



MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION  
Federal state autonomous educational institution  
of higher education  
«Far Eastern Federal University»  
(FEFU)

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**SCHOOL OF BIOMEDICINE**

«AGREED»

Head of education program  
«General medicine»

  
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(signature) Khotimchenko Yu.S.  
(Full name)  
«09» of July 2019

«APPROVED»

Director of the Department of Clinical  
Medicine



  
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(signature) Geltser B.I.  
(Full name)  
«09» of July 2019

**WORKING PROGRAM OF ACADEMIC DISCIPLINE (WPAD)**

**«Internal Therapy, Occupational Diseases»**

Education program

Specialty 31.05.01 «General medicine»

**Form of study: full time**

year 4, semester 7.8  
lectures 72 hours  
practical classes 126 hours  
laboratory works not provided  
total amount of in-classroom works 198 hours  
independent self-work 126 hours  
including preparation to exam 27 hours  
control works ()  
pass-fail exam year 4, semester 7  
exam year 4, semester 8

The working program is drawn up in accordance with the requirements of the Federal state educational standard of higher education (level of training), approved by the order of the Ministry of education and science of the Russian Federation from 09.02.2016 № 95.

The working program of the discipline was discussed at the meeting of the Department of fundamental and clinical medicine. Protocol No. 8, 09 of July 2019

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## RESUME

Discipline "Internal Therapy, Occupational Diseases" is proposed for students enrolled in the educational program 31.05.01 "Medicine" and included in the basic part of the curriculum.

Discipline is implemented on 4, in 7, 8, semesters.

Development of the working program of the discipline was made in accordance with the Federal state educational standard of higher education in the specialty 31.05.01 "General medicine" and curriculum of training in the specialty 31.05.01 "General medicine" issued in 2016

The total complexity of the discipline studying is 9 credits, 324 hours. The curriculum provides 72 hours of lectures, 126 hours of practical training, 126 hours of independent self-work of the student including 27 hours for preparing to exam).

Teaching of this discipline is aimed at the formation of student knowledge, skills and basic skills for further training at the medical university, further studying on 5 and 6 years of such disciplines as "hospital therapy, endocrinology", "Polyclinic therapy", and later - to work as a doctor in the specialty "General medicine".

A special feature in the construction and content of the course is the use of active learning methods, software and hardware, assessment fund, evaluation and electronic tools.

The study of the discipline "Internal therapy, occupational diseases" is based on the basic knowledge gained in the study of fundamental and clinical disciplines: Anatomy, Variant anatomy; Histology and embryology, Cytology; Biochemistry; Normal physiology; Pathological anatomy, clinical pathological anatomy; Pathophysiology, clinical pathophysiology; Pharmacology; Hygiene; Nursing; Propedeutics of internal diseases, radiation diagnostics.

As a result of the studying of these disciplines student should have the following preliminary competencies:

### **General professional competence (GPC):**

- the readiness for medical use of drugs and other medical substances and their combinations in solving professional problems (GPC – 8)

**professional competence (PC):**

**medical activity:**

the readiness to collect and to analyze patient complaints, data of its history, the results of laboratory, instrumental, postmortem and other examinations to recognize the incidence or the absence of diseases (PC – 5)

- the ability of determining the patient's basic pathological conditions, symptoms, syndromes, diseases in accordance with the International Statistical Classification of Diseases and problems related to health, the 10th review. (PC – 6)

the ability to determining the tactics of patient surveillance with different nosological entities. (PC – 8)

the willingness to deliver medical first aid in case of sudden acute diseases and conditions, exacerbation of a chronic disease, which are not life-threatening and do not require emergency medical assistance (PC – 10)

**Purpose and objectives of study.**

***Purpose of study:*** development of skills of clinical diagnostics and treatment principles in the typical forms of the most common diseases of the internal organs.

***Objectives of study:***

- formation of knowledge on etiology, pathogenesis, classification, clinical manifestation, complications, prognosis, treatment, prevention of diseases of internal organs;
- formation of knowledge on the principles of differential diagnostics and clinical diagnosis;
- development of ability to collect anamnesis and clinical examination of the patient according to the systems; identify the main clinical criteria of the disease; interpretation of the results of laboratory and instrumental studies; drawing up a plan of examination, medical tactics and appointment of complex treatment;
- formation of skills of substantiation and formation of preliminary and clinical diagnosis;

- development of emergency skills in some emergency situations.

As a result of the development of the program of faculty therapy the student should be formed general cultural, general professional and professional competence.

Code and formulation of competence	Stages of competence formation	
<p><b>GPC-8</b> readiness for medical use of drugs and other substances and their combinations in solving professional problems</p>	<b>To know</b>	classification and main diseases, characteristics of drugs, pharmacodynamics and pharmacokinetics, indications and contraindications to the use of drugs, side effects; clinical and pharmacological characteristics of the main groups of drugs and rational choice of specific drugs in the treatment of major pathological syndromes and diseases of emergency conditions
	<b>Be able to</b>	- prescribe medicines for certain diseases and pathological processes, based on the characteristics of their pharmacodynamics and pharmacokinetics; - justify the need for clinical and immunological examination of the patient, to analyze the effect of drugs on the totality of their pharmacological properties and the possibility of their use for therapeutic treatment
	<b>To master</b>	appointment of medicines in the treatment of various diseases and pathological processes
<p><b>PC 5</b> Readiness for the collection and analysis of patient's complaints, data of anamnesis, physical examination, laboratory, instrumental, post-mortem and other studies in order to determine the state or of ascertaining the presence or absence of the disease</p>	<b>To know</b>	- clinical picture, features of the course and possible complications of the most common diseases occurring in a typical form in the adult population; - modern methods of clinical, laboratory and instrumental diagnosis of diseases of therapeutic profile in the adult population;
	<b>Be able to</b>	palpate in human the main bone reference points, to outline the topographic contours of the organs and major vascular and nerve trunks; - analyze the results of X-ray examination; - interpret the results of the most common methods of functional diagnosis used to detect pathological processes in organs and systems; - collect anamnesis, conduct physical examination of the patient (examination, palpation, auscultation, measurement of blood pressure, determination of pulse characteristics, respiratory rate); send for laboratory and instrumental examination and consultation to specialists
	<b>To master</b>	- methods of General clinical examination; - interpretation of the results of laboratory and instrumental diagnostic methods
<p><b>PC 6</b> ability to determine the patient's main pathological conditions, symptoms, syndromes of diseases, nosological forms in accordance with the international classification of diseases and health-related problems, X revision</p>	<b>To know</b>	- concepts of etiology, pathogenesis, morphogenesis, pathomorphosis of the disease, the principles of classification of diseases; basic concepts of general nosology.
	<b>Be able to</b>	-to interpret the results of the questioning, - make a preliminary diagnosis, - outline the scope of additional studies to clarify the diagnosis, - formulate a clinical diagnosis; - develop a treatment plan taking into account the course of the disease, - choose and prescribe drug therapy, - use methods of non-drug treatment, - to carry out rehabilitation measures

	<b>To master</b>	- algorithm for preliminary diagnosis and then sending them for further examination by specialists; algorithm deployed setting clinical diagnosis.
<b>PC-8</b> ability to determine the management tactics of patients with different nosological forms	<b>To know</b>	-basics of the legislation of the Russian Federation on protection of public health - main normative and technical documents - maintenance of standard accounting and reporting medical records in medical organizations; - methods of treatment and indications for their use, contraindications to their appointment, especially their conduct
	<b>Be able to</b>	- formulate indications for the chosen method of treatment, taking into account the etiotropic and pathogenetic agents, - to justify pharmacotherapy in a particular patient with the main pathological syndromes and emergency conditions, - determine the route of administration, mode and dose of drugs, - evaluate the effectiveness and safety of the treatment
	<b>To master</b>	- proper maintenance of medical records; - the main medical diagnostic and therapeutic measures to provide first aid and medical care in emergency and life-threatening conditions.
<b>PC-10</b> the willingness to deliver medical first aid in case of sudden acute diseases and conditions, exacerbation of a chronic disease, which are not life-threatening and do not require emergency medical assistance	<b>To know</b>	Basic principles of medical care in case of sudden acute diseases, conditions, exacerbation of chronic diseases that are not accompanied by a threat to the life of the patient and do not require emergency medical care
	<b>Be able to</b>	provide medical care for sudden acute diseases, conditions, exacerbation of chronic diseases that are not accompanied by a threat to the life of the patient and do not require emergency medical care
	<b>To master</b>	Methods of medical care in case of sudden acute diseases, conditions, exacerbation of chronic diseases that are not accompanied by a threat to the life of the patient and do not require emergency medical care

## **I. STRUCTURE AND CONTENT OF THEORETICAL PART OF THE COURSE (90 hours)**

### **7<sup>th</sup> semester (36 hours)**

#### **Section I. Pulmonology (10 hours)**

#### **Theme 1. Introduction to faculty therapy. Theory of diagnostics. Principles of work with patients, clinical history of the disease (2 hours)**

Introduction to faculty therapy. Theory of diagnosis. The structure of the diagnosis, classification. Stages of diagnostic search. Principles of student work with patients. Clinical history of the disease.

#### **Theme 2. Pneumonia (2 hours).**

Definition. Etiology (bacterial, viral, Q-rickettsial, included by chemical and physical irritants, allergic). Pathogenesis: effects of alcohol, cooling, injuries, operations, pathology of the nasopharynx and previous lesions of the bronchi. The value of immunological reactions of the body. Classification. Setting a detailed clinical diagnosis. Etiological antibacterial therapy with the pathogen. Symptomatic agents that increase the body's resistance. Immunity stimulants. Desensitization therapy. Physiotherapy, therapeutic breathing exercises.

### **Theme 3. COPD. Chronic bronchitis. (2 hours).**

COPD. Chronic bronchitis. Etiology and pathogenesis. Role of smoking, infection, cooling, occupational and endocrine factors. Classification of chronic bronchitis: simple, purulent, obstructive, purulent-obstructive. The clinical picture depending on the form, stage and phase of the disease. COPD: Definition. Classification. Phenotypes Symptoms. Diagnostics. Treatment.

### **Theme 4. Bronchial asthma. (2 hours).**

Bronchial asthma. Prevalence. Etiology and pathogenesis. The role of exo- and endoallergens, hereditary constitutional and professional factors, focal infection of the upper respiratory tract and bronchi, the state of the central and vegetative nervous system, autoimmunization. Classification. The mechanism of attack. Clinic. Diagnostic criteria. Differential diagnosis. Glucocorticoids. Bronchodilator drugs (sympathomimetics, anticholinergics, purine bases), intal, immunosuppressants. Complications. Asthmatic status. Criteria for diagnosis and stage of the course. Treatment. Prevention. Treatment in the interictal period (rehabilitation of foci of infection, cessation of contact with the allergen, specific and nonspecific desensitization). Remediation of foci of infection. Breathing exercises, massage. Acupuncture, physiotherapeutic methods of treatment. Hyperbaric oxygenation, hemosorption.

### **Theme 5. Respiratory failure. Pulmonary heart. (2 hours).**

Pulmonary insufficiency. Acute, chronic. Grading severity. Diagnostics. Hypertension of the pulmonary circulation. Pathogenesis in pulmonary diseases. Pulmonary heart is acute, subacute and chronic, etiology, pathogenesis, classification, manifestations and stages of

the course. Research methods. The concept of primary (idiopathic) pulmonary hypertension. Pathogenesis of hemodynamic disorders. Principles of treatment of patients with pulmonary heart: treatment of the underlying disease, restoration of impaired ventilation, reduction of pulmonary hypertension, correction of right ventricular heart failure. Primary and secondary prevention. Complications: pulmonary embolism, pulmonary infarction. Diagnostics. Treatment.

## **Section 2. Cardiology (26 hour)**

### **Theme 6. Heart failure (2 hours).**

Definition, etiology, pathogenesis, symptoms, diagnostics, treatment, prevention. Classification. Chronic heart failure. Acute decompensation of cardiac activity. Symptoms. Diagnostics. Treatment.

### **Theme 7. Hypertension (4 hours).**

Definition, etiology, pathogenesis. Classification, symptoms, diagnosis, treatment, prevention. Symptomatic arterial hypertension. Differential diagnosis. Treatment depending on the etiology. Hypertensive crises. Symptoms, diagnosis. Treatment.

### **Theme 8. CHD. Angina pectoris (2 hours).**

Definition, etiology, pathogenesis. Classification. Symptoms, diagnostics. Differential diagnostics. Treatment, prevention.

### **Theme10. Myocardial infarction. (2 hours).**

Definition, etiology, pathogenesis. Classification, symptoms, diagnostics, treatment, prevention. Acute coronary syndrome. Differential diagnosis with MI. Treatment. Indications for surgical treatment for MI and ACF.

### **Theme 11. Disturbance of heart rhythm and conduction. (2 hours).**

Definition, etiology, pathogenesis. Violations of myocardial excitability. Extrasystole. Paroxysmal tachycardias. Symptoms, diagnostics, treatment, prevention. Myocardial conduction disorders. Classification of heart block system. Indications for surgical

treatment for complete a/v heart block.

**Theme 12. Non-coronary myocardial diseases (2 hours).**

Myocarditis, myocardiodystrophy, cardiomyopathy. Definition, etiology, pathogenesis. Classification. Symptoms, diagnostics, treatment, prevention.

**Theme 13. Pericarditis (2 hours).**

Definition, etiology, pathogenesis. Classification, symptoms, diagnostics, treatment, prevention.

**Theme 14. Acquired mitral and aortic heart defects (2 hours).**

Definition, etiology, pathogenesis, symptoms, diagnostics, treatment, prevention.

**Theme 15. Pulmonary embolism (2 hours).**

Definition, etiology, pathogenesis, symptoms, diagnosis, treatment. Emergency treatment. Prevention.

**Theme 16. Atherosclerosis (2 hours).**

Definition, etiology, pathogenesis, symptoms, diagnosis, treatment, prevention. Dyslipidemia. Diagnostics. Treatment.

**Theme 17. Infective endocarditis (2 hours).**

Definition, etiology, pathogenesis. Classification, symptoms, diagnostics, treatment, prevention.

**Theme 18. Symptomatic arterial hypertension. (2 hours).**

Definition, etiology, pathogenesis, symptoms, diagnostics, treatment, prevention. differential diagnosis, diagnostic criteria, treatment, prevention

**8<sup>th</sup> Semester (36 hours)**

**Section 3. Gastroenterology (12 hours)**



**Theme 1. Chronic gastritis. (2 hours).**

Definition, etiology, pathogenesis, symptoms, diagnostics, treatment, prevention., diagnosis, treatment, prevention

**Theme 2. Peptic ulcer disease (2 hours).**

Definition, etiology, pathogenesis, symptoms, diagnostics, differential diagnostics, treatment, prevention.

**Theme 3. Chronic hepatitis. (2 hours).**

Definition, etiology, pathogenesis, symptoms, differential diagnostics, diagnosis, treatment, prevention.

**Theme 4. Liver cirrhosis (2 hours).**

Definition, etiology, pathogenesis, symptoms, diagnostics, treatment, prevention.

**Theme 5. Chronic pancreatitis. (2 hours).**

Definition, etiology, pathogenesis, symptoms, differential diagnostics, diagnosis, treatment, prevention.

**Theme 6. Inflammatory bowel disease. (2 hours).**

Crohn's disease. Nonspecific ulcerative colitis. Definition, etiology, pathogenesis, symptoms, differential diagnostics, diagnosis, treatment, prevention.

**Section 4. Nephrology (8 hours.)**

**Theme 7. Glomerulonephritis (2 hours).**

Acute and chronic glomerulonephritis, definition, etiology, pathogenesis, symptoms, classification, differential diagnostics, diagnosis, treatment, prevention.

