterew's disease, kyphosis, kyphoscoliosis); in pulmonary embolism and chronic postthromboembolic pulmonary hypertension. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by pulmonary hypertension. Primary and secondary prevention. Forecast and efficiency.

**Topic 9. Management of a patient with heart murmur.**

The main diseases and conditions accompanied by systolic and / or diastolic murmurs in the heart: 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 stenosis, aortic valve insufficiency, tricuspid insufficiency: organic and relative), hypertrophic cardiomyopathy, "innocent" systolic age in individuals). Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by shortness of breath. Indications for surgical treatment, Primary and secondary prevention. Forecast and efficiency.

**Topic 10. Management of a patient with chronic heart failure.**

Right ventricular, left ventricular and biventricular heart failure. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management depending on the genesis, functional class and stage of heart failure. Drug and non-drug, including surgical,

treatment, the impact on the prognosis of various treatments. Primary and secondary prevention. Forecast and efficiency.

TABLE OF CONTENTS SECTION 2  
"MANAGEMENT OF PATIENTS WITH MAIN SYMPTOMS AND SYNDROMES IN  
RHEUMATOLOGICAL CLINIC»

***Specific goals***

Students must be able to:

- Conduct interviews and physical examinations of patients with the main symptoms and syndromes in the rheumatology clinic.
- Preliminary diagnosis of major rheumatic diseases and identify their complications.
- Make a plan for examination of patients and justify the use of each non-invasive and invasive diagnostic method used in rheumatology.
- Evaluate the results of basic instrumental and laboratory diagnostic methods in a rheumatology clinic.
- Make a differential diagnosis of the main symptoms and syndromes in a rheumatology clinic.
- Justify and formulate the clinical diagnosis of major rheumatic diseases.
- Determine the prognosis of patients with major rheumatic diseases.
- Prescribe non-drug and drug treatment, including prognosis-modifying, to carry out non drug and drug primary and secondary prophylaxis at the basic diseases in rheumatological clinic.
- Demonstrate mastery of moral and deontological principles of a medical specialist and the principles of professional subordination.

**Topic 11. Management of a patient with back and limb pain.**

The main diseases and conditions accompanied by pain in the extremities and back: seronegative spondyloarthropathy (ankylosing spondylitis, reactive arthritis, arthritis with enterocolitis), osteochondrosis of the spine, osteoporosis, dermatomyositis, vamyrositis, polymyositis, diarrhea, diarrhea, polymyositis, Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by pain in the extremities and back. Primary and secondary prevention. Forecast and efficiency.

**Topic 12. Management of a patient with joint syndrome.**

The main diseases and conditions accompanied by joint syndrome: rheumatoid arthritis, ankylosing spondylitis, reactive arthritis, gout, systemic lupus erythematosus, systemic scleroderma, dermatomyositis / polymyositis, nodular polyarteritis, acute rheumatic fever. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by joint syndrome. Primary and secondary prevention. Forecast and efficiency.

**Topic 13. Management of a patient with purpura**

The main diseases and conditions accompanied by purpura: hemorrhagic vasculitis, hypersensitive vasculitis, nodular polyarteritis, idiopathic thrombocytopenic purpura, disseminated intravascular coagulation syndrome. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by purpura. Primary and secondary prevention. Forecast and efficiency.

**Topic 14. Management of a patient with fever.**

The main diseases and conditions accompanied by prolonged fever: infectious endocarditis, systemic connective tissue diseases, nodular polyarteritis, rheumatoid arthritis,

malignant neoplasms, including leukemia, lymphoma, myeloma, lymphogranulomatosis; sepsis, tuberculosis, Crohn's disease, AIDS. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by prolonged fever. Primary and secondary prevention. Forecast and efficiency.

**Topic 15. Management of a patient with weight loss.**

The main diseases and conditions accompanied by weight loss: cancer, systemic connective tissue diseases, in particular, systemic lupus erythematosus, dermatomyositis / polymyositis, systemic scleroderma; systemic vasculitis, including nodular polyarteritis; diseases of the digestive tract, lungs, cardiovascular system, alimentary and psychogenic weight loss, etc. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by weight loss. Primary and secondary prevention. Forecast and efficiency.

TABLE OF CONTENTS SECTION 3  
"MANAGEMENT OF PATIENTS WITH MAIN SYMPTOMS AND SYNDROMES IN  
THE GASTROENTEROLOGICAL CLINIC»

***Specific goals***

Students must be able to:

- Conduct interviews and physical examinations of patients with the main symptoms and syndromes in the gastroenterology clinic.
- Preliminary diagnosis of major gastrointestinal diseases and identify their complications.
- Make a plan for examination of patients and justify the use of each non-invasive and invasive method of diagnosis used in gastroenterology.
- Evaluate the results of basic instrumental and laboratory diagnostic methods in the gastroenterology clinic.
- Make a differential diagnosis of the main symptoms and syndromes in the gastroenterology clinic.
- Justify and formulate the clinical diagnosis of major gastrointestinal diseases.
- Determine the prognosis of patients with major gastrointestinal diseases.
- Prescribe non-drug and drug treatment, conduct non-drug and drug primary and secondary prevention of major diseases in the gastroenterology clinic.
- Demonstrate mastery of moral and deontological principles of a medical specialist and the principles of professional subordination.

**Topic 16. Management of a patient with dysphagia and heartburn.**

The main diseases and conditions accompanied by dysphagia: esophagitis, including gastroesophageal reflux disease; esophageal cancer, diffuse esophageal spasm, achalasia of the cardia, esophageal diverticula, systemic scleroderma, dysphagia with central and peripheral nervous and muscular systems.

The main diseases and conditions accompanied by heartburn: gastroesophageal reflux disease, unexplored dyspepsia, chronic gastritis, peptic ulcer of the stomach and duodenum. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by dysphagia and heartburn. Primary and secondary prevention. Forecast and efficiency.

**Topic 17. Management of a patient with dyspepsia.**

Definition. The main reasons for development. Classification. Functional dyspepsia and its variants: epigastric pain syndrome and postprandial distress syndrome. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research

methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment. Primary and secondary prevention. Forecast and efficiency.

**Topic 18. Management of a patient with abdominal pain.**

The main diseases and conditions accompanied by chronic 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, non-irritable bowel syndrome, disease frog". Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by chronic abdominal pain. Indications for surgical treatment. Primary and secondary prevention. Forecast and efficiency.

**Topic 19. Management of a patient with diarrhea.**

The main diseases and conditions that are accompanied by prolonged diarrhea: chronic atrophic gastritis, diseases of the operated stomach, Zollinger-Ellison syndrome, irritable bowel syndrome, Crohn's disease, syndrome of excessive bacterial growth in the small intestine, celiac disease, eating disorders. chronic pancreatitis, diabetic enteropathy, amyloidosis, acquired immunodeficiency syndrome. The role of intolerance to food components, enzymopathies and immune factors. Malabsorption and maldigestion syndromes. Secretory, exudative, dysmotor and functional diarrhea. Basic coprological syndromes. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by diarrhea. Primary and secondary prevention. Forecast and efficiency.

**Topic 20. Management of a patient with constipation.**

The main diseases and conditions accompanied by constipation: irritable bowel syndrome, bowel cancer, anorectal diseases, hypothyroidism, neurogenic and psychogenic disorders, eating disorders, situational and iatrogenic constipation. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by constipation. Primary and secondary prevention. Forecast and efficiency.

**Topic 21. Management of a patient with jaundice.**

Major diseases and conditions accompanied by jaundice: chronic hepatitis, cirrhosis and liver cancer, hemolytic anemia, gallstone disease, pancreatic cancer, vater nipple cancer, benign hyperbilirubinemia. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by jaundice. Primary and secondary prevention. Forecast and efficiency.

**Topic 22. Management of a patient with hepatomegaly and hepatolienal syndrome.**

The main diseases and conditions accompanied by hepatomegaly and hepatolienal syndrome: diseases of the parenchyma and vessels of the liver, including chronic hepatitis, cirrhosis and liver cancer, hepatic vein thrombosis; diseases of the blood and blood-forming organs, in particular, leukemia, lymphogranulomatosis, erythremia; right ventricular heart failure, including with constrictive pericarditis; accumulation diseases, in particular, hemachromatosis, etc. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by hepatomegaly and hepatolienal syndrome. Indications for surgical treatment. Primary and secondary prevention. Forecast and efficiency.

**Topic 23. Management of a patient with portal hypertension and ascites.**

The main diseases and conditions that lead to the development of portal hypertension and ascites: cirrhosis and liver tumors, right ventricular heart failure, including in constrictive pericarditis, hepatic vein thrombosis, thrombosis of the portal vein or its branches and

thrombosis, stenosis, obliteration of the inferior vena cava at or above the hepatic veins, etc. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by portal hypertension and ascites. Indications for endoscopic and surgical treatment (bypass surgery, liver transplantation). Primary and secondary prevention. Forecast and efficiency.

TABLE OF CONTENTS SECTION 4  
"MANAGEMENT OF PATIENTS WITH MAIN SYMPTOMS AND SYNDROMES IN PULMONOLOGICAL AND ALLERGOLOGICAL CLINIC"

***Specific goals***

Students must be able to:

- Conduct interviews and physical examinations of patients with the main symptoms and syndromes in the pulmonology clinic.
- Preliminary diagnosis of major respiratory diseases and identify their complications.
- Make a plan for examination of patients and justify the use of each non-invasive and invasive diagnostic method used in pulmonology.
- Evaluate the results of basic instrumental and laboratory diagnostic methods in the pulmonology clinic.
- Make a differential diagnosis of the main symptoms and syndromes in the pulmonology clinic.
- Justify and formulate the clinical diagnosis of major respiratory diseases.
- Determine the prognosis of patients with major respiratory diseases.
- Prescribe non-drug and drug treatment, conduct non-drug and drug primary and secondary prevention of major diseases in the pulmonology clinic.
- Demonstrate mastery of moral and deontological principles of a medical specialist and the principles of professional subordination.

**Topic 24. Management of a patient with pulmonary infiltrate**

The main diseases and conditions accompanied by pulmonary infiltrate: pneumonia, infiltrative pulmonary tuberculosis, eosinophilic pulmonary infiltrate, pulmonary infarction, lung cancer, benign lung tumors, pulmonary sarcoidosis, focal pneumosclerosis. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by pulmonary infiltrate. Primary and secondary prevention. Forecast and efficiency.

**Topic 25. Management of a patient with a chronic cough.**

The main diseases and conditions accompanied by cough: chronic obstructive pulmonary disease, bronchial asthma, pulmonary tuberculosis, bronchiectasis, malignant tumors of the lungs and bronchi, pneumoconiosis, left ventricular heart failure, gastroesophageal reflux disease and syndrome. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by cough. Primary and secondary prevention. Forecast and efficiency.

**Topic 26. Management of a patient with bronchoobstructive syndrome.**

The main diseases and conditions accompanied by bronchoobstructive syndrome: chronic obstructive pulmonary disease, bronchial asthma, tumors of the trachea, bronchi and mediastinum. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by broncho-obstructive syndrome. Primary and secondary prevention. Forecast and efficiency.



**Topic 27. Management of a patient with cyanosis.**

The main diseases and conditions accompanied by cyanosis: lung and heart diseases, including congenital heart defects in the state of Eisenmenger's syndrome, acquired heart defects (mitral stenosis), heart and respiratory failure and the formation of pathological hemoglobin. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by cyanosis. Primary and secondary prevention. Forecast and efficiency.