**Theme 8. Pyelonephritis (2 hours).**

Acute and chronic pyelonephritis, definition, etiology, pathogenesis, symptoms, classification, diagnostics, treatment, prevention.

**Theme 9. Chronic kidney disease. (2 hours).**

CKD, definition, etiology, pathogenesis, symptoms, diagnostics, treatment, prevention. Chronic renal failure.

**Theme 10. Acute kidney failure (2 hours).**

Acute kidney failure. Definition, etiology, pathogenesis, symptoms, diagnostics, treatment, prevention.

## **Section 5. Rheumatology. (12 hours)**

### **Theme 11. Systemic lupus erythematosus, scleroderma, Bekhterev's disease. (2 hours).**

Definition, etiology, pathogenesis, symptoms, diagnostic criteria, differential diagnostics, laboratory diagnosis, treatment, prevention.

### **Theme 12. Acute rheumatic fever (2 hours).**

Definition, etiology, pathogenesis, symptoms, diagnostic criteria, diagnosis, laboratory diagnostics, treatment, prevention. Acquired heart defects in adults.

### **Theme 13. Rheumatoid polyarthritis (2 hours).**

Definition, etiology, pathogenesis. Classification, clinical features, criteria for diagnosis, laboratory diagnostics. Treatment.

### **Theme 14. Osteoarthritis. (2 hours).**

Definition, etiology, pathogenesis.

Classification, symptoms, diagnosis criteria, laboratory and instrumental diagnostics, treatment.

### **Theme 15. Gout. (2 hours).**

Definition, etiology, pathogenesis.

Classification, symptoms, diagnostic criteria, laboratory and instrumental diagnostics, treatment, prevention.

### **Theme 16. Systemic vasculitis. (2 hours).**

Definition, etiology, pathogenesis.

Classification, symptoms, differential diagnostics, criteria for diagnosis, treatment, prevention.

## **Section 7. Hematology. (4 hours).**

### **Theme 17. Anemia (2 hours).**

Definition, etiology, pathogenesis, symptoms, differential diagnostics, diagnostic criteria, treatment, prevention

### **Theme 18. Leukemia. (2 hours).**

Acute and chronic leukemia. Etiology, pathogenesis, symptoms, diagnostics, treatment, prevention

## **Module1. Occupational diseases (14 hours)**

**Theme 1. Introduction to the clinic of occupational diseases. (2 hours).**

General principles of diagnosis, treatment, prevention. Medical and social examination of occupational diseases. Procedure. Regulatory framework.

**Theme 2. Occupational respiratory diseases from exposure to industrial aerosols. (2 hours).**

Pneumoconiosis and dust bronchitis. General principles of diagnostics, treatment, prevention. Medical and social examination.

**Theme 3. Occupational diseases associated with the influence of physical factors of the working environment. (2 hours).**

Vibration disease. Effects on the body of intense noise. Occupational diseases from physical overloads and overstrain.

**Theme 4.** Occupational diseases from chemical factors (inorganic and organic). Acute and chronic occupational intoxication (poisoning). Professional poisoning by inorganic substances and compounds. Characteristics of poisoning with a predominant lesion of the blood system. Lead intoxication. **(2 hours).**

**Theme 5.** Occupational disease. Industrial intoxication with organic solvents (benzene, homologues and benzene compounds). Pesticide intoxication. **(2 hours).**

**Theme 6.** Diseases caused by the action of agricultural pesticides. Diseases caused by the action of substances with a predominant lesion of the hepatobiliary system. **(2 hours).**

**Theme 7.** Diseases caused by the action of substances with a predominant lesion of the kidneys and urinary tract. Diseases caused by the action of substances with a predominant lesion of the nervous system. **(2 hours).**

**Module2. Physiotherapy and sanatorium-resort treatment. (4 hours)**

**Theme 8. Physiotherapeutic treatment. (2 hours).**

Indications, contraindications. Galvanization, electrophoresis, elektroantriebe, electrodiagnostics and stimulation, diadynamic therapy, amplipulse. Inductothermy, UHF, SHF - and UHF-therapy. Darsonvalization, franklinization, magnetotherapy. Ultrasound therapy, phototherapy, laser therapy.

**Theme 9. SPA-resort treatment. (2 hours).**

Classification and action of natural and artificial medical factors, mechanism of action. Classification of resorts. Indications and contraindications to SRT. Methods, dosing. Water and heat treatment. Fangotherapy.

## **I. THE STRUCTURE AND CONTENT OF THE PRACTICAL PART OF THE COURSE (126 hours)**

### **7 SEMESTER (54 hours)**

#### **Section 1. Cardiology (54 hours)**

##### **Theme 1. Introduction to faculty therapy. (4 hours)**

1. Principles of work with patients, clinical history.
2. Curation of patients for registration of each student record of the disease.

##### **Theme 2. Heart failure. (4 hours)**

1. Definition. Etiology. Pathogenesis. Changes in myocardial metabolism, hemodynamics (systemic and regional). The role of kidneys and endocrine factors. Provoking and contributing factors.
2. Classification of heart failure. Clinical manifestations of acute and chronic heart failure.
3. Laboratory and instrumental diagnostics.
4. Therapy. Mode. Diet. Medication. Indications and contraindications to the use of IACE, diuretics, beta-blockers, cardiac glycosides, drugs with a positive inotropic effect.
5. Emergency care for cardiac asthma and pulmonary edema.
6. Indications and contraindications to SPA treatment.
7. Forecast.

##### **Theme 3. Hypertensive disease. (4 hours)**

1. Definition. Prevalence. Etiology. Atherosclerosis and hypertension.
2. Pathogenesis. The role of central disorders of regulation of blood pressure, sympathetic nervous system, humoral and hormonal Pressor (renin, angiotensin, aldosterone) and depressive (kinin, prostaglandin) factors in the occurrence and progression of the disease. The value of sodium metabolism disorders, and other risk factors.
3. Classification. The risk of complications of hypertension. Clinical picture of different stages of the disease. Hemodynamic options. Current. Complications.

4. Malignant hypertension.
5. Juvenile hypertension.
6. The differential diagnostics of symptomatic arterial hypertension.
7. Treatment. Regimen, nutrition and other non-drug methods. Differential application of antihypertensive agents of different mechanisms of action. Principles of combined pharmacotherapy.
8. Hypertensive crises is their classification. Relief of hypertensive crises.
9. Outcomes. Forecast.
10. Prevention. Correction of risk factors. The role of clinical examination.

#### **Theme 4. CHD. ( 4 hours)**

1. CHD. The criteria for diagnosis. The role of ECG in the detection of coronary insufficiency. Pharmacological and stress tests. Radionuclide methods. The role of invasive techniques (coronary and angiography, frequent atrial stimulation test).
2. Differential diagnosis with small-focal myocardial infarction. Current.
3. Treatment of coronary artery disease. Non-drug methods.
4. Relief and prevention of pain attacks (nitrates, beta-blockers, calcium antagonists). Principles of step therapy.
5. The place of physical training in complex treatment.
6. Indications for surgical treatment.
7. Prevention (primary and secondary). Forecast.
8. Atherosclerosis. Epidemiology. Pathogenesis. Risk factor.
9. Symptoms for vascular lesions of different localization.
10. The importance of laboratory, radiological, instrumental and angiographic methods in the diagnostics of atherosclerosis of various localizations.
11. Medication. Primary and secondary prevention.

#### **Theme 5. CHD: myocardial infarction. (4 hours)**

1. Definition. Epidemiology, risk factors. Pathogenesis.
2. Clinical variants of the onset of the disease. Symptoms in different periods of the disease uncomplicated myocardial infarction.

3. The criteria for diagnostics. Changes in electrocardiogram, blood picture, biochemical parameters. For myocardial infarction.
4. Treatment of uncomplicated myocardial infarction. The importance of early hospitalization. Aid at pre-hospital stage. Medical tactics in different periods of myocardial infarction. Relief of pain attack, fight against cardiogenic shock, heart failure, arrhythmias.
5. Possibilities of anticoagulant and thrombolytic therapy.
6. Principles of resuscitation of patients with myocardial infarction in sudden clinical death.
7. Forecast. Rehabilitation of patients.
8. The role of clinical examination.

#### **Theme 6. Violation of rhythm of heart – alterations of conductivity (4 hours)**

1. Sinus node weakness syndrome. Clinical implications. Diagnostics.
2. Indications for implantation of an artificial pacemaker.
3. Conduction disturbance. Pathogenesis. Classification. Blockade: sinoatrial, atrioventricular, intraventricular. Blockade of legs of bundle of His. Etiology, symptoms, diagnostics, treatment. Clinical implications. The nature of ECG changes.
4. Changes in hemodynamics in various conduction disorders. Complications (Morgagni-Adams-Stokes syndrome, hemodynamic disorders).
5. Treatment. Medical tactics in acute violations of conductivity. Indications for temporary pacing. Therapy of chronic conduction disorders. Indications for implantation of pacemakers.
6. Labor expertise. Forecast.

#### **Theme 7. Violation of the heart rhythm (arrhythmia) due to excitability. (4 hours)**

1. Etiology. Pathogenesis. Classification of arrhythmias.
2. Extrasystole. Pathogenesis. Clinical implications. Topical ECG diagnosis. Treatment. Prevention.
3. Paroxysmal tachycardia. Pathogenesis. Symptoms. ECG changes. Changes in systemic hemodynamics during an attack. Treatment. Indications to a countershock. Prevention of attacks. Forecast.

4. Premature ventricular excitation syndrome. Diagnostics. Indications for surgical treatment.
5. Atrial fibrillation and atrial flutter. Pathogenesis. Classification. Clinical symptomatology. ECG changes. Complications. Treatment. Indications to a countershock. Management of patients after restoration of rhythm. Prevention of recurrence of atrial fibrillation. Labor expertise. Forecast.
6. Ventricular fibrillation. Pathogenesis. Symptoms, ECG-signs. Treatment. Forecast.

### **Theme 8. Myocarditis, cardiomyopathy, myocardiodystrophy. (4 hours)**

1. Myocarditises. Etiology. The role of viral and bacterial infection (clinical, serological and epidemiological studies).
2. Pathogenesis. Morphology of different stages of myocarditis. Classification.
3. Classification. Clinical picture. Clinical and laboratory criteria of myocarditis activity. Flow options.
4. Differential diagnostics. Treatment. Antibiotics, antiviral drugs, nonsteroidal anti-inflammatory drugs, corticosteroids.
5. Prevention. Sanation of focal infection, anti-relapse treatment.
6. Cardiomyopathies. Classification. Congenital and acquired cardiomyopathy. Etiology of secondary cardiomyopathies.
7. Clinical picture, laboratory and instrumental diagnostics of cardiomyopathies. Principle of treatment. Indications for heart transplantation.
8. Myocardiodystrophies. Etiology. Pathogenesis. symptoms, diagnostics. Treatment.

### **Theme 9. Infective endocarditis. (4 hours)**

1. Etiology, pathogenesis. The value of reactivity and characteristics of the pathogen in the occurrence of infectious endocarditis. Contributing factor. Features of acute and prolonged septic endocarditis.
2. Symptoms: variants of the onset of the disease, the form of fever, heart and other organs (kidneys, liver and spleen, skin, etc.). Thromboembolic complications.
3. Laboratory data, the value of repeated blood cultures in order to identify the causative agent of the process.

4. Clinical "masks" of the disease. Features of the course in the elderly and senile age, drug addicts, after heart surgery.
5. Diagnostics. Current and outcomes. Forecast. Treatment: choice of antibiotic, the need for large doses, the duration of therapy, indications for surgical treatment. Criteria of recovery.
6. Prevention of exacerbation. Prophylactic medical examination.
7. Occupational expertise and employment.

**The credit exercise. Test control section. 2 hours**

## **8 SEMESTER (72 hours)**

### **Section 2. Pulmonology (12 hours)**

#### **Theme 1. Pneumonias. (4 hours)**

1. Etiology (bacterial, viral, Ku-rickettsial, due to chemical and physical irritants, allergies, the effects of alcohol, cooling, injuries, operations, diseases of the nasopharynx and previous defeat of the bronchi).
2. Pathogenesis. The value of immunological reactions of the body.
3. Classification. Diagnostics. Formulation of a detailed clinical diagnosis.
4. Treatment. Empirical antibiotic therapy and treatment with regard to the pathogen. Diet. Immune stimulants. Desensitizing therapy.
5. Physiotherapy, therapeutic breathing exercises. Criteria of recovery. The outcomes of the disease. Forecast.

#### **Theme 2. COPD. Chronic bronchitis. (4 hours)**

1. Acute bronchitis. Etiology and pathogenesis. The role of smoking, infection, cooling, occupational and endocrine factors.
2. Classification of chronic bronchitis: simple, purulent, obstructive, purulent-obstructive.
3. COPD. Classification. Clinical picture depending on the form, stage and phase of the disease. Course and complications. Diagnostic criterion.
4. Complications. Pneumosclerosis. Emphysema.



5. Treatment (antibacterial, bronchodilator, mucolytic and antitussive therapy). Physical therapy and physical therapy. Prevention. Sanation of the upper respiratory tract. Forecast.

### **Pulmonary insufficiency. Pulmonary heart. (4 hours)**

1. Pulmonary insufficiency. Classification. Severity. Diagnostics.
2. The pathogenesis of hypertension of lesser circulation in pulmonary diseases.
3. Pulmonary heart: acute, subacute and chronic, etiology, pathogenesis, classification, manifestations and stages of the course. Method of research. Differential diagnosis with primary pulmonary hypertension of the small circle of blood circulation. Pathogenesis of hemodynamic disorders.
4. Principles of treatment of patients with pulmonary heart: treatment of the underlying disease, restoration of impaired lung ventilation, reduction of pulmonary hypertension, correction of right ventricular heart failure. Primary and secondary prevention.

#### **5. Pulmonary embolism.**

1. Etiology, pathogenesis. Contributing factor. The value of thrombophilia.
2. Features of acute and chronic pulmonary embolism. Clinic: variants of the onset of the disease, temperature curve, heart and other organs (kidneys, liver and spleen, skin, etc.).
3. Clinical "masks" of the disease. Features of the course in the elderly and senile age, drug addicts, after heart surgery.
4. Treatment: choice of anticoagulant therapy, thrombolysis, duration of therapy, indications for surgical treatment.

### **Theme 3. Bronchial asthma. (4 hours)**

1. Prevalence. Etiology and pathogenesis. The role of exo-and endoallergens, hereditary-constitutional and professional factors, focal infection of the upper respiratory tract and bronchi, the state of the central and autonomic nervous system. The role of autoimmunization.
2. Classification. Mechanism of attack. Symptoms, diagnostics.
3. Diagnostic criteria of BA. Differential diagnosis of bronchospastic syndrome.
4. Complications. Asthmatic status. Criteria for diagnosis and stage of course.

5. Treatment. Prevention. Treatment of BA exacerbations. Glucocorticoids, lavage of the bronchial tree. Bronchodilators (sympathomimetics, cholinolytics, purine bases), Intal, immunosuppressants.

6. Treatment in the inter-criminal period (sanation of foci of infection, cessation of contact with the allergen, specific and nonspecific hyposensitization). Sanation of foci of infection. Breathing exercises, massage. Acupuncture, physiotherapy treatments.

Hyperbaric oxygen therapy, hemosorption.

7. SPA-resort treatment. Prevention. Forecast.

### **8. Test control - 1 hour**

## **Section 3. Gastroenterology (16 hours).**

### **Theme 4. Chronic gastritis. Gastric and duodenal ulcer. (4 hours)**

1. Chronic gastritis. Definition, etiology, pathogenesis.

2. Symptoms, diagnostics. Differential diagnostics with gastric cancer. Treatment, prevention. Physiotherapy.

3. Indications and contraindications to SPA-resort treatment. Differentiated anti-relapse treatment. Labor expertise.

4. Gastric and duodenal ulcer. Etiology. Basic and predisposing factors. Clinic depending on the localization of the ulcer.