**Topic 28. Management of a patient with hemoptysis.**

The main diseases and conditions accompanied by hemoptysis: malignant tumors of the bronchi and lungs, pulmonary tuberculosis, pneumonia, bronchiectasis, lung abscess, mitral stenosis, pulmonary infarction and more. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by hemoptysis. Primary and secondary prevention. Forecast and efficiency.

**Topic 29. Management of a patient with pleural effusion.**

The main diseases and conditions accompanied by pleural effusion: pneumonia, pulmonary tuberculosis, malignant tumors of the lungs and pleura, heart failure, acute pancreatitis, liver cirrhosis, nephrotic syndrome, systemic connective tissue diseases, chest injuries. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by pleural effusion. Indications for pleural puncture, possible complications. Primary and secondary prevention. Forecast and efficiency.

**BLOCK 2 EMERGENCY CONDITIONS IN THERAPY****TABLE OF CONTENTS SECTION 5****"MANAGEMENT OF PATIENTS WITH MAIN SYMPTOMS AND SYNDROMES IN ENDOCRINOLOGICAL CLINIC"***Specific goals***Students must be able to:**

- Conduct surveys and physical examinations of patients with major endocrinological syndromes.
- Justify the use of basic invasive and non-invasive diagnostic methods used in endocrinology, determine the indications and contraindications for their implementation, possible complications.
- Make a plan for examination of patients with major endocrine syndromes.
- Make a differential diagnosis, justify and formulate a diagnosis of major endocrine syndromes.
- Prescribe treatment, determine the prognosis, conduct primary and secondary prevention of major endocrine diseases.
- Diagnose and provide care in emergencies in endocrinology.
- Demonstrate mastery of moral and deontological principles of a medical specialist and the principles of professional subordination.

**Topic 34. Management of a patient with uncompensated forms of diabetes mellitus (ketoacidosis).**

Criteria for the diagnosis of diabetes mellitus and other categories of hyperglycemia (WHO, 1999). Indications and rules for glucose tolerance test. Diagnostic value of determination of glycated hemoglobin, fructosamine, C-peptide, glucosuria, ketonuria. Criteria for compensation of metabolism, achievement of normoglycemia. Ketoacidotic conditions in

diabetes mellitus. Etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment. The main methods of diabetes treatment, diet therapy, dosed exercise, hypoglycemic pharmacotherapy, teaching the patient self-control.

Principles of treatment of pregnant women with diabetes. Features of urgent and planned surgical interventions in patients with diabetes mellitus. Insulin therapy regimens: traditional and intensified. Complications of insulin therapy: hypoglycemic conditions, insulin allergy, post-injection lipodystrophy, insulin resistance, chronic insulin overdose (Somogy syndrome), insulin edema.

Definition of metabolic syndrome, classification, diagnostic criteria, urgency of the problem. Drawing up a survey plan, the role of instrumental and laboratory methods of examination. Tactics of patients depending on the level of glycemia, body mass index, blood pressure. Drug and non-drug treatment. Primary and secondary prevention. Forecast and efficiency.

**Topic 35. Management of a patient with chronic complications of diabetes.**

Diabetic angiopathy and neuropathy. Classification. Diabetic nephropathy, stages of development, diagnosis, differential diagnosis, treatment and prevention. Diabetic retinopathy: stages of the process, diagnosis, prevention and treatment. Diabetic neuropathy, classification, diagnosis and treatment. Diabetic foot: classification, diagnosis, treatment.

**Topic 36. Management of a patient with goiter syndrome.**

Determination of the size of the thyroid gland. The concept of endemic non-toxic and nodular forms of goiter. Diseases accompanied by thyrotoxicosis. Clinical differences of nodular toxic goiter. Rationale for the diagnosis of thyrotoxicosis. Medical, surgical treatment of toxic goiter, use of <sup>131</sup>-iodine for therapeutic purposes. Differential diagnosis of thyroiditis with acute and subacute clinical course. Chronic thyroiditis. Rationale for the diagnosis of autoimmune thyroiditis. Nodular forms of goiter. Monitoring of patients with thyroid nodules.

Pathomorphological classification of thyroid tumors. Rationale for the diagnosis of thyroid cancer.

**Topic 37. Management of a patient with hypertension in endocrinological practice.**

Classification, criteria for diagnosis and differential diagnosis of secondary arterial hypertension of endocrine origin (in Conn's syndrome, pheochromocytoma, Itsenko-Cushing's syndrome, thyrotoxicosis, etc.). Drawing up a survey plan, the role of instrumental and laboratory methods of examination. Tactics of patient management, medical and non-medical treatment. Existing treatment standards. Primary and secondary prevention. Forecast and efficiency.

CONTENT MODULE 6

"MANAGEMENT OF PATIENTS WITH MAIN SYMPTOMS AND SYNDROMES IN THE NEPHROLOGICAL CLINIC"

***Specific goals.***

Students must be able to:

- Conduct interviews and physical examinations of patients with the main symptoms and syndromes in the nephrology clinic.
- Preliminary diagnosis of major diseases of the urinary system and identify their complications.
- Make a plan for examination of patients and justify the use of each non-invasive and invasive diagnostic method used in nephrology.
- Evaluate the results of basic instrumental and laboratory diagnostic methods in the nephrology clinic.
- Make a differential diagnosis of the main symptoms and syndromes in a nephrology clinic.
- Justify and formulate the clinical diagnosis of major diseases of the urinary system.

- Determine the prognosis of patients with major diseases of the urinary system.
- Prescribe non-drug and drug treatment, conduct primary and secondary prevention of major diseases in the nephrology clinic.
- 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 38. Management of a patient with urinary syndrome.**

The main diseases and conditions accompanied by urinary syndrome: acute and chronic glomerulonephritis, tubulointerstitial kidney disease, pyelonephritis, cystitis, urethritis, urolithiasis, diabetic nephropathy, renal infarction, renal tuberculosis, hypernephritis. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by urinary syndrome. Primary and secondary prevention. Forecast and efficiency.

**Topic 39. Management of a patient with nephrotic syndrome.**

The main diseases and conditions accompanied by nephrotic syndrome: acute and chronic glomerulonephritis, renal amyloidosis, diabetic nephropathy, myeloma. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by nephrotic syndrome. Primary and secondary prevention. Forecast and efficiency.

**Topic 40. Management of a patient with chronic kidney disease.**

The concept and classification of chronic kidney disease. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages. Renal replacement therapy: hemodialysis, kidney transplantation. Indications and contraindications, possible complications. Primary and secondary prevention. Forecast and efficiency.

**Topic 41. Management of a patient with edema syndrome.** Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages.

**Topic 42. Nephrolithiasis.** Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages.

**Topic 43. Renal cysts.** Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages.

**Topic 44. Renal - cell carcinoma.** Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages.

**Topic 45. Angiolipoma of the kidneys.** Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages.

**Topic 46. Congenital anomalies of the urinary system.** Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages.

**Topic 47. Bladder cancer.** Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages.

TABLE OF CONTENTS SECTION 7  
"MANAGEMENT OF PATIENTS WITH MAIN SYMPTOMS AND SYNDROMES IN THE  
HEMATOLOGICAL CLINIC"

*Specific goals*

Students must be able to:

- Conduct interviews and physical examinations of patients with the main symptoms and syndromes in the hematology clinic.
- Preliminary diagnosis of major diseases of the blood and blood-forming organs and identify their complications.
- Make a plan for examination of patients, determine the indications and contraindications for their conduct, and justify the use of each non-invasive and invasive diagnostic method used in hematology.
- Evaluate the results of basic instrumental and laboratory diagnostic methods in the hematology clinic.
- Make a differential diagnosis of the main symptoms and syndromes in the hematology clinic.
- Justify and formulate the clinical diagnosis of major diseases of the blood and blood-forming organs.
- Determine the prognosis of patients with major hematological diseases.
- Prescribe non-drug and drug treatment, carry out primary and secondary prevention of major diseases in the hematology clinic.
- Determine blood type, transfuse blood components and blood substitutes
- Demonstrate mastery of moral and deontological principles of a medical specialist and the principles of professional subordination.

**Topic 30. Management of a patient with anemia.**

Differential diagnosis in posthemorrhagic, iron deficiency, B12-deficient, aplastic, hemolytic anemia. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment. Indications, contraindications, methods and possible complications of transfusion of blood components and blood substitutes. Primary and secondary prevention. Forecast and efficiency.

**Topic 31. Management of a patient with bleeding.**

The main diseases and conditions accompanied by bleeding: hemophilia, idiopathic thrombocytopenic purpura, malignant diseases of the hematopoietic system, accompanied by thrombocytopenia. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by hemorrhagic syndrome. Primary and secondary prevention. Forecast and efficiency.

**Topic 32. Management of a patient with lymphadenopathy.**

The main diseases and conditions accompanied by lymphadenopathy: Hodgkin's and non-Hodgkin's malignant lymphomas, acute and chronic lymphoid and myeloid leukemias, infectious mononucleosis, reactive lymphadenitis, tuberculosis, sarcoidosis, metastatic disease, systemic lesions, systemic lesions, systemic lesions. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major

diseases accompanied by lymphadenopathy. Primary and secondary prevention. Forecast and efficiency.

**Topic 33. Management of a patient with leukocytosis and leukopenia.**

The main diseases and conditions accompanied by leukocytosis: lymphomas, acute and chronic lymphoid and myeloid leukemias, infectious mononucleosis, reactive lymphadenitis, sarcoidosis, metastatic lesions, sepsis and leukopenia: systemic leukemia, intestinal anemia, B12-deficiency. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by leukocytosis. Primary and secondary prevention. Forecast and efficiency.

TABLE OF CONTENTS SECTION 8  
"EMERGENCY CONDITIONS IN CARDIOREMATOMOLOGY"

**Topic 35. Management of a patient with a complicated hypertensive crisis. Management of a patient with cardiac asthma and pulmonary edema.**

The concept and classification of hypertensive crises. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages. Emergency aid. Primary and secondary prevention. Forecast and efficiency.

**Topic 36. Management of a patient with acute coronary syndrome. Management of the patient with a myocardial infarction. Management of the patient with cardiogenic shock.**

The concept and classification of acute coronary syndrome. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages. Emergency aid. Primary and secondary prevention. Forecast and efficiency.

**Topic 37. Management of a patient with pulmonary embolism. Tactics of treatment for sudden cardiac death.**

The concept and classification of pulmonary embolism. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages. Emergency aid. Primary and secondary prevention. Forecast and efficiency.

**Topic 38. Management of a patient with paroxysmal arrhythmias and conduction.**

The concept and classification of paroxysmal arrhythmias. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages. Emergency aid. Primary and secondary prevention. Forecast and efficiency.

TABLE OF CONTENTS SECTION 9  
"EMERGENCIAS IN PULMONOLOGY AND ALLERGOLOGY"

**Topic 39. Management of a patient with severe community-acquired and nosocomial pneumonia. Management of a patient with total pleural effusion.**

The concept and classification of pneumonia. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and

drug treatment at different stages. Emergency aid. Primary and secondary prevention. Forecast and efficiency.

**Topic 40. Management of a patient with asthmatic status.**

The concept and classification of bronchial asthma. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages. Emergency aid. Primary and secondary prevention. Forecast and efficiency.