5. Diagnostics. The value of anamnesis, physical and laboratory-instrumental examination, radiological and endoscopic methods of investigation, disorders of secretory and motor function of the stomach.

6. Features of the course of gastric ulcer and duodenal ulcer.

7. Complications: perforations, bleeding, penetration, pyloric stenosis, or duodenum, perigastritis, periduodenitis.

8. Special forms of peptic ulcer disease (pyloric canal ulcer, postbulbar ulcers, multiple, giant ulcers, juvenile and ulcers in the elderly).

9. Differential diagnostics (primary gastric ulcer, symptomatic ulcers).

10. Treatment. Specific diets. Drugs: anticholinergics, antacids, histamine blockers, stimulants regeneration of the mucosa, antibacterial drugs. Administration of drugs via endoscopy. Absolute and relative indications for surgical treatment.

11. Physiotherapy. Indications and contraindications to SPA-resort treatment.  
Differentiated anti-relapse treatment.

### **Theme 5. Chronic hepatitis. (4 hours)**

1. Etiology (viral infection, alcohol, industrial hazards, various medicines). Pathogenesis. The role of virus persistence and immunological disorders. Morphology. Features of the flow of different shapes.
2. Clinical and laboratory (inflammation, cytolysis, cholestasis, cellular damage) syndromes.
3. Diagnostics, the value of puncture liver biopsy, ultrasound, radionuclide and immunological methods.
4. The differential diagnostics of liver steatosis, benign hyperbilirubinemia.
5. Course and outcomes of the disease.
6. Acute liver failure. Indications for use of corticosteroids and immunosuppressive drugs, antiviral drugs. Methods of extracorporeal detoxification (hemisorption, plasmapheresis). Hyperbaric oxygenation.
7. SPA-resort treatment.

### **Theme6. Cirrhosis. (4 hours)**

1. Definition. Etiology (infectious, nutritive factors, the role of alcohol and toxic substances). Pathogenesis. The role of immunological disorders.
2. Classification. Clinical and morphological forms of the disease. Clinical picture. The main clinical syndromes. Course of disease.
3. Diagnostic criterion. Possibilities of clinical, laboratory and instrumental diagnostics.
4. Features of the disease course. Complication of liver cirrhosis: cirrhosis-cancer, hepatic coma, bleeding, anemia, hypersplenism, edema-ascetic syndrome.
5. Treatment of liver cirrhosis. Diet. Drugs and indications for the use of immunosuppressive drugs, hepatoprotectors. Treatment of complications.
6. Prevention.

### **Theme 7. Chronic pancreatitis. Inflammatory bowel disease (4 hours)**

1. Definition, etiology, pathogenesis.

2. Classification. Symptoms, diagnostics, treatment, prevention.
3. Indications and contraindications to SPA-resort treatment.
4. Crohn disease. Definition, etiology, pathogenesis, symptoms, diagnostics, treatment, prevention.
5. Ulcerative colitis. Definition, etiology, pathogenesis, symptoms, diagnostics, treatment, prevention.
6. Test control section - 1 hour

#### **Section 4. Diseases of the blood system (8 hours)**

##### **Theme 8. Anemias. (4 hours)**

1. Deficiency anemia. Definition. Ways of iron transport in the body, iron deposition, the daily need of the body for iron. Etiological factors, pathogenesis. Stages of iron deficiency in the body.
  2. Classification. The clinical picture, main syndromes, the criteria for diagnosis. Differential diagnosis.
  3. Treatment. Monitoring the effectiveness of therapy with iron preparations. Course of disease. Outcomes. Prevention. Dispensary observation.
  4. Sideroachrestic conditions.
  5. B12 (folic) deficiency anemia. Ways of vitamin B12 intake. The value of the autoimmune mechanism of pathogenesis. Clinical picture. The main clinical syndromes. The criteria for diagnostics. Differential diagnostics. Current. Outcomes. Treatment. Relapse prevention. Prophylactic medical examination.
- Hemolytic anemia. Aplastic anemia. Etiology. Pathogenesis. Clinic. Diagnostics.

##### **Theme 9. Acute and chronic leukemia. (4 hours)**

1. Acute leukemia. Etiology, pathogenesis, symptoms, diagnostics, treatment, prevention. Clinical picture taking into account the stage of the course, the severity of the process and involvement in the pathological process of other organs and systems of the body. Laboratory changes. Diagnosis and differential diagnostics. Course. Treatment.
2. Chronic leukemia. Etiology, pathogenesis, symptoms, diagnostics, treatment, prevention. Clinical picture taking into account the stage of the course, the severity of the

process and involvement in the pathological process of other organs and systems of the body. Laboratory changes. Diagnosis and differential diagnostics. Course. Treatment.

3. Test control section - 1 hour

## **Section 5. Nephrology (8 hours)**

### **Theme 1. Acute and chronic glomerulonephritis. (4 hours)**

1. Modern concepts of etiology and pathogenesis. The value of the immune link of pathogenesis.
2. Acute glomerulonephritis. Clinical picture. The main clinical syndromes. Eclampsia in the clinic of acute nephritis. Acute kidney injury.
3. Laboratory and instrumental indicators of renal function. Clinical forms and variants of the course. The criteria for diagnostics.
4. Nephrotic syndrome. Etiology, pathogenesis. Contributing factor. Symptoms: variants of the disease onset.
5. Nephrotic crisis, symptoms, therapy. Laboratory data. Clinical "masks" of the disease.
6. Chronic glomerulonephritis. Classification. Symptoms. The diagnosis of GN. Course and outcomes. Forecast. Differential diagnostics.
7. Treatment: regimen, diet, steroid, immunosuppressive and other drugs.
8. Prevention. Prophylactic medical examination.

### **Pyelonephritis.**

1. Acute pyelonephritis. Definition, etiology, pathogenesis, symptoms, diagnostics, differential diagnosis, treatment, prevention.
2. Chronic pyelonephritis. Definition. Etiology and pathogenesis. The role of focal infection.
3. Classification. Symptoms.
4. Laboratory tests (blood tests, biochemical tests, special urine tests, blood creatinine, GFR). Instrumental methods of research (chromatotherapy, excretory and retrograde pielography, camaraderie, angiography, ultrasound study of kidneys).
5. Outcomes. Treatment: regimen, diet. Drug treatment: antibiotics, chemotherapy nitrofurane medicines. Physiotherapy.
6. Indications for surgical treatment. Forecast. Prevention.

## **Theme 2. Chronic kidney disease. Acute kidney injury (4 hours)**

1. Chronic kidney disease. Definition. Chronic renal failure. Etiology, pathogenesis.
2. Symptoms, diagnostics.
3. Treatment, prevention.
4. Forecast. Prevention. Disability expertise.
5. Acute kidney injury. Definition, etiology, pathogenesis.
6. Classification, symptoms, diagnostics.
7. Treatment, prevention. Forecast.
- 8. Test control session.**

## **Section 6. Rheumatology (12 hours)**

### **Theme 1. Systemic lupus erythematosus, scleroderma. (4 hours)**

1. Systemic lupus erythematosus, scleroderma. Definition. Frequency. Etiology and pathogenesis (role of autoimmune disorders and genetic factors). Classification. Clinical picture taking into account the stage of the course, the severity of the process and involvement in the pathological process of other organs and systems of the body. Laboratory changes. Diagnosis and differential diagnostics. Course.
2. Scleroderma. Definition, etiology, pathogenesis, symptoms, diagnostics, treatment, prevention.

### **Theme 2. Acute rheumatic fever.**

1. Etiology. The role of beta-hemolytic streptococcus. Pathogenesis of rheumatism.
2. Morphology of different stages of rheumatism.
3. Classification. The clinical picture of the main manifestations of rheumatic fever: polyarthritis, rheumatic heart disease, primary and recurrent, pericarditis, chorea, skin manifestations, renal disease.
4. Clinical and laboratory criteria of rheumatism activity. Variants of the course of rheumatism. Differential diagnostics.
5. Treatment of rheumatic fever: penicillin therapy is non-steroidal anti-inflammatory means. Indications for corticosteroids.
6. Prevention. Sanation of focal infection, anti-relapse treatment.

7. Mitral defects. Insufficiency of the mitral valve. Etiology, pathogenesis of hemodynamic disorders.
8. Clinical picture. Stages of the course of mitral insufficiency. Diagnosis. Forecast. Treatment. Indications for surgical treatment.
9. Mitral stenosis. Etiology. Pathogenesis of hemodynamic disorders.
10. Clinical picture. Stages of mitral stenosis.
11. The value of instrumental data (ECG, ultrasound, phonocardiogram, radiography) in the diagnostics.
12. Causes of decompensation. Complications. Forecast. Treatment. Indications for surgical treatment. Prophylactic medical examination.
13. Combined mitral heart disease.
14. Aortic defects. Insufficiency of the aortic valve. Etiology. Pathogenesis of hemodynamic disorders. Clinical picture. Instrumental methods of research. Course. Complications. Forecast. Possibilities of surgical treatment. Labor expertise.
15. Aortic stenosis. Etiology. Pathogenesis of hemodynamic disorders. Clinical picture. Course. Stages. Diagnosis. Complications. Forecast. Indications for surgical treatment.

### **Theme 3. Joint disease. Rheumatoid polyarthritis. Ankylosing spondylitis.**

#### **Osteoarthrosis. Gout. ( 4 hours)**

1. Rheumatoid polyarthritis. Definition. Frequency. Etiology and pathogenesis (role of autoimmune disorders and genetic factors). Classification. Clinical picture taking into account the stage of the course, the severity of the process and involvement in the pathological process of other organs and systems of the body. Laboratory changes. Diagnosis and differential diagnostics. Treatment.
2. Ankylosing spondylitis. Serum-negative spondylarthritis. Definition. Frequency. Etiology and pathogenesis (role of autoimmune disorders and genetic factors). Classification. Clinical picture taking into account the stage of the course, the severity of the process and involvement in the pathological process of other organs and systems of the body. Laboratory changes. Diagnosis and differential diagnosis. Treatment.
3. Osteoarthrosis. Gout.
  1. Osteoarthrosis. Definition, etiology, pathogenesis, symptoms, diagnostics, treatment, prevention. Clinical picture taking into account the stage of the course, the severity of the

process and involvement in the pathological process of other organs and systems of the body. Laboratory changes. Diagnosis and differential diagnosis. Treatment.

2. Gout. Definition, etiology, pathogenesis, symptoms, diagnostics, treatment, prevention. Clinical picture taking into account the stage of the course, the severity of the process and involvement in the pathological process of other organs and systems of the body.

Laboratory changes. Diagnosis and differential diagnostics. Treatment.

3. Systemic vasculitis. Etiology, pathogenesis, symptoms, diagnostics, treatment, prevention. Clinical picture taking into account the stage of the course, the severity of the process and involvement in the pathological process of other organs and systems of the body. Laboratory changes. Diagnosis and differential diagnostics. Treatment.

4. Test control session.

## **Section 7. Occupational diseases (8 hours)**

### **Theme 4. Occupational disease. (4 hours)**

1. Occupational disease. Introduction to the clinic of occupational diseases.

2. General principles of diagnostics, treatment, prevention.

3. Medical and social assessment of occupational diseases.

4. Procedure. Regulatory framework.

5. Occupational respiratory diseases from exposure to industrial aerosols.

6. Pneumoconiosis and dust bronchitis.

7. Principles of diagnostics, treatment, prevention.

8. Occupational diseases associated with the influence of physical factors of the working environment.

9. Vibration disease. Effects on the body of intense noise.

10. Occupational diseases from physical overloads and overstrain.

11. Principles of diagnostics, treatment, prevention.

12. Medical and social expertise

### **Theme 5. Occupational diseases. (4 hours)**

1. Occupational diseases induced by chemical factors (inorganic and organic).

2. Acute and chronic occupational intoxication (poisoning).

3. Professional exposure to inorganic substances and compounds.



4. Characteristics of poisoning with predominant lesion of the blood system.
5. Lead intoxication.
6. Industrial intoxication with organic solvents (benzene, homologues and benzene compounds).
7. Pesticide intoxication.
8. Test control session.

## **Section 8. Physiotherapy and SPA-resort treatment (12 hours)**

### **Theme 6. Physiotherapeutic treatment. (4 hours)**

1. Physiotherapeutic treatment. Indications, contraindications.
2. Galvanization, electrophoresis, electrosleep therapy, electrodiagnostics and stimulation, diadynamic therapy, amplipulse. Indications, contraindications.

### **Theme 7. Physiotherapeutic treatment. (4 hours)**

1. Inductothermy, UHF, SHF - and UHF-therapy. Indications, contraindications.
2. Darsonvalization, franklinization, magnetotherapy. Indications, contraindications.
3. Ultrasound therapy, phototherapy, laser therapy. Indications, contraindications

### **Theme 8. Spa treatment. (4 hours)**

1. Classification of therapeutic factors, the mechanism of action.
2. Indications and contraindications to SRT.
3. Methods, dosing. Water and heat treatment. Fangotherapy.
4. Test control session.

## **9. Final lesson. (4 hours)**

**Defense of medical history (3 hours.).**

**Test control on discipline (1 hour)**

## **III. TRAINING AND METHODOLOGICAL SUPPORT INDEPENDENT WORK OF STUDENTS**

Educational and methodological support of independent work of students in the discipline "Faculty therapy, occupational diseases" is presented in Appendix 1 and includes:

- the schedule of performing independent work in the discipline;
- characteristics of tasks for independent self-work of students and guidelines for their implementation;
- requirements for presentation and execution of the results of independent self-work;
- evaluation criteria performance of independent self-work.

#### IV. MONITORING THE ACHIEVEMENT OF THE COURSE GOALS

№ p/p	Controlled modules / sections / topics of discipline	Codes and stages of the formation of competencies	Evaluation tools - name		
			current control	intermediate certification	
1	Module I. Pulmonology Module 2. Cardiology Module 3. Gastroenterology Module 4. Nephrology Module 5. Rheumatology Module 7. Hematology. Module1 Occupational diseases Module 2. Physiotherapy and sanatorium-resort treatment.	GPC-8 readiness for medical use of drugs and other substances and their combinations in solving professional problems	<b>To know</b>	OQ-1 Interview	Exam questions 1-25
			<b>Be able to</b>	PW-1 Test	PW-1 Test
			<b>To master</b>	OQ-3 Report Presentation	YO-2 Colloquium
2	Module I. Pulmonology Module 2. Cardiology Module 3. Gastroenterology Module 4. Nephrology Module 5. Rheumatology Module 7. Hematology. Module1 Occupational diseases Module 2. Physiotherapy and sanatorium-resort treatment.	PC 5 Readiness for the collection and analysis of patient's complaints, data of anamnesis, physical examination, laboratory, instrumental, post-mortem and other studies in order to determine the state or of ascertaining the presence or absence of the disease	<b>To know</b>	OQ-1 Interview	Exam questions 26-64
			<b>Be able to</b>	PW-1 Test	PW-1 Test
			<b>To master</b>	OQ-3 Report Presentation	YO-2 Colloquium
3	Module I. Pulmonology Module 2. Cardiology Module 3. Gastroenterology Module 4. Nephrology	PC 6 ability to determine the patient's main pathological conditions, symptoms, syndromes of diseases, nosological forms in accordance with the	<b>To know</b>	OQ-1 Interview	Exam questions 64-100
			<b>Be able to</b>	PW-1 Test	PW-1 Test

	Module 5. Rheumatology Module 7. Hematology. Module1 Occupational diseases Module 2. Physiotherapy and sanatorium-resort treatment..	international classification of diseases and health- related problems, X revision	<b>To master</b>	OQ-3 Report Presentation	YO-2 Colloquium
4	Module I. Pulmonology Module 2. Cardiology Module 3. Gastroenterology Module 4. Nephrology Module 5. Rheumatology Module 7. Hematology. Module1 Occupational diseases Module 2. Physiotherapy and sanatorium-resort treatment.	<b>PC-8</b> ability to determine the management tactics of patients with different nosological forms	<b>To know</b>	OQ-1 Interview	Exam questions 26-64
			<b>Be able to</b>	PW-1 Test	PW-1 Test
			<b>To master</b>	OQ-3 Report Presentation	YO-2 Colloquium
5	Module I. Pulmonology Module 2. Cardiology Module 3. Gastroenterology Module 4. Nephrology Module 5. Rheumatology Module 7. Hematology. Module1 Occupational diseases Module 2. Physiotherapy and sanatorium-resort treatment.	<b>PC-10</b> the willingness to deliver medical first aid in case of sudden acute diseases and conditions, exacerbation of a chronic disease, which are not life-threatening and do not require emergency medical assistance	<b>To know</b>	OQ-1 Interview	Exam questions 64-100
			<b>Be able to</b>	PW-1 Test	PW-1 Test
			<b>To master</b>	OQ-3 Report Presentation	YO-2 Colloquium

Control and methodological materials, as well as criteria and indicators necessary for the assessment of knowledge, skills and characterizing the stages of formation of competencies in the process of development of the educational program are presented in Appendix 2.

## V. A LIST OF TEXTBOOKS AND METHODOLOGICAL SUPPORT OF THE DISCIPLINE

### Main course literature:

1. Internal Medicine / Springer International Publishing Switzerland 2017  
<https://link.springer.com/book/10.1007/978-3-319-39747-4#authorsandaffiliationsbook>
2. Approach to Internal Medicine / Springer Science+Business Media, LLC 2011  
<https://link.springer.com/book/10.1007/978-1-4419-6505-9#authorsandaffiliationsbook>
3. General Medicine and Hospital Medicine: The Janus of Internal Medicine / Springer US 2017 <https://link.springer.com/article/10.1007/s11606-017-4182-z>
4. Textbook of Hyperbaric Medicine / Springer International Publishing AG 2017  
<https://link.springer.com/book/10.1007/978-3-319-47140-2#authorsandaffiliationsbook>

### Additional literature

1. Clinical Pathways in Emergency Medicine / Springer India 2016  
<https://link.springer.com/book/10.1007/978-81-322-2710-6#editorsandaffiliations>
2. Family Medicine / Springer Science+Business Media LLC 2017  
<https://link.springer.com/referencework/10.1007/978-1-4939-0779-3#editorsandaffiliations>

### Internet resources:

1. Scientific electronic library: <http://www.elibrary.ru>
2. Central scientific medical library: <http://www.scsml.rssi.ru>
3. Medical Internet Resources: <http://www.it2med.ru/mir.html>
4. Publishing house "Medicine": <http://www.medlit.ru>

## LIST OF INFORMATION TECHNOLOGIES AND SOFTWARE

The location of the computer equipment on which the software is installed, the	List of licensed software
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number of jobs	
Multimedia auditorium Vladivostok Russian island, Ayaks 10, building 25.1, RM. M723 Area of 80.3 m2 (Room for independent work)	Windows Seven enterprice SP3x64 Operating System Microsoft Office Professional Plus 2010 office suite that includes software for working with various types of documents (texts, spreadsheets, databases, etc.); 7Zip 9.20 - free file archiver with a high degree of data compression; ABBYY FineReader 11 - a program for optical character recognition; Adobe Acrobat XI Pro 11.0.00 - software package for creating and viewing electronic publications in PDF; WinDjView 2.0.2 - a program for recognizing and viewing files with the same format DJV and DjVu.

In order to provide special conditions for the education of persons with disabilities all buildings are equipped with ramps, elevators, lifts, specialized places equipped with toilet rooms, information and navigation support signs

## **VI. GUIDELINES FOR DEVELOPMENT OF THE DISCIPLINE**

The theoretical part of the discipline "Faculty therapy" is revealed in lectures, as the lecture is the main form of training, where the teacher gives the basic concepts of the discipline.

The sequence of presentation of the material in the lecture, aimed at the formation of student indicative basis for the subsequent assimilation of the material in the independent self-work.

Students learn to analyze and predict the development of medical science, reveal its scientific and social problems in practical classes during the discussions at the seminars, in the discussion of abstracts and in the classroom with the use of active learning methods.

Practical classes of the course are held in all sections of the curriculum. Practical work is aimed at the formation of student skills of independent research. In the course of practical training, the student performs a set of tasks that allow to consolidate the lecture material on the topic under study, to gain basic skills in the field of building diets for different groups of the population, taking into account their physiological characteristics. Active consolidation of theoretical knowledge contributes to the discussion of problematic aspects of the discipline in the form of seminars and classes with the use of active learning methods. At the same time there is a development of skills of independent research activities in the process of working with scientific literature, periodicals, the formation of the ability to defend their point of view, listen to others, answer questions, lead the discussion.

When writing essays, it is recommended to find their own literature for students. Essay reveals the content of the problem. Working on the essay helps to deepen the understanding of individual issues of the course, to form and defend their point of view, to acquire and improve the skills of independent creative work, to conduct active cognitive work.

The main types of independent self-work of students – is a work with literary sources and guidelines on the history of medicine, bioethical problems, on-line resources for a deeper acquaintance with the individual problems of development of medicine and bioethics. The results of the work are made in the form of essays or reports with subsequent discussion. Topics of essays correspond to the main sections of the course.

To conduct ongoing monitoring and interim certification, oral interviews and control essays are carried out.

## VII. MATERIAL AND TECHNICAL MAINTENANCE OF DISCIPLINE

<p>Internal Therapy and Occupational Diseases</p>	<p>AIO PC HP ProOne 400 G1 AiO 19.5" Intel Core i3-4130T 4GB DDR3-1600 SODIMM (1x4GB)500GB; Screen projection Projecta Elpro Electrol, 300x173 cm; Multimedia projector, Mitsubishi FD630U, 4000 ANSI Lumen 1920 x 1080; Flush interface with automatic retracting cables TLS TAM 201 Stan; Avervision CP355AF; lavalier Microphone system UHF band Sennheiser EW 122 G3 composed of a wireless microphone and receiver; Codec of videoconferencing LifeSizeExpress 220 - Codeconly - Non-AES; Network camera Multipix MP-HD718; Two 47 " LCD panels, Full HD, LG M4716CCBA; audio commutation and sound amplification Subsystem; centralized uninterruptible power supply</p> <p>Accreditation and simulation center:          Medical couch (1 PC.)          Simulator for auscultation with interactive whiteboard (1 PC.)          Dummy for SLS and auscultation (1 PC .)          Sam II (1 PC.)          Blood pressure monitor (2 PCs)          Simulator for auscultation (1 PC .)</p> <p>Spirometer portable (1 PC.)          The ECG unit (1 PC.)          Spirograph (1 PC.)          Blood pressure monitor (2 PCs)          Set with point electrodes for EEG registration in the system 10-20 "MCScap-26" (1 PC.)          Medical couch (2 PCs.)</p> <p>Federal state institution "1477 Naval clinical hospital" of the Ministry of defence of the Russian Federation</p> <p>Non-state healthcare institution Branch hospital at the station of Vladivostok, Russian Railways</p>	<p>Multimedia audience</p> <p>690922, Primorsky Krai, Vladivostok, island Russian, the Saperny Peninsula, the village of ayaks, 10, RM. M 508A</p> <p>690922, Primorsky Krai, Vladivostok, island Russian, the Saperny Peninsula, the village of ayaks, 10, RM. M 510</p>
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		<p>690005, Vladivostok, Ivanovskaya str., 4</p> <p>690003, Primorski Krai, Vladivostok Verkhneportovaya str., 25</p>
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MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION  
Federal state autonomous educational institution  
of higher education  
« Far Eastern Federal University »  
(FEFU)

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**SCHOOL OF BIOMEDICINE**

**TRAINING AND METHODOLOGICAL SUPPORT OF INDEPENDENT WORK  
OF STUDENTS**

**on discipline «Internal therapy, occupational diseases»**

**Specialty 31.05.01 «General medicine»**

**Form of study: full time**

**Vladivostok  
2017**



## Schedule of independent work on the discipline

No.	Date / Deadline	Type of independent work	Estimated norms of time for execution (hour)	Form of control
<b>7 semester – 54 hours</b>				
1	1 week	Essay - 3	24 hours	OA-3-Report
2	2 week	Preparation and presentation of the topic essay - 3	18 hours	OA-3-Report
3	3 week	Preparation for pass-fail exam	12 hours	OA-1-Interview PW-1 - Test
<b>8 semester 72 hours</b>				
1	2-6 week	Essay	27 hours	OA-3-Report
2	7-16 неделя	Preparation and presentation of the topic essay	18 hours	OA-3-Report
3	17-18 week	Preparation for exam	27 hours	OA-1-Interview PW-1 - Test

### Guidelines for writing and design of an essay

Essay is a creative activity of the student reproducing in its structure the research activities to solve theoretical and applied problems in a particular branch of scientific knowledge. That is why the course certification work is an essential component of the educational process in higher education.

The essay is a model of scientific research, independent self-work in which a student solves a problem of a theoretical or practical nature, applying the scientific principles and methods of a given branch of scientific knowledge. The result of this scientific search may have not only subjective, but also objective scientific novelty, and therefore can be presented for discussion by the scientific community in the form of a scientific report or presentation at scientific-practical conferences, as well as in a form of research article.

Essay involves the acquisition of skills for building business cooperation, based on ethical standards of scientific activity. Purposefulness, initiative, disinterested cognitive interest, responsibility for the results of their actions, conscientiousness, competence - personality traits that characterize the subject of research activities corresponding to the ideals and norms of modern science.

The essay is an independent educational and research activity of the student. The teacher assists in a consultative manner and assesses the process and the results of the activity. Teacher provides an approximate topic of the essay work, specifies the problem and topic of research with a student or intern, helps to plan and organize research activities, assigns time and a minimum number of consultations.

The teacher receives the text of the essay for verification at least ten days before the defense.

Generally there is a certain structure of the essay, the main elements of which in order of their location are the following:

1. Title page.
2. Goal.
3. Table of Contents
4. List of abbreviations, symbols and terms (if necessary).
5. Introduction.
6. Main part.
7. Conclusion.
8. Reference list.
9. Appendixes.

The title page contains educational institution, graduating department, author, teacher or supervisor, research topic, place and year of the essay.

The title of the essay should be as short as possible and fully consistent with its content.

The table of contents (content) reflects the names of the structural parts of the essay and the pages on which they are located. The table of contents should be placed at the beginning of work on one page.

The presence of a detailed introduction - a mandatory requirement for the abstract. Despite the small volume of this structural part, its preparation causes considerable difficulties. However, this is a qualitatively executed introduction that is the key to understanding the entire work, which testifies to the professionalism of the author.

Thus, the introduction is a very crucial part of the essay. The introduction should start with a justification of the relevance of the chosen topic. As applied to the essay, the concept of "relevance" has one feature. From how the author of the essay can choose a

topic and how correctly he understands and evaluates this topic from the point of view of modernity and social significance, characterizes his scientific maturity and professional preparedness.

In addition, in the introduction it is necessary to isolate the methodological basis of the essay, name the authors, whose works constituted the theoretical basis of the study. A review of the literature on the topic should show the author's thorough acquaintance with special literature, his ability to systematize sources, critically examine them, highlight the essential and determine the most important in the up-to-date state of knowledge of the topic.

The introduction reflects the importance and relevance of the chosen topic, defines the object and subject, purpose and objectives, and the chronological framework of the study.

The introduction ends with a statement of the general conclusions about the scientific and practical significance of the topic, the degree of its knowledge and sources, and the hypothesis being put forward.

The main part describes the essence of the problem, reveals the topic, determines the author's position, factual material is given as an argument and for display of further provisions. The author must demonstrate the ability to consistently present the material while analyzing it simultaneously. Preference is given to the main facts, rather than small details.

The essay ends with the final part called "conclusion". Like any conclusion, this part of the essay serves as a conclusion due to the logic of the study which is a form of synthesis accumulated in the main part of scientific information. This synthesis is a consistent, coherent presentation of the results obtained and their relation to a common goal and specific tasks set and formulated in the introduction. At this place there is a so-called "output" knowledge, which is new in relation to the original knowledge. The conclusion may include suggestions of practical matter, thereby increasing the value of theoretical materials.

So, the conclusion of the essay should contain: a) presents the conclusions of the study; b) theoretical and practical significance, novelty of the essay; c) indicated the possibility of applying the results of the study.

After conclusion it is acceptable to place the reference list of the literature used throughout. This list is one of the essential parts of the essay and reflects the independent creative work of the author of the essay.

The list of sources used is placed at the end of the work. It is made either in alphabetical order (by the name of the author or the name of the book), or in the order in which the references appear in the text of the prepared work. In all cases, the full title of the work, the names of the authors or the editor of publication are indicated if the writing team involved a group of authors, data on the number of volumes, the name of the city and publisher in which the work was published, year of publication, number of pages.

### **Methodical recommendations for the presentation preparation**

For preparation of presentation it is recommended to use: PowerPoint, MS Word, Acrobat Reader, LaTeX-bev package. The simplest program for creation of presentations is Microsoft PowerPoint. To prepare a presentation, it is necessary to process the information collected while writing the essay.

The sequence of preparation of the presentation:

1. Clearly state the purpose of the presentation.
2. Determine what the presentation format will be: live presentation (then how long it will be) or e-mail (what will be the context of the presentation).
3. Select the entire content of the presentation and build a logical chain of presentation.
4. Identify key points in the content of the text and highlight them.
5. Determine the types of visualization (pictures) to display them on slides in accordance with the logic, purpose and specificity of the material.
6. Choose the design and format the slides (the number of pictures and text, their location, color and size).
7. Check the visual perception of the presentation.

The types of visualization include illustrations, images, charts, tables. The illustration is a representation of a real-life visual. The images - as opposed to illustrations - are metaphor. Their purpose is to cause an emotion and create an attitude towards it, to influence the audience. With the help of well-designed and presented images, information can remain permanently in a person's memory. Chart is visualization of quantitative and

qualitative relationships. They are used for convincing data demonstration, for spatial thinking in addition to the logical one. Table is a specific, visual and accurate data display. Its main purpose is to structure information, which sometimes facilitates the perception of data by the audience.

*Practical hints on preparing a presentation*

- printed text + slides + handouts are prepared separately;
- slides -visual presentation of information that should contain a minimum of text and maximum of images that bring a meaning, to look visually and simply;
- textual content of the presentation - oral speech or reading, which should include arguments, facts, evidence and emotions;
- recommended number of slides 17-22;
- mandatory information for the presentation: the subject, surname and initials of the speaker; message plan; brief conclusions from all that has been said; list of sources used;
- handouts should be provided with the same depth and coverage as the live performance: people trust more what they can carry with them than disappear images, words and slides are forgotten, and handouts remain a constant tangible reminder; handouts are important to distribute at the end of the presentation; Handouts should be different from slides, should be more informative.

**Evaluation criteria for essays.**

The stated understanding of the essay as a holistic copyright text defines the criteria for its evaluation: the novelty of the text; the validity of the source choice; the degree of disclosure of the issue essence; compliance with the requirements for registration.

**Essay novelty:** a) the relevance of the research topic; b) novelty and independence in the problem formulation, formulation of a new aspect of the well-known problem in the establishment of new connections (interdisciplinary, intra-subject, integration); c) ability to work with research and critical literature, systematize and structure research material; d) the appearance of the author's position, independence of assessments and judgments; d) stylistic unity of the text, the unity of genre features.