**Topic 41. Management of a patient with anaphylactic shock and Quincke's edema.**

The concept and classification of anaphylactic shock. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages. Emergency aid. Primary and secondary prevention. Forecast and efficiency.

TABLE OF CONTENTS SECTION 10

"EMERGENCY STATES IN GASTROENTEROLOGY AND NEPHROLOGY"

**Topic 42. Management of a patient with acute liver failure.**

The concept and classification of liver failure. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages. Emergency aid. Primary and secondary prevention. Forecast and efficiency.

**Topic 43. Management of a patient with acute renal failure.**

The concept and classification of acute renal failure. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages. Emergency aid. Primary and secondary prevention. Forecast and efficiency.

**Topic 44. Management of a patient with acute abdominal pain. Management of a patient with gastrointestinal bleeding**

The concept and classification of gastrointestinal bleeding. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages. Emergency aid. Primary and secondary prevention. Forecast and efficiency.

**Topic 45. Emergencies in the clinic of military therapy.**

The concept and classification of emergencies in the clinic of military therapy. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages. Emergency aid. Primary and secondary prevention. Forecast and efficiency.

TABLE OF CONTENTS SECTION 11

"EMERGENCIES IN ENDOCRINOLOGY AND HEMATOLOGY"

**Topic 46. Management of a patient with hypoglycemic coma. Management of a patient with hyperglycemic (ketoacidemic) coma.**

The concept and classification of coma in diabetes mellitus in the clinic. Etiological factors.

Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages. Emergency aid. Primary and secondary prevention. Forecast and efficiency.

**Topic 47. Management of a patient with a thyrotoxic crisis. Management of a patient with acute adrenal insufficiency**

The concept and classification of crises in diseases of the thyroid gland. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages. Emergency aid. Primary and secondary prevention. Forecast and efficiency.

**Topic 48. Features of management of seriously ill, incurable patients. Methods of assessing the patient's condition. Treatment and care planning. Psychological, spiritual and social issues of palliative care for incurable patients and their relatives.**

The concept and classification of incurable states. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages. Emergency aid. Primary and secondary prevention. Forecast and efficiency.

**STRUCTURE OF THE COURSE  
"INTERNAL MEDICINE WITH IN-DEPTH STUDY OF CARDIOLOGY AND  
NEPHROLOGY"**

№ in order	Topic	Lectures	Seminars	Practice	Individual work	
					ISW	Individual work
<b>BLOCK 1. MANAGEMENT OF PATIENTS WITH MAIN SYMPTOMS AND SYNDROMES IN THE THERAPEUTIC CLINIC.</b>						
<b>Content section 1: Management of patients with the main symptoms and syndromes in the cardiac clinic</b>						
1	Management of a patient with hypertension			12	5	<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 on the history of the disease in</li> </ul>
2	Management of a patient with cardialgia			6	3	
3	Management of a patient with cardiac arrhythmia			6	3	
4	Management of a patient with impaired conduction			6	3	
5	Management of a patient with stable angina.			6	3	
6	Management of a patient with unstable angina.			6		
7	Management of a patient with shortness of breath			6		
8	Management of a patient with			6		

	cardiomegaly					<ul style="list-style-type: none"> <li>practice</li> <li>• Writing abstracts, articles</li> </ul>
9	Management of a patient with heart failure			12		
10	Management of a patient with heart murmurs			6		
	<b>Independent / individual work</b>				<b>17</b>	<b>1</b>
	<b>Total hours - 90</b>			<b>72</b>		<b>18</b>
	<b>ECTS credits - 1.75</b>					
<b>Content section 2: Management of patients with the main symptoms and syndromes in the rheumatology clinic</b>						
11	Management of a patient with pain in the extremities and back			6	3	<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 on the history of the disease in practice</li> <li>• Writing abstracts, articles</li> </ul>
12	Management of a patient with joint syndrome			8	3	
	<b>Independent / individual work</b>				<b>6</b>	<b>1</b>
	<b>Total hours - 21</b>			<b>14</b>		<b>7</b>
	<b>ECTS credits - 1.75</b>					
<b>Semantic section 3. Management of patients with the main symptoms and syndromes in the gastroenterological clinic</b>						
13	Management of a patient with hemorrhagic syndrome			2	6	<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 on the history of the disease in practice</li> <li>• Writing</li> </ul>
14	Management of a patient with chronic diarrheal syndrome			2	6	
15	Management of a patient with gastric dyspepsia			2	6	
16	Management of a patient with jaundice			2	3	
17	Management of a patient with ascites, with portal hypertension			2	3	



						abstracts, articles
18	Management of a patient with hepatomegaly and hepatolienal syndrome			6	3	
	<b>Independent / individual work</b>				<b>27</b>	<b>1</b>
	<b>Total hours - 44</b>			<b>16</b>		<b>28</b>
	<b>ECTS credits - 1.75</b>					
<b>Contents Section 4: Management of patients with the main symptoms and syndromes in the pool monologue and allergy clinic</b>						
19	Management of a patient with bronchoobstructive syndrome			2	3	<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 on the history of the disease in practice</li> <li>• Writing abstracts, articles</li> </ul>
20	Management of a patient with infiltrative eclipse in the lungs			6	5	
21	Management of a patient with fever of uncertain genesis. Lesions of organs and systems in HIV infection			6	6	
22	Management of a patient with hemoptysis. Management of a patient with respiratory failure			6	6	
23	Management of a patient with community-acquired pneumonia. Management of a patient with nosocomial pneumonia			8	6	
	<b>Independent / individual work</b>				<b>26</b>	<b>1</b>
	<b>Total hours - 55</b>			<b>28</b>		<b>27</b>
	<b>ECTS credits - 1.75</b>					
	<b>TOTAL BLOCK 1, hours – 210</b>			<b>130</b>		<b>80</b>
	<b>ECTS credits – 7,0</b>					
<b>BLOCK 2 EMERGENCY CONDITIONS IN THERAPY</b>						
<b>Content section 5: Management of patients with the main symptoms and syndromes in the endocrinology clinic</b>						
24	Management of a patient with chronic complications of diabetes mellitus			6	3	<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 on</li> </ul>
25	Management of a patient with goiter syndrome			6	3	
26	Management of a patient with metabolic syndrome			6	3	

						the history of the disease in practice
	<b>Independent / individual work</b>				<b>9</b>	<b>1</b>
	<b>Total hours - 28</b>			<b>18</b>		<b>10</b>
	<b>ECTS credits - 1.07</b>					
<b>Content section 6. Management of patients with the main symptoms and syndromes in the nephrology clinic</b>						
27	Management of a patient with urinary syndrome			6	4	<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 on the history of the disease in practice</li> <li>Writing abstracts, articles</li> </ul>
28	Management of a patient with edema syndrome			6	1	
29	Management of a patient with chronic renal failure			6	1	
30	Management of a patient with nephrotic syndrome			6	1	
31	Urolithiasis (nephrolithiasis)			2	1	
32	Renal cysts			2	1	
33	Renal - cell carcinoma			2	1	
34	Renal angiomyolipoma			2	1	
35	Congenital anomalies of the urinary system			2	1	
36	Bladder cancer			2	1	
	<b>Independent / individual work</b>				<b>13</b>	<b>1</b>
	<b>Total hours - 50</b>			<b>36</b>		<b>14</b>
	<b>ECTS credits - 1.07</b>					
<b>Contents Section 7: Management of patients with the main symptoms and syndromes in the hematology clinic</b>						
37	Management of a patient with anemia			4	3	<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 on the history of the disease in</li> </ul>
38	Management of a patient with leukemoid reaction and leukemia			2	3	
39	Management of a patient with purpura			6	3	
40	Management of a patient with lymphadenopathy			6	3	

						<ul style="list-style-type: none"> <li>practice</li> <li>• Writing abstracts, articles</li> </ul>
	<b>Independent / individual work</b>				<b>12</b>	<b>1</b>
	<b>Total hours - 31</b>			<b>18</b>		<b>13</b>
	<b>ECTS credits - 1.07</b>					
<b>Content section 8: "Emergencies in cardiorheumatology"</b>						
41	Management of a patient with a complicated hypertensive crisis. Management of a patient with cardiac asthma and pulmonary edema.			6	3	<ul style="list-style-type: none"> <li>• Report of the abstract in a practical lesson</li> </ul>
42	Management of a patient with acute coronary syndrome. Management of the patient with a myocardial infarction. Management of the patient with cardiogenic shock			6	4	<ul style="list-style-type: none"> <li>• Report at clinical conferences of departments</li> </ul>
43	Management of a patient with pulmonary embolism. Tactics of treatment for sudden cardiac death.			6	3	<ul style="list-style-type: none"> <li>• Report on the history of the disease in practice</li> </ul>
44	Management of a patient with paroxysmal arrhythmias and conduction.			6	3	<ul style="list-style-type: none"> <li>• Writing abstracts, articles</li> </ul>
	<b>Independent / individual work</b>				<b>13</b>	<b>1</b>
	<b>Total hours - 38</b>			<b>24</b>		<b>14</b>
	<b>ECTS credits - 1.07</b>					
<b>Content section 9: "Emergencies in pulmonology and allergology"</b>						
45	Management of a patient with severe community-acquired and nosocomial pneumonia. Management of a patient with total pleural effusion			6	3	<ul style="list-style-type: none"> <li>• Report of the abstract in a practical lesson</li> </ul>
46	Management of a patient with asthmatic status.			4	2	<ul style="list-style-type: none"> <li>• Report at clinical conferences of departments</li> </ul>
47	Management of a patient with anaphylactic shock and Quincke's edema.			2	3	<ul style="list-style-type: none"> <li>• Report on the history of the disease in practice</li> <li>• Writing abstracts,</li> </ul>

						articles
	<b>Independent / individual work</b>				<b>8</b>	<b>1</b>
	<b>Total hours - 21</b>			<b>12</b>		<b>9</b>
	<b>ECTS credits - 1.07</b>					
<b>Contents section 10. "Emergencies in gastroenterology and nephrology"</b>						
48	Management of a patient with acute liver failure.			6	3	<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 the History of the disease in a practical lesson</li> <li>• Writing abstracts, articles</li> </ul>
49	Management of a patient with acute renal failure.			6	3	
50	Management of a patient with acute abdominal pain. Management of a patient with gastrointestinal bleeding			6	4	
51	Emergencies in the military therapy clinic.			6	3	
	<b>Independent / individual work</b>				<b>13</b>	<b>1</b>
	<b>Total hours -38</b>			<b>24</b>		<b>14</b>
	<b>ECTS credits - 1.07</b>					
<b>Content section 11: "Emergencies in endocrinology and hematology"</b>						
52	Management of a patient with hypoglycemic coma. Management of a patient with hyperglycemic (ketoacidemic) coma.			2	3	<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 the History of the disease in a practical lesson</li> <li>• Writing abstracts,</li> </ul>
53	Management of a patient with a thyrotoxic crisis. Management of a patient with acute adrenal insufficiency			2	4	
54	Features of management of seriously ill, incurable patients. Methods of assessing the patient's condition. Treatment and care planning. Psychological, spiritual and social issues of palliative care for incurable patients and their relatives.			2	3	
	Monitoring the mastery of practical skills of objective			2		

	examination of the patient				articles
	<b>Independent / individual work</b>			<b>10</b>	<b>1</b>
	<b>Total hours - 19</b>			<b>8</b>	<b>11</b>
	<b>ECTS credits - 1.07</b>				
	<b>TOTAL BLOCK 2 - 225 hours</b>			<b>140</b>	<b>85</b>
	<b>Credits block 2 - 7.5</b>				
	<b>Together</b>			<b>270</b>	<b>165</b>
	<b>Hours - 435</b>				
	<b>ECTS credits - 14.5</b>				