**The degree of disclosure of the question essence:** a) the plan compliance with an essay; b) compliance with the content of topic and plan of an essay; c) completeness and depth of knowledge on the topic; d) the validity of the methods and techniques of work with the material; e) ability to generalize, draw conclusions, compare different points of view on one issue (problem).

**The validity of the source choice:** a) evaluation of the used literature: whether the most famous works on the research topic are involved (including recent journal publications, recent statistics, reports, references, etc.)

**Compliance with the requirements for registration:** a) How true are the references to the used literature, quotes; b) assessment of literacy and presentation culture (including spelling, punctuation, stylistic culture), knowledge of terminology; c) compliance with the requirements for the volume of essay.

**The reviewer should clearly state** the remarks and questions, preferably with references to the work (possible on specific pages of the work), to research and evidence that the author did not take into account.

**The reviewer may also indicate:** whether student has addressed the topic earlier (essays, written works, creative works, olympic works, etc.) and whether there are any preliminary results; how the graduate has conducted the work (plan, intermediate stages, consultation, revision and processing of the written or lack of a clear plan, rejection of the head recommendations).

**The student submits** an essay for review no later than a week before the defense. The reviewer is the teacher. Experience shows that it is advisable to acquaint the student with the review a few days before the defense. Opponents are appointed by the teacher from the students. For an oral presentation a student needs about 10–20 minutes (approximately as long as he answers with tasks for the exam).

**Grade 5** is given if all the requirements for writing and defending an essay are fulfilled: the problem is indicated and its relevance is justified, a brief analysis of different points of view on the problem under consideration is made and one's own position is logically presented, conclusions are formulated, the topic is fully disclosed, the volume is met, external requirements are met design, given the correct answers to additional questions.

**Grade 4** is given if the basic requirements for the essay and its defense are met, but there are some shortcomings. In particular, there are inaccuracies in the presentation of the material; or there is no logical sequence in the judgments; not sufficient volume of the essay; there are omissions in the design; additional questions for the defense are accompanied with incomplete answers.

**Grade 3** is given if there are significant deviations from the requirements for referencing. In particular: the topic is covered only partially; factual errors in the content of an essay or when answering additional questions; there is no output c.

**Grade 2** - the topic of an essay is not disclosed, a significant misunderstanding of the problem is found.

**Grade 1** - student's essay is not presented.

### **Topics of essays and presentations**

1. The possibilities of laboratory monitoring of antiplatelet therapy.
2. Bone marrow transplantation in patients with acute leukemia. Indications and possibilities.
3. Prospects of antithrombotic therapy.
4. Thrombophilia, the importance of genetic mutations in the therapeutic clinic.
5. Venous thrombosis and pulmonary embolism in medical patients: how to detect and prevent?
6. Anemia and chronic heart failure.
7. Acute coronary syndrome. Diagnostics.
8. Thrombolytic therapy for acute myocardial infarction. Benefits and risks.
9. The patient after MI: the purpose of treatment and medical examination.
10. Atrial fibrillation and flutter.
11. Wolf-Parkinson-White Syndrome. Clinical significance, features of relief of paroxysmal rhythm disturbances.
12. Problems of treatment of patients with extrasystolic arrhythmia.
13. The possibility of diagnostics of a syndrome of weakness of sinus node.

14. New inotropic agents in the treatment of chronic heart failure.
15. Possibilities of surgical treatment of arrhythmias.
16. The role of ACE inhibitors in improving prognosis in patients with cardiovascular diseases.
17. Evolution of COPD concepts.
18. Features of treatment of gastric and duodenal ulcers.
19. Diagnosis and treatment of complications of steroid therapy in medical patients.
20. New biological agents in the treatment of rheumatoid arthritis.
21. Arthritis and diseases of the gastrointestinal tract.
22. Infectious arthritis in the practice of the internist.
23. The ability to diagnose systemic diseases of connective tissue.





MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION  
Federal state autonomous educational institution  
of higher education  
**« Far Eastern Federal University »**  
(FEFU)

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**SCHOOL OF BIOMEDICINE**

**ASSESSMENT FUND**  
**on discipline « Faculty therapy, occupational diseases»**  
**Specialty 31.05.01 «General medicine»**  
**Form of study: full time**

**Vladivostok**  
**2017**

## Passport of assessment fund

Completed in accordance with the Regulations on the Funds of Evaluation Assets of Educational Programs of Higher Education - Bachelor's Programs, Specialties, FEFU Magistrates, approved by order of the Rector No. 12-13-850 of May 12, 2015.

Code and formulation of competence	Stages of competence formation	
<b>GPC-8</b> readiness for medical use of drugs and other substances and their combinations in solving professional problems	<b>To know</b>	classification and main diseases, characteristics of drugs, pharmacodynamics and pharmacokinetics, indications and contraindications to the use of drugs, side effects; clinical and pharmacological characteristics of the main groups of drugs and rational choice of specific drugs in the treatment of major pathological syndromes and diseases of emergency conditions
	<b>Be able to</b>	- prescribe medicines for certain diseases and pathological processes, based on the characteristics of their pharmacodynamics and pharmacokinetics; - justify the need for clinical and immunological examination of the patient, to analyze the effect of drugs on the totality of their pharmacological properties and the possibility of their use for therapeutic treatment
	<b>To master</b>	appointment of medicines in the treatment of various diseases and pathological processes
<b>PC 5</b> Readiness for the collection and analysis of patient's complaints, data of anamnesis, physical examination, laboratory, instrumental, post-mortem and other studies in order to determine the state or of ascertaining the presence or absence of the disease	<b>To know</b>	- clinical picture, features of the course and possible complications of the most common diseases occurring in a typical form in the adult population; - modern methods of clinical, laboratory and instrumental diagnosis of diseases of therapeutic profile in the adult population;
	<b>Be able to</b>	palpate in human the main bone reference points, to outline the topographic contours of the organs and major vascular and nerve trunks; - analyze the results of X-ray examination; - interpret the results of the most common methods of functional diagnosis used to detect pathological processes in organs and systems; - collect anamnesis, conduct physical examination of the patient (examination, palpation, auscultation, measurement of blood pressure, determination of pulse characteristics, respiratory rate); send for laboratory and instrumental examination and consultation to specialists
	<b>To master</b>	- methods of General clinical examination; - interpretation of the results of laboratory and instrumental diagnostic methods
<b>PC 6</b> ability to determine the patient's main pathological conditions, symptoms, syndromes of diseases, nosological forms in accordance with the international classification of diseases and health-related problems, X revision	<b>To know</b>	- concepts of etiology, pathogenesis, morphogenesis, pathomorphosis of the disease, the principles of classification of diseases; basic concepts of general nosology.
	<b>Be able to</b>	-to interpret the results of the questioning, - make a preliminary diagnosis, - outline the scope of additional studies to clarify the diagnosis, - formulate a clinical diagnosis; - develop a treatment plan taking into account the course of the disease, - choose and prescribe drug therapy, - use methods of non-drug treatment,

		- to carry out rehabilitation measures
	<b>To master</b>	- algorithm for preliminary diagnosis and then sending them for further examination by specialists; algorithm deployed setting clinical diagnosis.
<b>PC-8</b> ability to determine the management tactics of patients with different nosological forms	<b>To know</b>	-basics of the legislation of the Russian Federation on protection of public health - main normative and technical documents - maintenance of standard accounting and reporting medical records in medical organizations; - methods of treatment and indications for their use, contraindications to their appointment, especially their conduct
	<b>Be able to</b>	- formulate indications for the chosen method of treatment, taking into account the etiotropic and pathogenetic agents, - to justify pharmacotherapy in a particular patient with the main pathological syndromes and emergency conditions, - determine the route of administration, mode and dose of drugs, - evaluate the effectiveness and safety of the treatment
	<b>To master</b>	- proper maintenance of medical records; - the main medical diagnostic and therapeutic measures to provide first aid and medical care in emergency and life-threatening conditions.
<b>PC-10</b> the willingness to deliver medical first aid in case of sudden acute diseases and conditions, exacerbation of a chronic disease, which are not life-threatening and do not require emergency medical assistance	<b>To know</b>	Basic principles of medical care in case of sudden acute diseases, conditions, exacerbation of chronic diseases that are not accompanied by a threat to the life of the patient and do not require emergency medical care
	<b>Be able to</b>	provide medical care for sudden acute diseases, conditions, exacerbation of chronic diseases that are not accompanied by a threat to the life of the patient and do not require emergency medical care
	<b>To master</b>	Methods of medical care in case of sudden acute diseases, conditions, exacerbation of chronic diseases that are not accompanied by a threat to the life of the patient and do not require emergency medical care

## MONITORING THE ACHIEVEMENT OF THE COURSE GOALS

№ p/p	Controlled modules / sections / topics of discipline	Codes and stages of the formation of competencies		Evaluation tools - name	
				current control	intermediate certification
1	Module I. Pulmonology Module 2. Cardiology Module 3. Gastroenterology Module 4. Nephrology Module 5. Rheumatology Module 7. Hematology. Module1 Occupational diseases Module 2. Physiotherapy and sanatorium-resort treatment.	GPC-8 readiness for medical use of drugs and other substances and their combinations in solving professional problems	<b>To know</b>	OQ-1 Interview	Exam questions 1-25
			<b>Be able to</b>	PW-1 Test	PW-1 Test
			<b>To master</b>	OQ-3 Report Presentation	YO-2 Colloquium

2	Module I. Pulmonology Module 2. Cardiology Module 3. Gastroenterology Module 4. Nephrology Module 5. Rheumatology Module 7. Hematology. Module1 Occupational diseases Module 2. Physiotherapy and sanatorium-resort treatment.	<b>PC 5</b> Readiness for the collection and analysis of patient's complaints, data of anamnesis, physical examination, laboratory, instrumental, post- mortem and other studies in order to determine the state or of ascertaining the presence or absence of the disease	<b>To know</b>	OQ-1 Interview	Exam questions 26-64
			<b>Be able to</b>	PW-1 Test	PW-1 Test
			<b>To master</b>	OQ-3 Report Presentation	YO-2 Colloquium
3	Module I. Pulmonology Module 2. Cardiology Module 3. Gastroenterology Module 4. Nephrology Module 5. Rheumatology Module 7. Hematology. Module1 Occupational diseases Module 2. Physiotherapy and sanatorium-resort treatment..	<b>PC 6</b> ability to determine the patient's main pathological conditions, symptoms, syndromes of diseases, nosological forms in accordance with the international classification of diseases and health- related problems, X revision	<b>To know</b>	OQ-1 Interview	Exam questions 64-100
			<b>Be able to</b>	PW-1 Test	PW-1 Test
			<b>To master</b>	OQ-3 Report Presentation	YO-2 Colloquium
4	Module I. Pulmonology Module 2. Cardiology Module 3. Gastroenterology Module 4. Nephrology Module 5. Rheumatology Module 7. Hematology. Module1 Occupational diseases Module 2. Physiotherapy and sanatorium-resort treatment.	<b>PC-8</b> ability to determine the management tactics of patients with different nosological forms	<b>To know</b>	OQ-1 Interview	Exam questions 26-64
			<b>Be able to</b>	PW-1 Test	PW-1 Test
			<b>To master</b>	OQ-3 Report Presentation	YO-2 Colloquium
5	Module I. Pulmonology Module 2. Cardiology Module 3. Gastroenterology	<b>PC-10</b> the willingness to deliver medical first aid in case of sudden acute diseases and conditions, exacerbation of a	<b>To know</b>	OQ-1 Interview	Exam questions 64-100
			<b>Be able to</b>	PW-1 Test	PW-1 Test

Module 4. Nephrology Module 5. Rheumatology Module 7. Hematology. Module1 Occupational diseases Module 2. Physiotherapy and sanatorium-resort treatment.	chronic disease, which are not life-threatening and do not require emergency medical assistance	<b>To master</b>	OQ-3 Report Presentation	YO-2 Colloquium
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### Scale of assessment of the level of competence formation

Code and formulation of competence	Stages of competence formation		criteria	indicators	points
GPC-8 readiness for medical use of drugs and other substances and their combinations in solving professional problems	knows (threshold)	classification and main diseases, characteristics of drugs, pharmacodynamics and pharmacokinetics, indications and contraindications to the use of drugs, side effects; clinical and pharmacological characteristics of the main groups of drugs and rational choice of specific drugs in the treatment of major pathological syndromes and diseases of emergency conditions	Knowledge of the basics of healthy lifestyle	Knows the basic hygienic measures of improving character promoting preservation and strengthening of health	65-71
	able to (advanced)	- prescribe medicines for certain diseases and pathological processes, based on the characteristics of their pharmacodynamics and pharmacokinetics; - justify the need for clinical and immunological examination of the patient, to analyze the effect of drugs on the totality of their pharmacological properties and the possibility of their use	Ability to prescribe medicines for diseases of internal organs	Able to write prescriptions for drugs for diseases of the internal organs in accordance with the survey data, is able to analyze the effects of drugs	71-84

		for therapeutic treatment			
	masters (high)	appointment of medicines in the treatment of various diseases and pathological processes	Possession of the technique of clinical and immunological examination of the patient, the use of drugs, the analysis of their pharmacological properties and the possibility of their use for therapeutic treatment	Owns the regulatory framework and technology of prescribing, prescribing drugs, evaluation of indicators of clinical and immunological examination of the patient, analysis of the action of drugs in the majority of their pharmacological properties and the possibility of their use for therapeutic treatment	85-100
<b>PC 5</b> the readiness to collect and to analyze patient complaints, data of its history, the results of laboratory, instrumental, postmortem and other examinations to recognize the incidence or the absence of diseases	knows (threshold)	- etiology, pathogenesis, morphogenesis, disease pathomorphosis, principles of classification of diseases; basic concepts of general nosology of diseases of internal organs.	Knows the etiology, pathogenesis, morphogenesis, disease pathomorphosis, principles of classification of diseases; basic concepts of general nosology	Knows principles of classification of diseases; basic concepts of general nosology	65-71
	able to (advanced)	-to interpret the results of the examination, to make a preliminary diagnosis, to outline the scope of additional studies to clarify the diagnosis, to formulate a clinical diagnosis; to develop a treatment plan taking into account the course of the disease, to choose and prescribe drug therapy, to use non-drug treatment methods, to perform rehabilitation measures	ability to interpret the results of the examination, to make a preliminary diagnosis, to outline the scope of additional studies to clarify the diagnosis, to formulate a clinical diagnosis; to develop a treatment plan taking into account the course of the disease, to choose and prescribe drug therapy, to use non-drug treatment methods, to carry out rehabilitation measures	able to formulate a clinical diagnosis; develop a treatment plan taking into account the course of the disease, choose and prescribe drug therapy, use non-drug treatment methods, carry out rehabilitation measures	71-84
	masters (high)	algorithm, preliminary diagnostics and then sending them for further examination by specialists; algorithm deployed setting clinical diagnosis.	algorithm for preliminary diagnosis with the following appointment for further examination by specialists; algorithm deployed for setting clinical diagnosis	masters the algorithm of examination and formulation of a detailed clinical diagnosis	85-100

<b>PC 6</b> ability to determine the patient's main pathological conditions, symptoms, syndromes of diseases, nosological forms in accordance with the international classification of diseases and health-related problems, X revision	knows (threshold)	- etiology, pathogenesis, morphogenesis, disease pathomorphosis, principles of classification of diseases; basic concepts of general nosology of diseases of internal organs.	Knows the etiology, pathogenesis, morphogenesis, disease pathomorphosis, principles of classification of diseases; basic concepts of general nosology	Knows the methods of treatment and indications for their use, contraindications to their appointment, especially their conduct	65-71
	able to (advanced)	- to interpret the results of the examination, to make a preliminary diagnosis, to outline the scope of additional studies to clarify the diagnosis, to formulate a clinical diagnosis; to develop a treatment plan taking into account the course of the disease, to choose and prescribe drug therapy, to use non-drug treatment methods, to execute rehabilitation measures	ability to interpret the results of the examination, to make a preliminary diagnosis, to outline the scope of additional studies to clarify the diagnosis, to formulate a clinical diagnosis; to develop a treatment plan taking into account the course of the disease, to choose and prescribe drug therapy, to use non-drug treatment methods, to carry out rehabilitation measures	Able to	71-84
	masters (high)	algorithm, preliminary diagnosis and then sending them for further examination by specialists; algorithm deployed setting clinical diagnosis.	algorithm for preliminary diagnosis with the following appointment for further examination by specialists; algorithm deployed setting clinical diagnosis	knows the methods of therapeutic measures to establish a complete clinical diagnosis, first aid and medical care in emergency and life-threatening conditions, the appointment of etiotropic, pathogenetic therapy	85-100

<p><b>PC-8</b> the ability to determining the tactics of patient surveillance with different nosological entities.</p>	<p>knows (threshold)</p>	<p>- knows the algorithm of nosological and complete clinical diagnosis, - the main medical diagnostic and medical actions for rendering the first and medical care at urgent and life-threatening conditions in out-patient conditions and conditions of the day hospital.</p>	<p>knows the methods of nosological and complete clinical diagnosis, - the main medical diagnostic and medical actions for rendering the first and medical care at urgent and life-threatening conditions in out-patient conditions and conditions of the day hospital.</p>	<p>knows the technology of nosological and complete clinical diagnosis, - the main medical diagnostic and medical actions for rendering the first and medical care at urgent and life-threatening conditions in out-patient conditions and conditions of the day hospital.</p>	<p>65-71</p>
	<p>able to (advanced)</p>	<p>able to apply the methods of nosological and complete clinical diagnosis in diseases of internal organs, identify the main medical diagnostic and therapeutic measures to provide first aid and medical care in emergency and life-threatening conditions in an outpatient setting and day hospital</p>	<p>able to apply the methods of nosological and complete clinical diagnosis in diseases of internal organs, Identify the main medical diagnostic and therapeutic measures to provide first aid and medical care in emergency and life-threatening conditions in an outpatient setting and day hospital</p>	<p>Able to implement the technology of production nosological and clinical diagnosis in diseases of the internal organs, Identify the main medical diagnostic and therapeutic measures to provide first aid and medical care in emergency and life-threatening conditions in outpatient settings and conditions</p>	<p>71-84</p>
	<p>masters (high)</p>	<p>- ability to interpret the results of the questioning, - make a preliminary diagnosis, - outline the scope of additional studies to clarify the diagnosis; - formulate a clinical diagnosis; - to develop a treatment plan taking into account the course of the disease, to choose and prescribe drug therapy, to use non-drug treatment methods, to carry out rehabilitation measures</p>	<p>skill of clinical diagnostics; -performing treatment taking into account the course of the disease and the appointment of drug therapy using methods of non-drug treatment and rehabilitation measures</p>	<p>skill of clinical diagnosis; performing treatment taking into account the course of the disease and the purpose of drug therapy using methods of non-drug treatment and rehabilitation measures</p>	<p>85-100</p>
<p><b>PC-10</b> the willingness to deliver medical first aid in case of sudden acute diseases and conditions, exacerbation of a chronic disease, which are not life-</p>	<p>knows (threshold)</p>	<p>- the concept of evidence-based medicine - ability to search for scientific and medical information on modern medical technologies from various sources - ways of presenting medical information</p>	<p>Knows the basics of evidence-based medicine, search capabilities and ways of presenting medical information</p>	<p>Knows search technology and ways of presenting medical information</p>	<p>65-71</p>



threatening and do not require emergency medical assistance	able to (advanced)	use scientific and medical information on modern medical technologies from various sources for professional activities	use scientific and medical information on modern medical technologies from various sources for professional activities	Able to use scientific and medical information on modern medical technologies from various sources for professional activities	71-84
	masters (high)	principles of analysis and discussion on scientific and medical information	The skill of analysis and discussion on scientific and medical information	The skill of analysis and discussion on scientific and medical information	85-100

*\* **Criterion** is a sign by which to judge the difference between the state of one phenomenon from another. The criterion is broader than the indicator, which is an integral element of the criterion and characterizes its content. The criterion expresses the most common feature by which the evaluation, comparison of real phenomena, qualities, processes. And the degree of manifestation, quality formation, certainty of criteria is expressed in specific indicators. The criterion is a tool, a necessary assessment tool, but the assessment itself is not. The functional role of the criterion is in determining or not determining the essential features of the object, phenomenon, quality, process, etc.*

***The indicator** acts in relation to the criterion as a particular to the General.*

*The indicator does not include a universal dimension. It reflects the individual properties and characteristics of the cognizable object and serves as a means of accumulation of quantitative and qualitative data for criteria generalization.*

*The main characteristics of the concept of "indicator" are the specificity and diagnostic, which implies its availability for observation, accounting and recording, and also allows us to consider the indicator as a more specific in relation to the criterion, and hence the meter of the latter.*

### **Assessment tools for current and intermediate certification**

**Control tests** are designed for students studying the course "Faculty therapy, occupation diseases". Tests are necessary for both the control of knowledge in the process of the current interim certification, and for the assessment of knowledge, the result of which can be set off.

When working with tests, the student is asked to choose one answer out of three or four proposed. At the same time, the tests vary in their complexity. There are tests among the proposed ones containing several options for correct answers. The student must provide all correct answers.

Tests are designed for both individual and collective solutions. They can be used in the process and classroom, and independent self-work. The selection of tests necessary for the control of knowledge in the process of interim certification is made by each teacher individually.

Results of performance of the test tasks are evaluated by a teacher using a five-grade scale for certification or on system "credit" - "no credit". Grade "excellent" is given if the number of correct answers is more than 90% of the tests offered by the teacher. Grade "good" is given if the number of correct answers is more than 70% of the tests.

Grade "satisfactory" is given if the number of correct answers is more than 50% of the tests offered to the student.

### Tests

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1. WHICH OF THE FOLLOWING IS NOT CHARACTERISTIC OF ANGINA PECTORIS OF 1-ST FUNCTIONAL CLASS?

- a) depression of the ST segment in the VEM sample
- b) the occurrence of pain when climbing to the 1st floor
- c) no ECG changes at rest
- d) irradiation of pain in the left shoulder
- e) the oppressive nature of pain

---

2. WHAT CHANGES ON THE ECG CONFIRM EVIDENCE OF CORONARY INSUFFICIENCY DURING CONDUCTION OF VEM-SAMPLES:

- a) reversal of negative T wave
- b) lengthening of PQ interval
- c) depression of the ST segment more than 2 mm
- d) the occurrence of atrial arrhythmia
- e) transient blockade of the right bundle branch block

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3. WHAT SIGNS ARE NOT CHARACTERISTIC FOR THE VARIANT ANGINA?

- a) rapid rise of the ST segment on the ECG
- b) coronary angiography in 10% of cases reveals little-changed or unaffected coronary arteries
- c) seizures occur more frequently in the night
- d) calcium antagonists are most effective
- e) physical activity is poorly tolerated

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4. 57-YEAR-OLD PATIENT COMPLAINS THAT IN THE COURSE OF A YEAR 1-2 TIMES A MONTH IN THE MORNING FELT CHEST PAIN OF CONSTRICTING CHARACTER RADIATING UNDER THE LEFT SCAPULA, REDUCING WITHIN HALF AN HOUR AFTER TAKING NITROGLYCERIN. DURING HOLTER MONITORING AT THE TIME OF ATTACK THE RISE OF ST IN LEADS V2-V5 8 MM. THE NEXT DAY ST IS ON BASE LINE. WHAT IS THE PATHOLOGY AT THE

---

PATIENT?

- a) stable angina of the 4th functional class
- b) myocardial infarction
- c) ischemic myocardial dystrophy
- d) variant angina
- d) progressive angina

---

5. WHICH OF THE FOLLOWING VARIANTS OF ANGINA IS AN INDICATION FOR HOSPITALIZATION?

- a) angina of Prinzmetal
- b) first arising angina pectoris
- c) rapidly progressing angina
- d) frequent angina of tension and rest
- e) all of the above

---

6. AFTER OCCURRENCE OF ACUTE ATTACK OF PAIN IN EPIGASTRIUM AND BEHIND THE STERNUM IN MEN OF MIDDLE AGE THE EXAMINATION SHOULD BEGIN:

- a) with gastric sounding
- b) with X-rays of the gastrointestinal tract
- c) with ECG
- d) with gastroduodenoscopy
- d) from urinalysis to uropepsin

---

7. PATIENT 45 YEARS OF AGE WAS ADMITTED DUE TO UNSTABLE ANGINA WITH HEPARIN INJECTIONS. AS THE RESULT OF A DRUG OVERDOSE GASTROINTESTINAL BLEEDING WAS DEVELOPED. FOR NEUTRALIZATION OF HEPARIN MUST BE APPLIED:

- a) fibrinogen
- b) aminocaproic acid
- c) protamin sulfate
- d) vikasol
- e) all of the above are incorrect

---

8. THE PATIENT 52 YEARS, ATTACKS OF RETROSTERNAL PAIN AT FAST

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WALK AND THE LIFT TO THE THIRD FLOOR, HELD FOR 5 MIN. AT REST OR AFTER TAKING NITROGLYCERIN. ECG - REDUCED VOLTAGE T WAVES IN THE CHEST LEADS. IN THE LAST 2 WEEKS, THE ATTACKS BECAME MORE FREQUENT, BEGAN TO OCCUR WHEN WALKING AT A NORMAL PACE. DURING HOLTER MONITORING AT THE TIME OF ATTACK VENTRICULAR EXTRASYSTOLES, AND ST DEPRESSION REACHING 2 MM IN LEADS V4-V6 SINUS TACHYCARDIA WERE RECORDED. THE NEXT DAY ON THE RESTING ECG IN THESE LEADS REMAINS PERSISTENT ST DEPRESSION, REACHING 1 MM. PRESUMPTIVE DIAGNOSIS?

- a) stable angina of 2nd FC
- b) myocardial infarction
- c) stable angina of the 4th FC
- d) Prinzmetal angina
- e) unstable angina

---

9. WHICH STATEMENT CONCERNING VARIANT ANGINA PRINZMETALS IS CORRECT?

- a) depression of the ST segment is recorded on the ECG
- b) an attack of variant angina is most often provoked by physical activity
- c) variant angina occurs as a result of coronary artery spasm
- d) it is advisable to use b-blockers to prevent seizures
- e) variant angina refers to stable forms of ischemic heart disease

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10. PATIENT 46 YEARS OLD, HAS ATTACKS OF RETROSTERNAL PAIN AT DURING WHICH THE ECG WAS RECORDED TRANSIENT ST-SEGMENT ELEVATION. PROBABLE DIAGNOSIS?

- a) Prinzmetal angina
- b) repeated myocardial infarction
- c) development of postinfarction aneurysm
- d) attacks are not related to the main disease
- d) thromboembolism of pulmonary artery branches

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11. ALL OF THE FOLLOWING FACTORS INCREASE THE RISK OF CORONARY HEART DISEASE, IN ADDITION TO:

- 
- a) increased levels of high-density lipoproteins
  - b) diabetes mellitus
  - c) arterial hypertension
  - d) hereditary burden
  - e) Smoking

---

12. THE MOST CHARACTERISTIC ECG SIGN OF VARIANT ANGINA:

- a) horizontal depression of ST
- b) depression ST bulge up and asymmetrical tooth T
- c) ST rise
- d) in-depth Q tooth
- e) QS teeth

---

13. ANAPRILIN HAS THE FOLLOWING PROPERTIES EXCEPT:

- a) dilates coronary vessels
- b) reduces myocardial oxygen demand
- c) reduces myocardial contractility
- d) reduces plasma renin activity
- e) increased QRS

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14. ASSUMPTION OF CHRONIC ISCHEMIC HEART DISEASE IS MOST LIKELY WHEN:

- a) a typical angina attack is described
- b) there are symptoms of circulatory failure
- c) rhythm disturbances are revealed
- d) there are risk factors for coronary heart disease
- e) cardiomegaly detected

---

15. WHICH OF THE FOLLOWING IS NOT CONSISTENT WITH ANGINA:

- a) irradiation of pain in the lower jaw
- b) the occurrence of pain when climbing stairs (more than 1 floor)
- c) duration of pain 40 minutes or more
- d) detection of coronary artery stenosis
- e) pain is accompanied by a feeling of lack of air

---

16. PATHOGENETIC MECHANISMS OF ANGINA FOLLOWING EXCEPT:

- 
- a) coronary stenosis
  - b) coronary artery thrombosis
  - c) spasm of coronary arteries
  - d) excessive increase in myocardial oxygen demand
  - e) insufficiency of collateral circulation in the myocardium
- 

17. THE MOST TYPICAL VIOLATIONS OF HEMODYNAMICS IN MITRAL STENOSIS:

- a) an increase in EDV of the left ventricle
  - b) increase in pressure in the left atrium
  - c) increased cardiac output
  - d) pressure reduction in the left ventricle
- 

18. WHAT IS THE CRITERION OF A POSITIVE TEST WITH THE PHYSICAL LOADING?

- a) horizontal depression of ST interval of more than 1 mm
  - b) the same less than 0.5 mm
  - c) the descending depression of the interval ST less than 1 mm
  - d) increase of Q wave in V5-V6
  - d) sinus tachycardia
- 

19. WHAT STATEMENT IS CORRECT REGARDING VARIANT ANGINA (PRINZMETALS).:

- a) ST depression on ECG
  - b) bouts of pain more often under load
  - c) usually develops myocardial infarction
  - d) the cause of pain is coronary spasm
- 

20. WHICH OF THE FOLLOWING RESEARCH METHODS IS MOST IMPORTANT FOR DIAGNOSIS OF CORONARY HEART DISEASE IN DOUBTFUL CASES?

- a) ECG
- b) load test
- c) phonocardiography
- d) echocardiography
- e) tetrapolar rheography

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21. WHICH OF THE FOLLOWING SYMPTOMS MAY OCCUR IN POSTINFARCTION CARDIOSCLEROSIS?

- a) rhythm disturbance
- b) left ventricular failure
- c) right ventricular failure
- d) left ventricular aneurysm
- e) all of the above

---

22. THE MAIN COMPLICATIONS ASSOCIATED WITH ADMINISTRATION OF NARCOTIC ANALGESICS IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION FOLLOWING:

- a) the appearance of Chain - Stokes breathing
- b) arterial hypotension
- c) sinus bradycardia
- d) none of the above
- e) all of the above

---

23. THE MOST TYPICAL MANIFESTATION OF THE MODIFICATIONS IN THE FOLLOWING DERIVATIONS ON ECG FOR POSTERIOR LATERAL LOCALIZATION OF ACUTE TRANSMURAL MYOCARDIAL INFARCTION IS:

- a) 1-e, 2-e standard derivations, AVL
- b) 2-e, 3-e standard derivations, AVF
- c) 1st standard lead, V5-V6
- d) AVL, V1-V4
- e) AVL only

---

24. WHICH OF THE FOLLOWING LABORATORY PARAMETERS CONFIRM THE DEVELOPMENT OF MYOCARDIAL INFARCTION WITHIN THE FIRST 4 HOURS FROM THE ONSET OF DISEASE?