#### 4. The content of the discipline

##### 4.2. THEMATIC PLAN OF PRACTICAL CLASSES

##### BLOCK 1. MANAGEMENT OF PATIENTS WITH MAIN SYMPTOMS AND SYNDROMES IN THE THERAPEUTIC CLINIC.

##### **Contents of section 1. "Management of patients with the main symptoms and syndromes in the cardiac clinic»**

<b>№ in order</b>	<b>Topic</b>	<b>Number of hours</b>
1	Management of a patient with hypertension	12
2	Management of a patient with chronic (recurrent) chest pain	6
3	Management of a patient with acute chest pain	6
4	Management of a patient with cardiac arrhythmias	6
5	Management of a patient with impaired cardiac conduction	6
6	Management of a patient with shortness of breath	6
7	Management of a patient with edema syndrome	6
8	Management of a patient with pulmonary hypertension	6
9	Management of a patient with heart murmur	12
10	Management of a patient with chronic heart failure	6
	<b>Together</b>	<b>72 hours</b>

##### **Contents of section 2. "Management of patients with the main symptoms and syndromes in the rheumatology clinic»**

<b>№ in order</b>	<b>Topic</b>	<b>Number of hours</b>
11	Management of a patient with back and limb pain	6
12	Management of a patient with joint syndrome	8
	<b>Together</b>	<b>14 hours</b>

##### **Contents of section 3. "Management of patients with the main symptoms and syndromes in the gastroenterological clinic»**

<b>№ in order</b>	<b>Topic</b>	<b>Number of hours</b>
13	Management of a patient with dysphagia and heartburn	2
14	Management of a patient with dyspepsia	2

15	Management of a patient with abdominal pain	2
16	Management of a patient with diarrhea	2
17	Management of a patient with constipation	2
18	Management of a patient with jaundice	2
19	Management of a patient with hepatomegaly and hepatolienal syndrome	2
20	Management of a patient with portal hypertension and ascites	2
	<b>Together</b>	<b>16 hours</b>

**Contents of section 4. "Management of patients with symptoms and syndromes in the pulmonology and allergology clinic»**

<b>№ in order</b>	<b>Topic</b>	<b>Number of hours</b>
21	Management of a patient with pulmonary infiltrate	6
22	Management of a patient with a chronic cough	4
23	Management of a patient with bronchoobstructive syndrome	6
24	Management of a patient with cyanosis	2
25	Management of a patient with hemoptysis	2
26	Management of a patient with pleural effusion	8
	<b>Together</b>	<b>28 hours</b>

**TOGETHER OF PRACTICAL LESSONS BLOCK 1: 130 hours**

BLOCK 2. EMERGENCY CONDITIONS IN THERAPY

**Contents of section 5. "Management of patients with the main symptoms and syndromes in the endocrinology clinic»**

<b>№ in order</b>	<b>Topic</b>	<b>Number of hours</b>
27	Management of a patient with chronic complications of diabetes mellitus	6
28	Management of a patient with goiter syndrome	6
29	Management of a patient with metabolic syndrome	6
	<b>Together</b>	<b>18 hours</b>

**Contents of section 6. "Management of patients with the main symptoms and syndromes in the nephrology clinic»**

<b>№ in order</b>	<b>Topic</b>	<b>Number of hours</b>
30	Management of a patient with urinary syndrome	6
31	Management of a patient with edema syndrome	6
32	Management of a patient with chronic kidney disease	6
33	Management of a patient with nephrotic syndrome	6
34	Urolithiasis (nephrolithiasis)	2
35	Renal cysts	2
36	Renal - cell carcinoma	2
37	Renal angiomyolipoma	2
38	Congenital anomalies of the urinary system	2
39	Bladder cancer	2

	<b>Total</b>	<b>36 hours</b>
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**Contents of section 7. "Management of patients with the main symptoms and syndromes in the hematology clinic»**

<b>№ in order</b>	<b>Topic</b>	<b>Number of hours</b>
40	Management of a patient with anemia	4
41	Management of a patient with purpura	6
42	Management of a patient with lymphadenopathy	6
43	Management of a patient with leukocytosis and leukopenia	2
	<b>Total</b>	<b>18 hours</b>

**Content sections 8-11. "Emergencies»**

<b>№ in order</b>	<b>Topic</b>	<b>Number of hours</b>
	<i>Contents section 8 Emergencies in cardiorheumatology</i>	
44	Management of a patient with hypertension	6
45	Management of a patient with acute chest pain	6
46	Management of a patient with pulmonary embolism	6
47	Management of a patient with cardiac arrhythmias	6
	<b>TOGETHER</b>	<b>24 hours</b>
	<i>Content module 9 Emergencies in pulmonology and allergology</i>	
48.	Management of a patient with anaphylactic shock, Quincke's edema	2
49	Management of a patient with pneumonia and pleural effusion	6
50	Management of a patient with an attack of bronchial asthma	4
	<b>TOGETHER</b>	<b>12 hours</b>
	<i>Contents section 10 Emergencies in gastroenterology and nephrology</i>	
51	Management of a patient with constipation	4
52	Management of a patient with jaundice	4
53	Management of a patient with hepatomegaly and hepatolienal syndrome.	4
54	Management of a patient with portal hypertension and ascites	4
55.	Management of a patient with urinary syndrome	4
56.	Management of a patient with renal colic	4
	<b>TOGETHER</b>	<b>24 hours</b>
	<i>Contents section 11 Emergency conditions of vendocrinology and hematology</i>	
57.	Emergency care in case of thyrotoxic crisis	4
58.	Emergency care for hypoglycemic coma	2
59.	Emergency care for incrabious patients	2
	<b>TOGETHER</b>	<b>8 hours</b>
	<b>TOTAL BLOCK 2</b>	<b>140</b>
	<b>TOGETHER FROM THE DISCIPLINE</b>	<b>270 hours</b>

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

<b>№ in order</b>	<b>Topic</b>	<b>Number of hours</b>
<b>BLOCK 1. MANAGEMENT OF PATIENTS WITH MAIN SYMPTOMS AND SYNDROMES IN THE THERAPEUTIC CLINIC.</b>		
1	Preparation for practical classes - theoretical training and development of practical skills	60
2	Preparing and writing a medical history	10
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 1</b>		<b>80 hours</b>

<b>№ in order</b>	<b>Topic</b>	<b>Number of hours</b>
<b>BLOCK 2. EMERGENCY CONDITIONS IN THERAPY</b>		
1	Preparation for practical classes - theoretical training and development of practical skills	65
2	Preparing and writing a medical history	10
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>85 hours</b>

**Together with the discipline (hours of independent work) - 165 hours**

### **BLOCK 1. MANAGEMENT OF PATIENTS WITH MAIN SYMPTOMS AND SYNDROMES IN THE THERAPEUTIC CLINIC.**

#### CARDIOLOGY

1. Essential hypertension (hypertension). Definition. Classification. Clinical manifestations and data of additional research methods. Defeat of target organs. Differential diagnosis. Complication.
2. Antihypertensive therapy: characteristics of I and II line drugs. Indications, contraindications.
3. Complicated and uncomplicated hypertensive crises, features of treatment tactics.
4. Secondary (symptomatic) arterial hypertension. Features of the clinic, diagnosis of renal (renovascular, renoparenchymal), endocrine (Itsenko-Cushing's syndrome and disease, pheochromocytoma, Kohn's syndrome, diffuse toxic goiter) and hemodynamic hypertension. Therapeutic and surgical treatment.



5. Atherosclerosis. Definition. Risk factors. Features of clinical manifestations depending on the predominant localization (aorta, coronary, mesenteric and renal arteries, arteries of the lower extremities). The value of laboratory and instrumental research methods. Complication. General principles of treatment.
6. Acute myocardial infarction. Definition. Classification. Clinical, laboratory, ECG - signs of acute Q - not Q - myocardial infarction, depending on the stage of the process.
7. The concept of "acute coronary syndrome". Coronary ventriculography: methods, indications. Tactics of management of patients with acute coronary syndrome. Coronary myocardial revascularization: indications.
8. Complications of acute myocardial infarction (early, late, chronic). Postinfarction Dressler's syndrome: clinical manifestations, treatment tactics.
9. Treatment tactics for acute myocardial infarction. Surgical treatment.
10. Chronic forms of coronary heart disease. Features of the clinical course and diagnosis of different variants of stable angina. Criteria for diagnosis.
11. Vasospastic angina: features of the course. Electrocardiographic signs. Methods of conducting and evaluating tests with dosed physical activity. Contraindication. Imaging stress tests to register ischemia.
12. Algorithm of drug therapy for the treatment of stable angina. Prognosis and performance in various forms of coronary heart disease.
- 13.** Heart failure. Definition. The main reasons. Classification. Clinical manifestations and features of the course depending on the clinical variant. Diagnosis. The value of echocardiography. Treatment depending on the stage, clinical variant and functional class.
14. Congenital heart disease. Definition. Clinical and hemodynamic classification. The value of non-invasive and invasive methods for diagnosis and differential diagnosis. Complication. Indications for surgical treatment.
15. Acquired heart defects. Aortic insufficiency. Hemodynamics, diagnostic criteria, clinical and instrumental manifestations and tactics of treatment depending on the stage.
16. Acquired heart defects. Aortic stenosis. Hemodynamics, diagnostic criteria, clinical and instrumental manifestations and tactics of treatment depending on the stage.
17. Acquired heart defects. Mitral stenosis. Hemodynamics, diagnostic criteria, clinical and instrumental manifestations and tactics of treatment depending on the stage.
18. Acquired heart defects. Mitral regurgitation. Hemodynamics, diagnostic criteria, clinical and instrumental manifestations and tactics of treatment depending on the stage.
19. Infectious endocarditis. Definition. Etiology, pathogenesis. Diagnostic criteria. The value of laboratory methods and echocardiographic examination in diagnosis. Differential diagnosis. Complications (heart failure, embolism, abscesses). Treatment. Modes of antibacterial therapy. Indications for surgical treatment.
20. Myocarditis. Classification, clinical manifestations, ECG changes, echocardiography. Criteria for diagnosis. Complications. Features of treatment.
21. Etiology and pathogenesis of hypertrophic, dilated and restrictive cardiomyopathy. Diagnosis criteria and differential diagnosis. Complication. Features of treatment.
22. Pulmonary artery thromboembolism. Definition and classification. Risk factors. Clinical course of various forms. Diagnosis criteria, differential diagnosis. Diagnostic value of changes in these instrumental research methods. Therapeutic tactics. Indications for surgical treatment.
23. Definition of "pulmonary heart". Etiology, pathogenesis. Classification. Clinical manifestations, changes in the data of instrumental research methods. Principles of treatment.
24. Pericarditis. Definition. Etiology and pathogenesis. Classification. Features of the clinic, course and diagnosis of different variants of pericarditis. Methods of diagnosis verification. Cardiac tamponade. Indications for pericardial puncture, its diagnostic and therapeutic value. Differentiated therapy of different forms taking into account etiological factors.