- a) AST
- b) KFK
- c) LDG
- d) alkaline phosphatase
- e) g-glutamyltranspeptidase

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25. A 50 YEAR OLD MAN ADMTTED IN A INTENSIVE CARE UNIT WITH TYPICAL CLINICAL SYMPTOMS AND ECG OF ACUTE ANTERIOR TRANSMURAL MYOCARDIAL INFARCTION OF THE LEFT VENTRICLE, WHICH WAS COMPLICATED BY THE DEVELOPMENT OF COMPLETE ATRIOVENTRICULAR BLOCK WITH A VENTRICULAR RHYTHM FREQUENCY OF 40 PER MINUTE. THE MOST EFFECTIVE IN THIS SITUATION IS ADMINISTRATION OF

- a)  $\beta$ -agonists
- b) atropine
- C) lasix
- d) eufilline
- d) the establishment of the endocardial electrode and the holding of temporary pacing

#### **Test evaluation criteria**

Evaluation is conducted in an e-learning session on a scale. The test includes 100 tasks, the maximum score on the test - 100.

As part of the current level of knowledge of the discipline the test result is not less than 61 points is acceptable

#### **Examples of case study tasks**

##### **Case study task № 1.**

The patient 50 years old was admitted into a clinic with the complaints of asthma occurring more frequently in the night lasting for from 30 minutes to 2 hours, along with barely stopped with broncholytics. Sick since about 5 years ago when had started to get asthma attacks with shortness of breath, painful cough. The attacks were relieved by the inhalation of astmopent, berotek. A year ago was entered into an intensive care unit department of hospital with asthma. Status was developed after taking aspirin. From asthmatic status state was relieved by administration of prednisolone, subsequently gradually canceled. For many years, he suffers from polypous rhinosinusitis, for which he underwent polypectomy three times. Acetylsalicylic acid, aminopyrine, dipyrone induced asthma in patient. In the hospital the seizures were observed daily. Despite treatment with sympathomimetics and eufillin, they became longer and heavier. On day 4, the condition



worsened even more. The patient became suddenly aggressive, motor anxiety, visual and auditory hallucinations appeared. Shortness of breath — up to 40 excursions per minute, marked cyanosis of the skin and mucous membranes. BP 90/60 mm Hg. Previously heard a large number of dry rales progressively disappeared, sputum did not depart. There were epileptiform seizures. In the future, there was a sudden loss of consciousness. Tachypnea replaced bradypnea. The ECG showed signs of right atrial overload.

Tasks:

1. Evaluate the clinical situation, the development of a state you can think of? Asthmatic status.

2. Formulate a clinical diagnosis and justify it.

Aspirin ASTHMA, severe course, exacerbation phase. Asthmatic status, slow developing, stage 3 (coma).

3. List the pathogenic variants of bronchial asthma.

Atopic, infectious-dependent, autoimmune, GK, dose-dependent, cholinergic, mental, aspirin, primary altered reactivity.

4. Give the definition and classification of asthmatic status.

Asthmatic status - severe, prolonged attack of BA characterized by severe or progressive respiratory failure due to obstruction of the Airways with the formation of resistance to therapy. Pathogenetic variants – slowly developing, anaphylactic, anaphylactoid. Stage 1- compensation, 2-decompensation (silent lung), 3 – hypoxic coma. Treatment: prednisolone is administered respectively 1-5-10 mg per kg of body per day. Eufillin 24 mg/kg / day. ALV. Cardiac glycoside. Bronchoscopic sanitation. Acidosis-400 4% sodium bicarbonate. Extracorporeal membrane oxygenation. In early status asthmaticus stage 1 – corticosteroids, aminophylline 15 ml of 2.4% in/in slowly, infusion up to 3 liters, Ambroxol, iodide of sodium, terbutaline, heparin, contrical, ftorotanovy anaesthesia.

5. Your suggestions for treatment, give the characteristics of drugs. See p 4.

### **Case study task № 2.**

A patient 54 years old went to the doctor at the clinic with complaints of cough in the morning with the release of a moderate amount of purulent sputum, shortness of breath, fatigue, general weakness, malaise temperature rising to subfebrile values. It was revealed that the patient is an “avid” smoker, smokes up to 30 cigarettes a day for 25

years. For many years, there was a cough in the morning with the release of a small amount of mucosal sputum, the patient did not pay attention to. Over the years, the cough became more constant, bothered not only in the morning but also at night and sometimes during the day, especially in cold weather. Sputum began to stand out more, it has become mucopurulent. 2 years ago, these symptoms were joined by shortness of breath, induced by light physical activity. 3 days ago got hypothermic, began to note weakness, low-grade fever, expectoration has acquired a purulent character. Examination: state of moderate severity, 22 breaths per minute. In lungs: boxy shade of percussion sound over the entire surface, a lot of wheezing on the background with weakened vesicular breathing, the exhalation is elongated. Heart rate 80 per minute, BP 140/70 mm Hg. On X-ray of the respiratory system, no focal-infiltrative shadows were revealed, there is a strengthening and deformation of the pulmonary pattern in the lower parts, an uneven increase in the transparency of the pulmonary fields. Blood count total: red blood cells  $5.5 \times 10^{12} / l$ , leukocytes –  $8.6 \times 10^9 / l$ , ESR-8 mm / h. Indicators of respiratory function: VC — 85% of the proper forced exhalation volume, for the first second (FEV1) of 49% from the proper exhalation volume, Tiffeneau-Pinelli index — 60% from the proper one.

Tasks:

1. Formulate a diagnosis. COPD (chronic suppurative obstructive bronchitis, exacerbation, severe, pulmonary fibrosis, emphysema, days III.)
2. Evaluate the indicators of respiratory function. LLV- normal , Tiffeneau-Pinelli index - normal values are within 75-83, FEV1 (norm 84 and >) – severe degree.
3. What factors are etiological and what can provoke exacerbation of the disease? Smoking, air pollution, industrial hazards, insufficiency,  $\alpha$ 1-antitrypsin. Provoking factor – ARVI.
4. Make a plan of treatment of the patient, give a description of prescribed drugs. Elimination of the etiological factor, inpatient treatment. Treatment, antibacterial therapy, improvement of drainage function (expectorant), bronchodilators, chest massage, positional drainage, phytotherapy, detoxification, long-term low-flow oxygenotherapy, treatment of pulmonary hypertension, exercise therapy.
5. What are the indications for antibiotic therapy? Within 7-10 days of exacerbation, with the addition of pneumonia. Routes of administration of antibiotics - aerosol, orally, parenterally, endotracheal, endobronchial.

### Case study task № 3.

A patient is 64 years old. Attended district therapist complaining on cough with mucopurulent sputum, shortness of breath with a light exercise, fatigue, general weakness, malaise, irritability, sleep disturbance (insomnia at night, drowsiness in the daytime), swelling of the shins. Smokes 20 cigarettes a day for more than 45 years. For many years, have noted a cough in the morning with mucous sputum. Over the years, the cough became more constant, bothered not only in the morning but also in the daytime and at night. Amount of sputum increased it has acquired mucopurulent character. About 9 years ago before these symptoms were joined by shortness of breath on exertion. Over the past year, noted the increased shortness of breath, which began to occur with light exercise, swelling began to appear in the legs. In an objective study: the general state of moderate severity, the number of breaths 28 per minute. Warm diffuse cyanosis, swelling of the shins. The swelling of the neck veins remains in the standing position. In the lungs: a boxy shade of percussion sound over the entire surface, against the background of weakened vesicular breathing, single dry wheezing, the exhalation is elongated. The heart sounds are muffled, the rhythm is correct, systolic murmur at the base of the sternum, heart rate 92 per min., blood pressure 140/80 mm Hg. Liver protrudes 3 cm from under the edge of the rib arch, a positive Plesh's symptom (Plesh's symptom - swelling of the neck veins when pressing the palm on the enlarged liver-circulatory failure of the right ventricular type)

Blood count: red blood cells  $5.5 \times 10^{12} / l$ , Hb-187 g /l, leukocytes —  $7.6 \times 10^9/l$ , ESR — 2 mm / h.

On X-ray of the respiratory organs - strengthening and deformation of the pulmonary pattern in the lower zones, uneven increase in the transparency of the pulmonary fields, swelling of the conus pulmonale.

Indicators of respiratory function: VC — 87% from the proper, FEV1 38% from the proper, Tiffeneau-Pinelli index 52% from the proper.

Tasks:

1. Formulate a diagnosis and justify it.

COPD. Phenotype 1. Pulmonary fibrosis, emphysema. Respiratory insufficiency III St. Pulmonary heart, with CHF stage IIB, III FC.

2. Rate data of a haemogram and indicators of external respiration function.

Erythrocytosis is due to hypoxia.

Obstruction. FEV1 – N - 84%, Tiffeneau-Pinelli index - rate of 75-83%, according to these indicators the patient obstruction is severe.

3. What are the ECG signs characteristic of the disease.

P-pulmonale: increase in 2.3 aVF, V1,V2, increase in R in V1, V2, shift the transition zone to the right chest leads. P pointed, not widened. In the right thoracic may be two-phase, with increased first positive phase. Right stomach hypertrophy: a sharp deviation of the electrical axis of the heart to the right or S-type. In the right-hand breast – high R or the appearance in them of the q wave.

4. List the clinical signs of right ventricular failure. Stagnation in the large circle of blood circulation. Enlarged liver, swelling in the legs.

5. Make a plan for the treatment of the patient. Elimination of the etiological factor, hospitalization in a round-the-clock hospital due to severe decompensation. Treatment: antibacterial therapy, improvement of drainage function (expectorant), bronchodilators, chest massage, positional drainage, detoxification, long-term low-flow oxygenotherapy, treatment of pulmonary hypertension, exercise therapy.

#### **Case study task № 4.**

A patient is 42 years old. Complaints of cough with mucopurulent sputum, pain in the left half of the chest, fever up to 38°C. Disease began acutely. A week before going to the doctor was on a fishing trip in very wet and cold conditions. The next day, these symptoms appeared. For a week was treated on an outpatient basis for the flu, but the state of health did not improve, the body temperature reached 39.5°C, general weakness increased. Objective examination: the state of moderate severity, the number of breaths 24 per min. In the lungs on the left in the scapular region a shortening of percussion sound noted with weakened vesicular breathing, finely bubbly moist sonorous rales. Clinical analysis of blood: leukocytes  $-13 \times 10^9/l$ , toxic granularity of neutrophils, ESR - 36 mm/hour. Urinalysis: mild proteinuria, and cylindruria. Radiography of the chest: around 8-9th ribs on the left — infiltrative darkening with indistinct contours.

Tasks:

1. Formulate a clinical diagnosis. Community-acquired lobar pneumonia of the lower lobe of the left lung severe, RG II degree.
2. What explains the change in urine? Infection induced toxic kidney damage, microcirculation disorders.
3. What diseases should differential diagnostics be performed at? Pulmonary tuberculosis, lung cancer, pulmonary embolism, eosinophilic infiltration.
4. List the possible complications of the disease. Extrapulmonary: myocarditis, meningitis, glomerulonephritis, DIC. Pulmonary: pleurisy, respiratory failure, abscess, carnification.
5. Make a plan of treatment of the patient, give a description of drugs.
  - Antibacterial therapy. In pneumonia caused by pneumococcus, semisynthetic penicillins: 500 mg. 3 times per day (amoxicillin), macrolides-clarithromycin, azithromycin, fluoroquinolones with anti-pneumococcal activity-levofloxacin, sparfloxacin, moxifloxacin
  - Immuno-replacement therapy: native, fresh-frozen plasma.
  - Correction of microcirculation: heparin, reopolyglucin
  - Correction of dysproteinemia: albumins
  - Detoxification therapy: isotonic solution, ringer solution 1000-3000 ml / day, glucose 5% 400-800 ml, hemodesum,
  - O<sub>2</sub> therapy?
  - Glucocorticoids (prednisolone 60-90 ml) in infection induced toxic kidney and liver lesions,
  - Antioxidants: ascorbic acid 2 g per day
  - Anti-enzymes: contrical if there are signs of abscessing
  - Expectorants: Ambroxol, ACC

#### **Case study task № 5.**

A 44-year-old woman visited doctor with complaints of shortness of breath during exercise, which appeared three months ago, increased body temperature up to 37.2°C in the evenings, joint pain, whitewashing of fingers in the cold. She was diagnosed pneumonia, which was treated with antibiotics for 1.5 months. Despite the treatment, the

patient's condition worsened, shortness of breath increased, cyanosis appeared, and she was hospitalized in the clinic. Objective examination: state of moderate severity. Cyanosis of face and hands. The skin on the hands is dense, marked areas of pigmentation. In the lungs - vesicular breathing,, crepitation is heard in the lower parts. Heart sounds clear, no noise, pulse 96 beats per minute, rhythmic, blood pressure 120/70 mm Hg, liver and spleen are not enlarged. General analysis of blood: erythrocyte sedimentation rate 33 mm/hour. The urinalysis is unaffected. Chest X-ray: diffuse amplification and deformation of the pulmonary pattern, numerous small focal shadows in the lower parts of the lungs. Lung roots are not dilated. ECG-deviation of the electrical axis of the heart to the right, signs of hypertrophy of the right atrium. The study of respiratory function: VC 36%, FEV1 of 82%.

Tasks:

1. The most likely diagnosis?

Systemic scleroderma, acute, the 2nd (sub) stage 3 of activity

2. What kind of examination is necessary to carry out this patient to clarify the diagnosis.

KLA — hypochromic anemia, accelerated erythrocyte sedimentation rate, microhematuria, proteinuria, cylindruria, leukocyturia, RF, antinuclear factor, scleroderma autoantibodies. Radiography of the hands: osteolysis of the distal phalanges of the fingers, areas of calcification in the subcutaneous tissue, osteoporosis, narrowing of the articular slit. Chest X-ray: interstitial fibrosis of the lower lung, total pulmonary fibrosis-cell lung. Capillaroscopy of the nail bed - unevenly expanded capillary loops, avascular fields, ECG, ultrasound of the heart,

3. Evaluate the indicators of respiratory function. Restrictive disorders of the ventilation function of the lungs.

4. What diseases should be considered at differential diagnosis?

Paraneoplastic scleroderma (torpid for treatment), RA, SLE.

5. Tactics of treatment.

1. prevention and treatment of vascular complications: avoid cold, smoking, dihydropyridines, selective blockers of 5HT<sub>2</sub>-serotonin receptors - ketanserin 60-120mg / day, alpha-blockers - prazosin 1-2 mg 1-4 time, I/V PG-E-alprostandine, antiplatelets,

2 . the suppression of fibrosis progression: D-penicillamine according to the scheme 250-500-750-1000 mg per day up to a year, then: maintenance therapy of 250 mg of 3-5 years.

3. ant-inflammation therapy - glucocorticoids-15-20mg/day, methotrexate 15 mg / week, or cyclosporine.

4. treatment of internal organs - symptomatic therapy.

### **Case study task № 5.**

A patient 36 years old was admitted to the clinic with complaints of cough with a small amount of mucopurulent sputum, chills, fever up to 39°C, pain in the right half of the chest associated with the act of breathing, shortness of breath, general weakness. He considers himself sick for 10 days, when after hypothermia there was a headache and pain in the muscles of the body, the body temperature rose to 37.8°C. He went to a doctor and was diagnosed with the flu. After 2 days got a runny nose, sore throat, soreness behind the sternum, dry cough. On the 4th day of the disease, the general condition deteriorated sharply: general weakness increased, pain appeared in the right half of the chest, while breathing, body temperature increased to 38.2°C. District doctor diagnosed pneumonia and prescribed treatment with ampicillin in tablets. The condition continued to deteriorate: there were chills, sweating, fever up to 39°C, shortness of breath, headache. With the listed complaints the patient was taken to hospital. Heavy smoker (one and a half boxes per day for 16 years), abusing alcohol, working in the workplace with adverse temperature conditions and dustiness. Objective examination: general state of moderate severity, moderate acrocyanosis. The NPV at 28 min there is a gap in the right half of thorax in the act of respiration. Right in the projection is determined by the dullness of percussion sound, hard breathing, moist fine bubbling sonorous rales, bronhophony and voice tremor is strengthened. Heart sounds muffled, heart rate - 112 per/min. During examination the patient had a cough attack with the discharge of purulent sputum of an unpleasant odor in an amount of about 100 ml.