25. Neurocirculatory dystonia. Definition. Features of clinical syndromes. Criteria for diagnosis. Differentiated therapy.
26. Rhythm disorders: atrial and ventricular arrhythmias: etiology, classification, ECG signs. Antiarrhythmic therapy.
27. Rhythm disorders: atrial fibrillation and flutter: etiology, clinical course, ECG diagnosis. Treatment tactics.
28. Principles of emergency care for patients with an attack of supraventricular paroxysmal tachycardia. Vagus samples: list, methods.
29. Premature ventricular excitation syndrome (WPW-syndrome): pathophysiology, clinical course, ECG signs. Electric radiofrequency ablation (RFA): methods, indications.
30. Clinic and ECG-diagnostics of atrioventricular blockade and blockade of the legs of the His bundle. Treatment tactics. Indications and principles of pacing (temporary, permanent).

### ENDOCRINOLOGY

1. Type 1 diabetes mellitus: etiology, pathogenesis.
2. Type 2 diabetes: the role of genetic predisposition, obesity, external factors. Classification of glycemic disorders (WHO, 1999), clinical forms of diabetes mellitus.
3. The main clinical symptoms of diabetes.
4. Criteria for the diagnosis of diabetes mellitus and other categories of hyperglycemia (WHO, 1999)
5. The main methods of treatment of diabetes: diet therapy, dosed exercise, hypoglycemic pharmacotherapy, teaching the patient self-control.
6. Insulin therapy. Classification of insulin drugs, short- and long-acting drugs, short-term and long-acting insulin analogues. Modern methods of treating diabetes.
7. Chronic complications of diabetes mellitus: nephropathy, retinopathy, macroangiopathy, diabetic foot. Clinic, diagnosis, principles of treatment.
8. Emergencies in diabetes mellitus: classification, etiology, pathogenesis, clinic, diagnosis, principles of treatment.
9. Manifestations of iodine deficiency. Determination of the size of the thyroid gland.
10. Definition of "goiter". The concept of simple non-toxic and nodular forms of goiter.
11. Etiology, pathogenesis, clinical manifestations of diffuse toxic goiter. Thyrotoxic and endocrine ophthalmopathy.
12. Diagnosis, drug and surgical treatment of toxic goiter, use of <sup>131</sup>-iodine for therapeutic purposes.
13. Hypothyroidism: etiology, pathogenesis and clinical signs. Rationale for the diagnosis. Treatment of hypothyroidism.
14. Thyroiditis: classification, etiology, clinical course, diagnosis and treatment.
15. Chronic adrenal insufficiency (Addison's disease). Etiology, pathogenesis, clinic, diagnosis, treatment.
16. Acute adrenal insufficiency. Etiology, pathogenesis, clinic, prevention and treatment.
17. Hypercorticism: classification, etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment.
18. Hormone-producing tumors of the adrenal glands: pheochromocytoma, aldosteroma, androsteroma, corticosteroma. Etiology, clinic, diagnosis, treatment.
19. Diseases of the hypothalamic-pituitary system (hyperprolactinemia syndrome, acromegaly, hypopituitarism, diabetes insipidus, pituitary dwarfism).
20. Obesity: etiology, pathogenesis, classification, clinic, diagnosis, treatment. Complications of obesity.

### HEMATOLOGY

1. Anemia (iron deficiency, B12-deficiency, folate-deficiency, hemolytic, hypoplastic, posthemorrhagic). Etiological factors and pathogenesis. Features of clinic and laboratory

- diagnostics of various forms. Differential diagnosis. Complication. Treatment of various forms.
2. Acute leukemia. Definition. Modern views on the etiology and pathogenesis. Classification. The main clinical and hematological syndromes. Criteria for diagnosis. Complication. Principles of treatment.
  3. Chronic leukemia. Definition. Modern views on the etiology and pathogenesis. Classification. The main clinical and hematological syndromes. Criteria for diagnosis. Complication. Principles of treatment.
  4. Bone marrow transplantation.
  5. Myeloma. Definition and classification.
  6. Hodgkin's lymphoma. Clinical manifestations and their features in different variants of the course. Criteria for diagnosis. Complication. Principles of treatment.
  7. Non-Hodgkin's and lymphoma. Clinical manifestations and their features in different variants of the course. Criteria for diagnosis. Complication. Principles of treatment.
  8. Differential diagnosis of lymphadenopathy.
  9. Thrombocytopenic purpura, clinical manifestations, principles of treatment.
  10. Hemophilia. Definition. Etiology and pathogenesis, main clinical syndromes. Criteria for diagnosis. Therapy of various hemophilias.

#### NEPHROLOGY

1. Management of a patient with urinary syndrome. The main diseases and conditions accompanied by urinary syndrome: acute and chronic glomerulonephritis, tubulointerstitial kidney disease, pyelonephritis, cystitis, urethritis, urolithiasis, diabetic nephropathy, tuberculosis, heart attack. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by urinary syndrome. Primary and secondary prevention. Forecast and efficiency.
2. Management of a patient with nephrotic syndrome. The main diseases and conditions accompanied by nephrotic syndrome: acute and chronic glomerulonephritis, renal amyloidosis, diabetic nephropathy, myeloma. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by nephrotic syndrome. Primary and secondary prevention. Forecast and efficiency.
3. Management of a patient with chronic kidney disease. The concept and classification of chronic kidney disease. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages. Renal replacement therapy: hemodialysis, kidney transplantation. Indications and contraindications, possible complications. Primary and secondary prevention. Forecast and efficiency.
4. Management of a patient with edema syndrome. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages.
5. Nephrolithiasis. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages.
6. Renal cysts. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research

- methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages.
7. Renal - cell carcinoma. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages.
  8. Renal angiolioma. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages.
  9. Congenital anomalies of the urinary system. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages.
  10. Bladder cancer. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages.

## **BLOCK 2. EMERGENCY CONDITIONS IN THERAPY**

1. Emergency care and tactics for circulatory and respiratory arrest
2. Emergency care for hypertensive crisis
3. Emergency care for patients with acute coronary syndrome
4. Emergency care for patients with pulmonary embolism
5. Emergency care for patients with acute heart failure
6. Emergency care for patients with shock
7. Emergency care for patients with paroxysmal heart rhythm disorders
8. Emergency care for patients with acute respiratory failure
9. Emergency care for patients with melena and hematemesis
10. Emergency care in an Addison crisis
11. Emergency care for hypoglycemic coma
12. Emergency care for acute respiratory failure
13. Emergency care for acute hepatic encephalopathy
14. Emergency care for diabetic ketoacidotic coma
15. Emergency care for biliary colic
16. Emergency care for severe exacerbation of bronchial asthma
17. Emergency care in case of thyrotoxic crisis
18. Emergency care for esophageal and gastrointestinal bleeding

### **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 department.

#### **An indicative 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. ECG registration, participation in conducting instrumental studies of the cardiovascular system in demonstrative patients with data processing and report 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". The obligatory type of independent work of students is the supervision of patients and the writing of a detailed history of the disease, which is provided in the study of the relevant sections. Thus 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 tasks to be solved in practical classes:**

1. Patient Z., 55 years old, has been suffering from peptic ulcer disease for 10 years. Over the past 6 months, I lost 15 kg, increased weakness, anorexia, aversion to meat, vomiting, a feeling of obstruction of food. What is the most likely complication during the disease developed in the patient?

- A Malignancy.
- B Goalkeeper stenosis
- C Perforation.
- D Penetration.
- E Bleeding.

2. The patient is 36 years old, acutely ill. t 38.50, chills, dull pain in the lumbar region, frequent painful urination. Objectively: tension of muscles of lumbar department, a positive symptom of Pasternatsky from both parties is noted. General en. blood: leukocyte.  $20.0 \times 10^9 / l$ , neutrophilia. In an. urine: protein 1.6 g / l, leukocytes - the whole field of view, bacteriuria  $2.5 \times 10^6$  microbial bodies in 1 ml of urine. Your previous diagnosis?

- A Acute pyelonephritis
- B Acute glomerulonephritis.
- C Exacerbation of chronic pyelonephritis
- D Acute cystitis
- E Urolithiasis.

3. A 55-year-old man complains of general weakness, decreased urination, itchy skin. Has been suffering from chronic pyelonephritis for 15 years. Objectively: the skin is dry, with a yellowish tinge. PS -80 per minute, rhythmic, blood pressure -100/70 mm Hg At auscultation heart tones are deaf, the noise of friction of a pericardium is listened. Blood creatinine -1.1 mmol / l, glomerular filtration 5 ml / min. What treatment is indicated for the patient?

- A Hemodialysis
- B Plasmapheresis
- C Neogemodesis
- D Enterosorbent
- E Diuretics

4. Patient D., 36 years old, complains of shortness of breath, moderate cough with a small amount of sputum, heaviness in the left half of the chest, fever up to 37.70. These symptoms appeared and intensified during the week. About-but: BH-26 / min .. The left half of the chest lags behind when breathing. Below the angle of the left shoulder blade, vocal tremor is sharply weakened, percussion - dull tone, auscultation - weakened vesicular respiration. What preliminary diagnosis can be established?

- A Left exudative pleurisy.
- B Pneumothorax on the left.
- C Left intercostal neuralgia
- D Atelectasis of the lower lobe
- E Abscess of the lower lobe of the left lung.

5. Patient H, 64 years old, who has long suffered from lung disease, had another exacerbation. Examination of sputum revealed: layered, yellow-green, contains many leukocytes, detritus, elastic fibers. What disease can such an analysis correspond to?

- A Chronic lung abscess

- B Bronchial asthma
- C Acute bronchitis
- D Pneumonia
- E Pulmonary emphysema

### 4.3. Ensuring the educational process

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

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

3. Credit tickets.

In the study of the discipline uses all kinds of teaching methods recommended for high school, namely:

- by sources of knowledge: verbal (explanation, 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 modules);

- by the level of independent mental activity: problematic, partially exploratory, 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 student learning activities, according to the curriculum, are practical classes and independent work of students.

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 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 time, 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 questions of final control (offset)**

#### **BLOCK 1. MANAGEMENT OF PATIENTS WITH MAIN SYMPTOMS AND SYNDROMES IN THE THERAPEUTIC CLINIC.**

##### **CARDIOLOGY**

1. Essential hypertension (hypertension). Definition. Classification. Clinical manifestations and data of additional research methods. Defeat of target organs. Differential diagnosis. Complication.
2. Antihypertensive therapy: characteristics of drugs of the I and II line. Indications, contraindications.
3. Complicated and uncomplicated hypertensive crises, features of treatment tactics.
4. Secondary (symptomatic) arterial hypertension. Features of the clinic, diagnosis of renal (renovascular, renoparenchymal), endocrine (Itsenko-Cushing's syndrome and disease, pheochromocytoma, Kohn's syndrome, diffuse toxic goiter) and hemodynamic hypertension. Therapeutic and surgical treatment.
5. Atherosclerosis. Definition. Risk factors. Features of clinical manifestations depending on the predominant localization (aorta, coronary, mesenteric and renal arteries, arteries of the lower extremities). The value of laboratory and instrumental research methods. Complication. General principles of treatment.
6. Acute myocardial infarction. Definition. Classification. Clinical, laboratory, ECG - signs of acute Q - not Q - myocardial infarction, depending on the stage of the process.
7. The concept of "acute coronary syndrome". Coronary ventriculography: methods, indications. Tactics of management of patients with acute coronary syndrome. Coronary myocardial revascularization: indications.
8. Complications of acute myocardial infarction (early, late, chronic). Postinfarction Dressler's syndrome: clinical manifestations, treatment tactics.
9. Treatment tactics for acute myocardial infarction. Surgical treatment.
10. Chronic forms of coronary heart disease. Features of the clinical course and diagnosis of different variants of stable angina. Criteria for diagnosis.
11. Vasospastic angina: features of the course. Electrocardiographic signs. Methods of conducting and evaluating tests with dosed physical activity. Contraindication. Imaging stress tests to register ischemia.
12. Algorithm of drug therapy for the treatment of stable angina. Prognosis and performance in various forms of coronary heart disease.
13. Heart failure. Definition. The main reasons. Classification. Clinical manifestations and features of the course depending on the clinical variant. Diagnosis. The value of echocardiography. Treatment depending on the stage, clinical variant and functional class.
14. Congenital heart disease. Definition. Clinical and hemodynamic classification. The value of non-invasive and invasive methods for diagnosis and differential diagnosis. Complication. Indications for surgical treatment.
15. Acquired heart defects. Aortic insufficiency. Hemodynamics, diagnostic criteria, clinical and instrumental manifestations and tactics of treatment depending on the stage.
16. Acquired heart defects. Aortic stenosis. Hemodynamics, diagnostic criteria, clinical and instrumental manifestations and tactics of treatment depending on the stage.



17. Acquired heart defects. Mitral stenosis. Hemodynamics, diagnostic criteria, clinical and instrumental manifestations and tactics of treatment depending on the stage.
18. Acquired heart defects. Mitral regurgitation. Hemodynamics, diagnostic criteria, clinical and instrumental manifestations and tactics of treatment depending on the stage.
19. Infectious endocarditis. Definition. Etiology, pathogenesis. Diagnostic criteria. The value of laboratory methods and echocardiographic examination in diagnosis. Differential diagnosis. Complications (heart failure, embolism, abscesses). Treatment. Modes of antibacterial therapy. Indications for surgical treatment.
20. Myocarditis. Classification, clinical manifestations, ECG changes, echocardiography. Criteria for diagnosis. Complications. Features of treatment.
21. Etiology and pathogenesis of hypertrophic, dilated and restrictive cardiomyopathy. Diagnosis criteria and differential diagnosis. Complication. Features of treatment.
22. Pulmonary artery thromboembolism. Definition and classification. Risk factors. Clinical course of various forms. Diagnosis criteria, differential diagnosis. Diagnostic value of changes in these instrumental research methods. Therapeutic tactics. Indications for surgical treatment.
23. Definition of "pulmonary heart". Etiology, pathogenesis. Classification. Clinical manifestations, changes in the data of instrumental research methods. Principles of treatment.
24. Pericarditis. Definition. Etiology and pathogenesis. Classification. Features of the clinic, course and diagnosis of different variants of pericarditis. Methods of diagnosis verification. Cardiac tamponade. Indications for pericardial puncture, its diagnostic and therapeutic value. Differentiated therapy of different forms taking into account etiological factors.
25. Neurocirculatory dystonia. Definition. Features of clinical syndromes. Criteria for diagnosis. Differentiated therapy.
26. Rhythm disorders: atrial and ventricular arrhythmias: etiology, classification, ECG signs. Antiarrhythmic therapy.
27. Rhythm disorders: atrial fibrillation and flutter: etiology, clinical course, ECG diagnosis. Treatment tactics.
28. Principles of emergency care for patients with an attack of supraventricular paroxysmal tachycardia. Vagus samples: list, methods.
29. Premature ventricular excitation syndrome (WPW-syndrome): pathophysiology, clinical course, ECG signs. Electric radiofrequency ablation (RFA): methods, indications.
30. Clinic and ECG-diagnostics of atrioventricular blockade and blockade of the legs of the His bundle. Treatment tactics. Indications and principles of pacing (temporary, permanent).

#### ENDOCRINOLOGY

1. Diabetes mellitus type 1: etiology, pathogenesis.
2. Type 2 diabetes: the role of genetic predisposition, obesity, external factors. Classification of glycemic disorders (WHO, 1999), clinical forms of diabetes mellitus.
3. The main clinical symptoms of diabetes.
4. Criteria for the diagnosis of diabetes mellitus and other categories of hyperglycemia (WHO, 1999)
5. The main methods of treatment of diabetes mellitus: diet therapy, dosed exercise, hypoglycemic pharmacotherapy, teaching the patient self-control.
6. Insulin therapy. Classification of insulin drugs, short- and long-acting drugs, short-term and long-acting insulin analogues. Modern methods of treating diabetes.
7. Chronic complications of diabetes: nephropathy, retinopathy, macroangiopathy, diabetic foot. Clinic, diagnosis, principles of treatment.
8. Emergencies in diabetes mellitus: classification, etiology, pathogenesis, clinic, diagnosis, principles of treatment.
9. Manifestations of iodine deficiency. Determination of the size of the thyroid gland.
10. Definition of "goiter". The concept of simple non-toxic and nodular forms of goiter.

11. Etiology, pathogenesis, clinical manifestations of diffuse toxic goiter. Thyrotoxic and endocrine ophthalmopathy.
12. Diagnosis, drug and surgical treatment of toxic goiter, use of <sup>131</sup>-iodine for therapeutic purposes.
13. Hypothyroidism: etiology, pathogenesis and clinical signs. Rationale for the diagnosis. Treatment of hypothyroidism.
14. Thyroiditis: classification, etiology, clinical course, diagnosis and treatment.
15. Chronic adrenal insufficiency (Addison's disease). Etiology, pathogenesis, clinic, diagnosis, treatment.
16. Acute adrenal insufficiency. Etiology, pathogenesis, clinic, prevention and treatment.
17. Hypercorticism: classification, etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment.
18. Hormone-producing tumors of the adrenal glands: pheochromocytoma, aldosteroma, androsteroma, corticosteroma. Etiology, clinic, diagnosis, treatment.
19. Diseases of the hypothalamic-pituitary system (hyperprolactinemia syndrome, acromegaly, hypopituitarism, diabetes insipidus, pituitary dwarfism).
20. Obesity: etiology, pathogenesis, classification, clinic, diagnosis, treatment. Complications of obesity.

#### HEMATOLOGY

1. Anemia (iron deficiency, B12-deficiency, folate-deficiency, hemolytic, hypoplastic, posthemorrhagic). Etiological factors and pathogenesis. Features of clinic and laboratory diagnostics of various forms. Differential diagnosis. Complication. Treatment of various forms.
2. Acute leukemia. Definition. Modern views on the etiology and pathogenesis. Classification. The main clinical and hematological syndromes. Criteria for diagnosis. Complication. Principles of treatment.
3. Chronic leukemia. Definition. Modern views on the etiology and pathogenesis. Classification. The main clinical and hematological syndromes. Criteria for diagnosis. Complication. Principles of treatment.
4. Bone marrow transplantation.
5. Myeloma. Definition and classification.
6. Hodgkin's lymphoma. Clinical manifestations and their features in different variants of the course. Criteria for diagnosis. Complication. Principles of treatment.
7. Non-Hodgkin's and lymphoma. Clinical manifestations and their features in different variants of the course. Criteria for diagnosis. Complication. Principles of treatment.
8. Differential diagnosis of lymphadenopathy.
9. Thrombocytopenic purpura, clinical manifestations, principles of treatment.
10. Hemophilia. Definition. Etiology and pathogenesis, main clinical syndromes. Criteria for diagnosis. Therapy of various hemophilias.

#### NEPHROLOGY

1. Management of a patient with urinary syndrome. The main diseases and conditions accompanied by urinary syndrome: acute and chronic glomerulonephritis, tubulointerstitial kidney disease, pyelonephritis, cystitis, urethritis, urolithiasis, diabetic nephropathy, tuberculosis, heart attack. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by urinary syndrome. Primary and secondary prevention. Forecast and efficiency.
2. Management of a patient with nephrotic syndrome. The main diseases and conditions accompanied by nephrotic syndrome: acute and chronic glomerulonephritis, renal

- amyloidosis, diabetic nephropathy, myeloma. Differential-diagnostic value of clinical manifestations and data of additional laboratory and instrumental research methods. Algorithm of differential diagnostics. Tactics of patient management. Non-drug and drug treatment of major diseases accompanied by nephrotic syndrome. Primary and secondary prevention. Forecast and efficiency.
3. Management of a patient with chronic kidney disease. The concept and classification of chronic kidney disease. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages. Renal replacement therapy: hemodialysis, kidney transplantation. Indications and contraindications, possible complications. Primary and secondary prevention. Forecast and efficiency.
  4. Management of a patient with edema syndrome. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages.
  5. Nephrolithiasis. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages.
  6. Renal cysts. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages.
  7. Renal - cell carcinoma. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages.
  8. Renal angioliipoma. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages.
  9. Congenital anomalies of the urinary system. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages.
  10. Bladder cancer. Etiological factors. Pathogenesis of lesions of organs and systems, their clinical manifestations. Diagnostic value of laboratory and instrumental research methods. Tactics of patient management, differentiated non-drug and drug treatment at different stages.

## **BLOCK 2. EMERGENCY CONDITIONS IN THERAPY**

1. Emergency care and tactics for circulatory and respiratory arrest
2. Emergency care for hypertensive crisis
3. Emergency care for patients with acute coronary syndrome
4. Emergency care for patients with pulmonary embolism
5. Emergency care for patients with acute heart failure
6. Emergency care for patients with shock
7. Emergency care for patients with paroxysmal heart rhythm disorders
8. Emergency care for patients with acute respiratory failure
9. Emergency care for patients with melena and hematemesis

10. Emergency care in an addison crisis
11. Emergency care for hypoglycemic coma
12. Emergency care for acute respiratory failure
13. Emergency care for acute hepatic encephalopathy
14. Emergency care for diabetic ketoacidotic coma
15. Emergency care for biliary colic
16. Emergency care for severe exacerbation of bronchial asthma
17. Emergency care in case of thyrotoxic crisis
18. Emergency care for esophageal and gastrointestinal bleeding

Sets of practical tasks are formed directly from the list of practical skills that the student must master during the study of 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, 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. Carry out 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. 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 the 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 Zymnitsky 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 1).
- 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 (List 1).
- 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, aeraldosteronism,
3. ASCITIS (cirrhosis and liver tumors, right ventricular heart failure, including constrictive pericarditis, hepatic vein thrombosis, portal vein thrombosis 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, stenosis of the mouth of the aorta, hypertrophic cardiomyopathy, mitral valve prolapse, coronary arthritis, myocarditis, acute pericarditis, aortic dissection, aortic dissection, pleurisy, 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, gallbladder and sphincter dyskinesia oddi, gallstone disease, pancreatitis, chronic gastritis, peptic ulcer of the stomach and duodenum, irritable bowel syndrome, celiac disease, celiac disease and other enteropathies) ).
6. LIMBS AND BACK PAIN (ankylosing spondylitis, osteoarthritis, osteochondrosis, osteoporosis, dermatomyositis / polymyositis, neuropathy, particularly vasculitis and diabetes).
7. BRONCHOBSTRUCTIVE SYNDROME (chronic obstructive pulmonary disease, bronchial asthma, tumors of the trachea, bronchi and mediastinum).
8. EXTRACTION IN 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 or accompanied).

10. **HEPATOMEGALYA AND HEPATOLIENAL SYNDROME** (acute and chronic hepatitis, cirrhosis and liver cancer, hepatic vein thrombosis, leukemia, lymphogranulomatosis, erythremia, right ventricular failure, in particular in constrictive pericarditis).
11. **DYSPEPSY** (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 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 thromboembolism 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, infarction 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).
21. **FEVER** (rheumatoid arthritis, infectious endocarditis, malignant neoplasms, including leukemia, lymphoma, myeloma, lymphogranulomatosis, sepsis, tuberculosis, systemic connective tissue diseases, nodular polyarteritis, purulent chorocyngitis, ablansitis, ablansitis, ablangitis, abnasitis).
22. **SWELLING SYNDROME** (venous edema: chronic venous insufficiency, venous outflow disorders, deep vein thrombophlebitis; lymphatic edema: inflammatory, obstructive; fatty, orthostatic and idiopathic; in musculoskeletal system nephritis; 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. **FAILURE** (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 , 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, hemorrhoids).
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 erosions, 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 arterial duct, aortic coarctation, acquired heart defects: mitral stenosis, mitral valve insufficiency (organic and relative), mitral valve prolapse, aortic valve prolapse, stenosis, hypertrophic cardiomyopathy, tricuspid valve insufficiency (organic and relative), innocent systolic murmur in young people).

### **List 2 (disease)**

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

1. Essential hypertension (hypertension).  
Secondary (symptomatic) arterial hypertension:
  - renal (renovascular, renoparenchymatous);
  - endocrine (Ito-Cushing's syndrome and disease, pheochromocytoma, primary hyperaldosteronism, thyrotoxicosis);
  - coarctation of the aorta;
  - isolated systolic arterial hypertension;
  - hypertension during pregnancy; Нейроциркуляторна дистонія.
2. Atherosclerosis.
3. Chronic forms of coronary heart disease.
4. Acute coronary syndrome (unstable angina, acute myocardial infarction).
5. Pericarditis.
6. Pulmonary heart.
7. Acquired heart defects: mitral, aortic and tricuspid valves, combined mitral and aortic defects.
8. Congenital heart defects: atrial, interventricular septal defect, open ductus arteriosus, aortic coarctation.

9. Infectious endocarditis.
10. Myocarditis and cardiomyopathy.
11. Pulmonary artery thromboembolism.
12. Cardiac arrhythmias.
13. Impaired conduction of the heart.
14. 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. Nonspecific 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.

### **Diseases of the hematopoietic organs**

1. Anemia.
2. Acute and chronic leukemias.
3. Lymphomas.
4. Myeloma.
5. Hemophilia.
6. Thrombocytopenic purpura.

### **Diseases of the endocrine system**

1. Diabetes mellitus, type 1
2. Diabetes mellitus, type 2

3. Iodine deficiency diseases of the thyroid gland
4. Hypothyroidism
5. Thyrotoxicosis
6. Thyroid cancer
7. Itsenko-Cushing's syndrome and disease
8. Pheochromocytoma
9. Aldosteroma
10. Metabolic syndrome.

**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 Zymnytsky
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, glyated hemoglobin, fructosamine
31. Blood transaminases, total bilirubin and its fractions
32. TSH, T4, T3, 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» option of a credit card**

**Petro Mohyla Black Sea National University**

Educational qualification level - master

Area of knowledge: 22 Health

specialty 222 Medicine

**Course - INTERNAL MEDICINE WITH IN-DEPTH STUDY OF CARDIOLOGY AND NEPHROLOGY**

**Option № 0**

1. Management of a patient with acute coronary syndrome: algorithms and standards of diagnosis and treatment. - maximum number of points - 20.
2. Glomerulonephritis. Etiology, pathogenesis, clinical picture, treatment. - maximum number of points - 20.
3. Practical skill: algorithm of palpation and percussion of kidneys. - maximum number of points - 20.
4. Situational task: A 23-year-old man complains of aching pain in the heart, shortness of breath, palpitations during exercise, cough, sometimes with blood. Joint pain. 4 years ago after a severe sore throat there was joint pain, shortness of breath. He took aspirin, after which the pain decreased. He was not treated further. Objectively: the boundaries of the heart are enlarged to the right and up. At the apex during auscultation of the heart diastolic murmur, clapping I tone. Blood test: CRP ++, titer of ASLO-430AE STO in 1 ml, fibrinogen - 6.3 g / l. Your diagnosis? With what diseases it is necessary to carry out differential diagnosis? What is the treatment of this disease? - The maximum number of points - 20.

*Approved at the meeting of the Department of Therapeutic and Surgical Disciplines, protocol № \_\_\_\_ from «\_\_» \_\_\_\_\_ 2020 year*

**Head of Department**

**Professor Zak M.Y.**

**Examiner**

**Professor Zak M.Y.**

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

**Problem solving Step -2**

1. A 35-year-old man consulted a cardiologist about palpitations, heart pain, dizziness. He has been ill for about 10 years. can correspond to this disease?  
 A Increased pulsation of the carotid arteries  
 B Atrial fibrillation  
 C Reduction of pulse blood pressure  
 D Hypertrophy of the right ventricle  
 E Small solid pulse

2. A 23-year-old boy suddenly, after a severe cough, had an attack of chest pain on the right. On examination: right tympanitis, weakened breathing. What is the probable diagnosis?

- A Spontaneous pneumothorax
- B Dry pleurisy
- C Myocardial infarction
- D Exudative pleurisy
- E Breakthrough of gastric ulcer

3. A 29-year-old man suffers from hormone-dependent bronchial asthma. Fluorography in C2 of the right lung revealed a rounded shadow with clear smooth contours of medium intensity. Around it are several polymorphic focal shadows, at the root - calcinate. Percussion sound over the lungs with a boxy tinge, audible scattered dry rales. Blood test without changes. Reaction to the Mantoux test with 2 TO PPD-L - papule 22 mm. What is the most likely diagnosis.

- A Tuberculoma.
- B Peripheral cancer.
- C Pneumonia.
- D Aspergilloma.
- E Eosinophilic infiltrate.

4. A 32-year-old brick factory worker complains of a cough with a small amount of sputum, decreased appetite, sweating, shortness of breath, and a body temperature of 37.5 C. Hard breathing is heard above the upper lungs. Radiologically: in the upper and middle parts of the lungs symmetrically foci of medium intensity, without clear contours, in some places drains. At the root of the calcified lymph node. Blood test: leukocytes -  $9.5 \times 10^9 / l$ , ESR - 28 mm / h. Office by bacterioscopy were not detected. Mantoux test with 2 TO PPD-L - papule 15 mm. The most likely diagnosis?

- A Disseminated pulmonary tuberculosis.
- B Sarcoidosis II.
- C Metastatic carcinomatosis.
- D Bilateral focal pneumonia.
- E Pneumoconiosis.

5. A 29-year-old man, whose father suffers from cirrhotic pulmonary tuberculosis, during the fluorographic examination revealed changes in the lungs. He was treated for peptic ulcer disease five years ago and smokes a lot. Occasionally there is pain in the epigastric region. Objectively - no pathological changes were detected. Blood test without changes. Office in sputum by bacterioscopy were not detected. Mantoux test with 2TO PPD-L - papule 12 mm. Radiologically - on both tops single, of various size and intensity of a shadow up to 1 cm in diameter, some of them with indistinct contours. The most likely diagnosis.

- A Focal pulmonary tuberculosis.
- B Disseminated pulmonary tuberculosis.
- C Pneumoconiosis.
- D Focal pneumonia.
- E Tumor metastases to the lung.

6. A 32-year-old patient visited a doctor. It turned out that 4 days ago he had a cold: there was a sore throat, rapid fatigue. The next morning, a dry cough appeared, the body temperature rose to 38.2, appetite disappeared, and mucopurulent sputum appeared. Percussion: above the lungs - pulmonary tone, vesicular respiration, weakened below the shoulder blade on the right side, there are audible small-bubble sonorous and inaudible rales. Which diagnosis is most likely?

- A Focal right-sided pneumonia

- B Bronchial asthma
- C Acute bronchitis
- D Lung cancer
- E Gangrene of the lungs

7. The patient complains of fever, dry cough, burning sensation in the throat and chest, shortness of breath, which appeared after hypothermia. In the anamnesis there is no data on lung disease. Body temperature 37, 1; pulmonary tone with a boxy tinge, vesicular respiration with dry diffuse and moist rales of medium and large caliber. Exhalation is prolonged. Diagnosis?

- A Acute tracheobronchitis
- B SARS
- C Obstructive bronchitis
- D Pneumonia
- E Bronchiectasis

8. A 54-year-old patient has long suffered from a cough with purulent sputum up to 150 ml per day. In the last year, I lost weight, shortness of breath increased, there was swelling in the lower extremities, cyanosis of the lips, fingers in the form of "drumsticks". Heavy exhalation. Above lungs – the blunted tympanitis is more to the right; vesicular respiration is weakened, in the lower-posterior parts wet and scattered dry rales, more on exhalation. Which diagnosis is most likely?

- A Bronchiectasis
- B Pneumonia
- C Chronic obstructive bronchitis
- D Lung abscess
- E Lung cancer

9. A 62-year-old patient was hospitalized with complaints of enlargement of the cervical, supraclavicular and axillary lymph nodes, general weakness, increased sweating, low-grade fever during the last 3 months. In the analysis of blood - leukocytes -  $64 \times 10^9 / l$ , in the formula - lymphocytes 72 \%. What research method should be used to clarify the diagnosis?

- A Myelogram
- B Lymphography
- C Lymphoscintigraphy
- D X-ray examination
- E Thermography

10. A 30-year-old woman complains of general weakness, difficulty swallowing, dry skin and brittle hair. Objectively: t - 36.6 C, BH-16 in 1 min., PS-92 beats. in 1 min., AT-110/70 mm. rt. Art. The skin and visible mucous membranes are pale. In the blood: Hb-65 g / l, E- $3,2 \times 10^{12} / l$ , KP-0,6, ret-3 \%, L- $6,7 \times 10^9 / l$ , e-2 \%, p-3 \%, s-64 \%, l-26 \%, m-5 \%, ESR-17mm / year. Whey iron 7.4  $\mu\text{mol} / l$ , total protein - 78 g / l. Deficiency of which factor caused the disease?

- A Iron
- B Vitamin B6
- C Protein
- D Folic acid
- E Glucose-6-phosphate dehydrogenase

And so 30 tasks with the subsequent analysis of typical errors.

## An example of the final control work on the unit 2

### Problem solving Step -2

1. Patient V., 23 years old. Objectively: the skin is yellow, the sclera is icteric. Pulse - 66 beats per minute. AT 120/80 mm. rt. Art. ALT, AST, thymol test - N. Total bilirubin - 34  $\mu\text{mol} / \text{l}$  due to indirect. Indicate the most probable diagnosis.

- A Gilbert's syndrome
- B Chronic cryptogenic hepatitis
- C Chronic drug-induced hepatitis
- D Chronic viral hepatitis C
- E Chronic persistent hepatitis

2. Patient A., 50 years old, was hospitalized with complaints of heart pain and shortness of breath, which arose suddenly after significant physical exertion. The elevation of the STv segment II, III, and VF leads was recorded on the ECG. The increase in CPK-MV is almost double the norm. Which diagnosis is most likely?

- A Acute posterior myocardial infarction
- B Acute anterior myocardial infarction
- C Tension angina
- D Acute pericarditis
- E Stratifying aortic aneurysm

3. Patient T., 47 years old, who has been suffering from coronary heart disease for about 5 years, during the last week there was a significant deterioration of the clinical condition, namely: increased intensity and frequency of chest pain at the height of exercise. On the ECG "trough-like" depression of the ST segment in II, III, and VF leads. There is no reaction from the blood. Which diagnosis is most likely?

- A Progressive angina
- B Vasospastic angina
- C Angina pectoris, which first appeared
- D Acute anterior myocardial infarction
- E Acute posterior myocardial infarction

4. Patient D., 46 years old, for the first time in his life had pain localized in the lower third of the sternum and occur against the background of exercise. On the ECG depression of the ST segment is more than 2 mm in II, III, and VF leads. There is no reaction from the blood. Which diagnosis is most likely?

- A First-time angina pectoris
- B Progressive angina
- C Vasospastic angina
- D Stratifying aortic aneurysm
- E Acute posterior myocardial infarction

5. Patient V., 48 years old, has frequent attacks of chest pain that occurs suddenly. Nifedipine or other calcium antagonists help with these conditions. The ECG, which was recorded during the pain attack, showed a rapid elevation of the ST segment in the chest leads. No blood reactions were observed. Which diagnosis is most likely?

- A Vasospastic angina
- B Angina pectoris, which first appeared
- C Progressive angina
- D Acute anterior myocardial infarction
- E Acute posterior myocardial infarction



6. The patient 36 years after exercise appeared shortness of breath, cough with pink sputum. Suffers from rheumatism and mitral heart disease. Auscultatory over the heart and lower lungs small and medium-bubble wet rales. What is the leading mechanism of deterioration?

- A Increased hydrostatic blood pressure
- B Increased oncotic blood pressure.
- C Decreased lymphatic outflow.
- D Reduction of oncotic blood pressure.
- E Increased aggregation of erythrocytes and platelets

7. A 19-year-old patient suffering from systemic lupus erythematosus with an acute course, damage to the kidneys, myocardium, pleura, joints, it is planned to prescribe pathogenetic treatment. In the analysis of erythrocytes -  $3.8 \times 10^{12} / l$ , HB - 120 g / l, leukocyte -  $2.9 \times 10^9 / l$ , platelet -  $150 \times 10^9 / l$ , urea 6.9 mmol / l. Choose the right treatment option.

- A Prednisolone 60 mg / day.
- B Cyclophosphamide 200 mg iv every other day
- C Thymoline 10 mg intravenously daily.
- D Laferon 5 million units / m<sup>2</sup> times a week.
- E Levamisole 150 mg / day according to the scheme.

8. At the patient of 44 years with a rheumatic stenosis of the mouth of an aorta there were attacks of suffocation at night. About: I tone is weakened, systolic noise on top of heart, accent of II tone over a pulmonary artery, rough systolic noise over an aorta. On the radiograph: the heart waist is smoothed, the left border of the heart is shifted to the left by 5 cm. What causes the appearance of systolic murmur at the apex of the heart?

- A By mitralization of aortic defect
- B Development of stenosis of the left atrioventricular orifice
- C Joining aortic insufficiency
- D Increasing the degree of stenosis of the aortic orifice
- E Pulmonary artery thromboembolism

9. A patient with chronic lymphocytic leukemia has increased general weakness, jaundice. In an. blood: Er- $2,1 \times 10^{12} / l$ ; HB - 55 g / l; KP - 1.1; reticulocyte. 51 %. Total bilirubin - 80.3 mmol / l, uncontrolled - 65.3 mmol / l. Increased levels of urobilin in the urine. Coombs' direct test is positive. What is the leading pathogenetic factor that caused the decrease in hemoglobin?

- A Autoimmune hemolysis
- B Hematopoiesis aplasia
- C Development of myelofibrosis
- D Folic acid deficiency
- E B12 deficiency

10. The patient is 53 years old, consulted a neurologist with complaints of lumbar pain. The radiograph of the spine and pelvis revealed osteoporosis and significant bone defects. In blood moderate normochromic anemia, in urine - proteinuria to 2,0g / l. Total blood protein 107 g / l. What research should be done to establish a definitive diagnosis?

- A Sternal puncture
- B Expanded an. blood.
- C ultrasound of the abdominal cavity
- D Cytochemical study
- E Radioisotope renography

11. Patient Z., 35 years old, complains of oppressive pain in the epigastrium 1 hour after eating,

heartburn, acid regurgitation. Ill for 2 years. At a palpation of a stomach moderate pain in a pyloroduodenal zone is noted. At fibrogastroduodenoscopy antral gastritis is revealed. What study will clarify the nature of the disease?

- A Detection of *Helicobacter pylori* infection in the gastric mucosa
- B Detection of autoantibodies to the parietal cell.
- C Determination of blood gastrin level.
- D Study of gastric secretion.
- E Study of gastric motor function

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

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

### **TEACHING METHODS**

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

Thematic plans of practical classes and VTS reveal the problematic issues of the relevant sections of internal medicine. Didactic tools are used to the maximum (multimedia presentations, slides, educational films, demonstration of thematic patients).

Practical classes are held on the clinical base of the department. The method 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, understanding of responsibility for the level of the preparation, its improvement during training and professional activity.

To implement the relevant section of the student in the first lesson, a detailed plan of work in the clinic is provided and the conditions for its implementation are provided. This plan includes:

- 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.

#### **Curation of the patient 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 of 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 inclusion:

- 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, problem solving, laboratory research and interpretation and evaluation of their results, analysis and evaluation of instrumental research and parameters that characterize the functions of the human body, 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 given using a 200-point scale of the university, which corresponds to a 200-point scale ECTS.

**Final lesson (FL)** - 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 the following materials for preparation for the software on the information stand and on the website of the department:

- 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, 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 supervision 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 completion of the study of the discipline in the form of a final control work (FCW).

**FCW** is conducted by the teacher of the academic group at the last lesson. Students who have scored at least 70 points in the autumn semester and 40 points in the spring semester are admitted to the RCC. The maximum score in the autumn semester is 120, in the spring - 80. On the FCW 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 awarded to the student only once as a commission (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 students' independent work.** 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 is **the final control in the form of a test**. Only students who have passed both final tests (according to blocks 1 and 2) in the discipline are admitted to the test.

The test in the discipline "Internal Medicine with in-depth study of cardiology and nephrology" is a process during which the results obtained for the 6th 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 test 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.

Offset.

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 test ticket. The maximum score on the test - 80 points, the test is considered passed if you scored at least 50 points (evaluation criteria, 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 65 practical classes (130 academic hours).

Current control is carried out in 64 practical classes.

Accordingly, **the maximum score for each current practical lesson** is: 120 points: 64 lessons = **1.88 points**. **The minimum score** is 70 points: 64 classes = **1.09 points**.

A score lower than 1.09 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, 65th, 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 70 practical classes (140 academic hours).

Current control is carried out in 69 practical classes.

That is, **the maximum score for each current practical lesson** is: 80 points: 69 lessons = **1.16 points**, **the minimum** - 40 points: 69 lessons = **0.58 points**.

A score lower than 0.58 points means "unsatisfactory", the lesson is not credited and is subject to practice in the prescribed manner.

PKR on block 2 is carried out on the last, 70th, practical employment. In this case, the student can get a maximum of 40 points. The minimum positive score is 30 points.

On the test, the maximum positive score 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 64	1.88 points for each lesson
A total of 64 classes	120
Final control work on block 1 (practical lesson 65)	80
Together for block 1	200
<b>Block 2</b>	

Practical classes from 1 to 69	1,16 points for each lesson
Total for 69 classes	80
Final control work on block 2 (practical lesson 70)	40
Together for block 2	120
Test	80
Together for block 2 and credit	200

### Criteria for assessing knowledge

With a score of 1.88 points in the autumn semester (1.16 points in the spring semester), 71-80 points in the RCC in the autumn semester (38-40 points in the spring semester) and 71-80 points in the test (A on the ECTS scale and 5 on a national scale) **the student's answer is evaluated if it demonstrates a deep knowledge of all theoretical positions and the ability to apply theoretical material for practical analysis and has no inaccuracies.**

With a score of 1.49 points in the autumn semester (0.87 points in the spring semester), 61-70 points on the RCC in the autumn semester (35-37 points on the RCC in the spring semester) and 61-70 points on the test (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.**

Score of 1.09 points in the autumn semester (0.58 points in the spring semester), 50-60 points on the RCC in the autumn semester (30-34 points on the RCC in the spring semester) and 50-60 points on the credit (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 LITERATURE

### 7.1. Basic (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 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 / J.E. Bennet, R. Dolin, M.J. Blaser - 8-th 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. / K.M. 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 parathyroid 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, ИМ Пыина. - X: 2014. - 948 с.
20. International Textbook of Diabetes Mellitus, 2 Volume Set. Ed. by R.A. Defronzo, E. Ferrannini, P. Zimmet, G. Alberti. 4th Edition, 2015. - 1228p.
21. Harrison's Endocrinology. Ed. by J. Larry Jameson, Mc Graw - Hill., New York, Chicago, Toronto. e.a. 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>
10. <http://www.enp-era-edta.org/#/44/page/home>
11. [https://www.eular.org/recommendations\\_management.cfm](https://www.eular.org/recommendations_management.cfm)
12. <http://www.european-renal-best-practice.org>
13. <http://www.esmo.org/Guidelines/Haematological-Malignancies>
14. <https://ehaweb.org/organization/committees/swg-unit/scientific-working-groups/structure-and-guidelines/>
15. <http://www.gastro.org/guidelines>
16. [www.ginasthma.org](http://www.ginasthma.org)
17. <http://goldcopd.org>
18. <http://inephrology.kiev.ua/>
19. [http://www.ifp.kiev.ua/index\\_ukr.htm](http://www.ifp.kiev.ua/index_ukr.htm)
20. <http://kdigo.org/home/guidelines/>
21. <http://mtd.dec.gov.ua/index.php/uk/>
22. <https://www.nice.org.uk>
23. <http://www.oxfordmedicaleducation.com/>
24. [http://professional.heart.org/professional/GuidelinesStatements/UCM\\_316885\\_Guidelines-Statements.jsp](http://professional.heart.org/professional/GuidelinesStatements/UCM_316885_Guidelines-Statements.jsp)
25. <https://www.rheumatology.org/Practice-Quality/Clinical-Support/Clinical-Practice-Guidelines><https://www.thoracic.org/statements/>
26. <http://www.strazhesko.org.ua/advice>
27. <https://www.thyroid.org>
28. <https://www.ueg.eu/guidelines/>
29. <http://ukrgastro.com.ua/>
30. Website of the Center for Public Health of the Ministry of Health of Ukraine:<http://phc.org.ua/>
31. [ELECTRONIC RESOURCE]. - ACCESS MODE <https://www.cdc.gov/>
32. Global AIDS Update [Electronic resource] / UNAIDS, 2016. – Access mode: [http://www.unaids.org/sites/default/files/media\\_asset/global-AIDS-update2016\\_en.pdf](http://www.unaids.org/sites/default/files/media_asset/global-AIDS-update2016_en.pdf)