Tasks:

1. Formulate a preliminary diagnosis. Community-acquired lobar pneumonia of the middle lobe of the right lung, severe course, acute abscess of the middle lobe of the right lung (primary, purulent, bronchogenic).
2. Make a plan for additional research. X-ray and CT of the lungs, bronchoscopy with pus aspiration to determine the flora and its sensitivity to A/B, transthoracic puncture, FVD, UAC, sputum analysis.
3. Run a differential diagnostics.  
Tuberculosis, pleural empyema, lung cancer, lung cysts.
4. What explains the sudden release of large amounts of sputum? Destruction of lung tissue, formation and breakthrough of abscess.
5. Make a treatment plan. Inpatient treatment, increased energy value of food, a lot of proteins, low fat, vitamins C, A, B, salt restriction to 6-8 g/day and liquid. Conservative therapy:

- Antibacterial therapy, pneumonia caused by pneumococcus, semisynthetic penicillins 500 mg 3 times a day (amoxicillin), macrolides-roxithromycin, clarithromycin, azithromycin, fluoroquinolones with anti-pneumococcal activity-levofloxacin, sparfloxacin, moxifloxacin
- Immuno-replacement therapy: native, fresh-frozen plasma, human. Norms.yg.
- Correction of microcirculation: heparin, reopolyglucin
- Correction of dysproteinemia: albumins
- Detoxification therapy: isotonic solution, ringer solution 1000-3000 ml per day, glucose 5% 400-800 ml, hemodesis,
- O<sub>2</sub> therapy
- Glucocorticoids (prednisolone 60-90 ml) in infection induced toxic lesions of the kidneys, liver
- Antioxidants: ascorbic acid 2 g per day.
- Anti-enzymes: contrical if there are signs of abscessing
- Expectorants: Ambroxol, ACC
- Transbronchial drainage (during bronchoscopy). Percutaneous puncture and drainage of the abscess cavity under the control of ultrasound or X-ray. Surgical treatment. Vibration massage, postural drainage.



### Case study task № 6.

A patient 20 years old has entered the hospital with complaints of pain in the left half of the chest increasing with deep breathing, shortness of breath, dry cough.

Five days ago after hypothermia, the temperature rose to 38°C and pain appeared in the left half of the chest. The pain was at first very strong, then became weaker, but increased shortness of breath. Then condition became more serious, shortness of breath. The number of breaths 32 per/min, prefers a sitting position. The left half of the chest bulges, lags in breathing. In the lungs - on the left shortening of percussion sound below 10 ribs, breathing is not carried out. The right border heart is 3 cm outside from the edge of the sternum. Heart sounds muffled. Pulse 100 beats/min, BP 100/65 mm Hg. Liver at the edge of the rib arch.

ECG: sinus tachycardia, right deviation of the electrical axis of the heart.

Chest X-ray: left intense shading with oblique level. The displacement of the mediastinal organs to the right.

Pleural puncture obtained 2000 ml of cloudy yellowish liquid. Specific density 1023, protein 4.8 g/l, Rivalta test positive (the test for the differential diagnosis of the former and transudate), microscopy the bulk of the cells are degenerative-altered neutrophils: isolated macrophages and the cells of the mesothelium.

Tasks:

1. Formulate a clinical diagnosis. Exudative left-sided pleural effusion. Respiratory failure 3rd degree.
2. Specify the clinical signs that allow you to suspect infection of pleural effusion. Turbid, yellowish pleural fluid, degenerative changes in neutrophils.
3. Evaluate the data of the analysis of pleural fluid. Exudate, because the specific gravity is above 1015, Rivalta test +, high protein, leukocytes – neutrophils.
4. List the reasons that lead to the accumulation of fluid in the pleural cavity. Infectious diseases: tuberculosis, pneumonia; tumors: mesothelioma, metastatic, leukemia; gastrointestinal diseases: pancreatitis, intra-abdominal or intrahepatic abscess; systemic connective tissue diseases: RA, SLE; Dressler syndrome; uremia; pneumothorax, hemothorax; drugs: methotrexate, metronidazole, amiodorone.
5. Make a treatment plan.

Antibiotics, Immunostimulants, adaptogens, detoxification, NSAIDs, pleural puncture, pleural drainage, diuretics, physiotherapy, electrophoresis with CaCl<sub>2</sub>, heparin, manual vibration chest massage.

### **Case study task № 7.**

A patient 19 years old has visited hospital with complaints of weakness, fatigue, subfebrile temperature. 2 years ago had suffered a rheumatic attack, arthritis, lesions of the mitral valve (insufficiency). The real deterioration came after hypothermia. Objective examination: pallor, shortness of breath up to 26 per minute at rest. In the lungs - vesicular breathing, no rales. The area of the heart is not visually changed. Through palpation: apical push spilled and reinforced, located in the IV-V intercostal space 2 cm outside the left mid-clavicle line. In the region IV – V intercostal space on the left is determined by systolic jitter. The boundaries of the heart in percussion: right-on the right edge of the sternum, upper-in the II intercostal space, left - 2 cm outside the mid-clavicle line. Through auscultation at the top of the heart, a blowing systolic noise associated with the I tone and occupying 2/3 of the systole is heard; the noise is carried out in the axillary region and on the back, remains in the standing position and increases in the position on the left side. In II – III intercostal space to the left of the sternum is heard through diastolic murmur, conducted along the left edge of the sternum. Heart rate 100 beats/min. BP 105/40 mm Hg. Abdomen is soft, painless, liver and spleen are not enlarged. Total blood count: HB-115 g/l, red blood cells–  $4,3 \cdot 10^{12}/l$ ; leukocytes–  $10,0 \cdot 10^9/l$ , p/n-4%, s/n – 54%, e – 3%, l – 36%, m – 3%, SOE – 35 mm / h. Urinalysis: weight-1015, protein - traces, leukocytes-2-3 in vision field, red blood cells - are absent. ECG: sinus tachycardia, electrical axis deviation to the left, the PQ interval of 0.16 s, the signs of overload of the left ventricle and left atrium. Signs of overload of the upper sub-endocardial myocardial ischemia of the left ventricle.

Tasks:

1. Justify and formulate a diagnosis according to classification.

Rheumatism, active phase. Combined heart disease: mitral and aortic insufficiency. CHF IIA stage 3 FC.

2. What other examinations are necessary for the patient?

UAC, OAM, BH: sialic acids, CRP, RF, antistreptolysin-O; SCF study; ultrasound, radiography of the heart.

3. What morphological changes determine the severity of the process?  
Endocarditis.

4. What diseases should be considered at differential diagnostics.  
Cardiomyopathy, infectious endocarditis, congenital heart disease.

5. Make a plan of treatment of the patient. Stationary regime, diet №10 by Pevsner: the restriction of salt, protein 1.5 g/kg, ACE inhibitors in small doses, riboxin, mildronat. Anti-inflammatory: NSAIDs, glucocorticoids at high activity, Plaquenil, delagil. Diuretics. Digoxin, penicillin 1,500,000 with the transition to bicillin-5 once every two weeks (for 2 months), then once every 3-4 weeks.

### **Case study task № 8.**

Patient R., 29 years old, have complained of prolonged subfebriles, weakness, fatigue, poor appetite. These complaints appeared after removal of carious tooth 4 weeks ago. She was treated independently with antipyretic agents. Fever persisted, weakness grew, went to the doctor. In early childhood, the patient was diagnosed with systolic murmur in the III-I intercostal space to the left of the sternum. In the examination diagnosed with the defect seem to be of small size, located in the membranous portion subaortic. It was observed in the clinic, while the state of health remained good, no signs of heart failure were observed, no treatment was received. Objective examination: condition of the patient is severe, pale, lethargic, marked shortness of breath at rest up to 28 min/min. In the lungs - vesicular breathing, no rales. The area of the heart is not visually changed. Apical beat spilled and shifted in IV-V intercostal space 2 cm outside the left mid-clavicle line. In the area III – IV intercostal space on the left — systolic tremor, diastolic tremor in II – III intercostal space to the left of the sternum. The boundaries of the heart in percussion: right-on the right edge of the sternum, upper-in the II intercostal space, left-2 cm outside the mid-clavicle line. Through auscultation: in III-IV intercostal space to the left of the sternum is heard rough, scratching timbre systolic noise associated with I tone and occupies 3/4 systole; noise is carried out almost over the entire area of the heart. In II-III intercostal space to the left of the sternum is heard through diastolic murmur, conducted along the left edge of the sternum. In II intercostal space on the left – accent II tone. Heart rate 100 beats / min, BP 115/40 mm Hg. The abdomen is soft, painless, the liver protrudes 3 cm from under the edge of the rib arch on the right mid-clavicle line. Total blood count:

HB-105 g / l, red blood cells–  $4,1 \cdot 10^{12}/l$ , leukocytes–  $12 \cdot 10^9/l$ , s/n-7%, s/n – 37%, e – 3%, l – 50%, m – 3%, ESR – 4 mm / h. Urinalysis: specific weight-1018, protein-0,05%, leukocytes-2-3 in vision field, red blood cells – 2-3 in vision field. ECG: sinus tachycardia, normal position of the electrical axis of the heart, signs of overload of the right and left ventricles.

Tasks:

1. Formulate a preliminary diagnosis.

Infectious endocarditis. Aortic insufficiency. Congenital heart disease: VSD.

2. What further examination is necessary to carry out for this patient?

X-ray, ultrasound of the heart; blood for sterility (3 times). BKH; OAK; OAM.

3. Run a differential diagnostics.

Rheumatism, cardiomyopathy.

4. Make a plan for the treatment of the patient.

Antibiotics, 2-3 time i/v. Oxygen therapy, infusion therapy, antiplatelet agents, anticoagulants, Mildronate. Surgical treatment.

1. Forecast: Doubtful.

### **Case study task № 9.**

Woman 26 years, 2 days since two of her employees got sick with ARVI, there were in the evening a sharpness in the eyes, watery discharge from the nose, muscle weakness, pain in the lower back and limbs, headache, cognition. At 23.00 body temperature rose to  $37,8^{\circ}\text{C}$ . The next morning have noted the hoarseness, the sensation of “tickling” in the chest and cough, rough, paroxysmal, accompanied by soreness in the chest. The doctor, who came in the evening of the same day, noted conjunctival hyperemia, injection of sclera vessels, bright hyperemia of the pharynx, and in the lungs — hard breathing and scattered buzzing wheezes. The number of breaths 20 per/min., heart rate 92 BPM, through auscultation - the heart rhythm is correct with small muted tones. Body temperature during examination  $37,6^{\circ}\text{C}$ . Cough by this time became more frequent, but less rough, with crackling and whistling components in the cough sound. Prescribing treatment, the doctor with an active visit to the patient the next day (day 3 of the disease) noted free nasal breathing of a small amount of mucus, reducing conjunctival hyperemia and pharynx, cough reduction. At the same time there was a meager separation

of sputum in the form of lumps of mucus, increased in the lungs the number of dry buzzing rales. Body temperature decreased to 37,1°C. Palpation and percussion of the chest did not reveal pathology, the number of breaths 18 per/min.

Tasks:

1. Formulate a diagnosis and justify it.

ARVI. Adenovirus infection. Acute tracheobronchitis.

2. Specify the expected etiology and methods of verification of the disease.

Adenovirus. Cultivation on chicken embryos (rare and difficult). ELISA, serodiagnostics.

3. Run a differential diagnostics. Flu.

4. Assign and justify treatment. Symptomatic, bronchomulalum, IRS-19.

5. Forecast. Favorable.

### **Case study task № 10.**

Male, 32 years old. Within 1 year — complaints of "hungry" pain in the epigastric region, pain appears in the morning on an empty stomach, 1.5-2 hours after eating, at night, stopped just after meal. Worries because of acid regurgitation, stool is regular. Father and paternal grandfather — peptic ulcer of the duodenum. Smokes from 18 to 30 cigarettes a day.

Objective examination: asthenic physique, moderate nutrition. Skin is clean. From the part of the respiratory and cardiovascular system pathology is not revealed. Heart rate is 74 beats per minute, BP 125/75 mm Hg. Superficial palpation of the abdomen showed a small muscular defiance and soreness in the epigastric and pyloroduodenal region, soreness at the point of Dejardin and Mayo-Robson are determined. The liver is not enlarged, painless with palpation. Physiological outcomes are normal.

Total blood count: Hb-128 g/l, color index - 0.91, red blood cells—  $4,2 \cdot 10^{12}/l$ ; leukocytes—  $7,2 \cdot 10^9/l$ ; s/n - 3%, s/n — 51%, e — 3%, l — 36%, m — 7%, ESR — 6 mm / h.

Esophagogastroduodenoscopy: muddy mucus in the stomach, mucosa with focal hyperemia, in the antrum on the walls of multiple different-caliber swelling. The mucosa of the bulb duodenum is focal hyperemic, edematous, ulcerative defect 0.8 x 0.6 cm on the back wall rounded with hyperemic roller, the bottom is covered with fibrin. Biopsy's taken.

Ultrasound of the abdominal cavity: the liver is not enlarged, the parenchyma is homogeneous, echogenicity is not changed, the vascular network is not expanded. Gall bladder pear shaped 73x35 mm, with a bend at the bottom, its content homogeneous, walls 4 mm. of Large amount of heterogeneous content in the stomach, its walls are thickened. Pancreas: head 35 mm (norm 28), the glans can be seen extended to 5 mm (norm 2), virunga duct, the body and tail are not enlarged, the echogenicity of the head and the tail lowered.

pH – metry of the stomach: on an empty stomach, the pH in the body is 2.4; in the antrum – 4.2. after 30 minutes after stimulation with 0.1% histamine solution in a dose of 0.008 mg / kg - pH in the body 1,4; in antrum-2,8.

Respiratory urease test: positive.

Biopsy test for HP-infection: positive (++)

Tasks:

1. Clinical diagnosis and justification.

PUD. The aggravation associated with H. Pylori.

2. List the main methods and methods of diagnosis of HP-infection

Smears-prints from biopsy-dried and stained by Romanovsky-Gimze. Urease test biopsy is placed in the medium of express set with urea, if the bacterial flora is present - color changes, because urea breaks down with the formation of ammonia, which increases the pH of the medium. Microbiology (sowing). Respiratory urease test with C13. Immunology (antibodies of classes A, M, G).

3. Suggest a treatment regimen for this patient.

Diet №1, three-component eradication regimen: Famotidine 20 mg 2 times a day, amoxicillin 0.5 g 4 times a day, metronidazole 250 mg 4 times for eradication of HP. Famotidine can be replaced with omez 20 mg two times. The course of treatment - 7 days, sedation, antacids, gastrotsepin (M-cholinolytic), de-nol, venter.

4. Prognosis, medical examination, disease prevention.

The prognosis is favorable, prevention: continuous-antisecretory drug ½ dose, preventive therapy "on demand", with the appearance of symptoms of exacerbation for 2-3 days – antisecretory drug in the full daily dose, and then 2 weeks. – ½ dose if the symptoms are gone – stop, no – FGS, etc.

### **Evaluation criteria for the decision of case study tasks:**

the "excellent" grade is given to a student who correctly solved the problem and justified his decision, who gave a reference to the normative document required for the decision;

- a student who has solved the problem correctly, but has not justified his decision at the proper level deserves a "good" grade;

- grade "satisfactory" deserves a student who has found a sufficient level of knowledge to solve the problem, but allowed errors in its solution;

- the "unsatisfactory" grade is given to the student who has not solved the problem.

### **Examination questions on faculty therapy.**

1. Acute rheumatic fever. Diagnostic criteria, the nature of the process. Prevention and treatment.
2. Indications for SPA-resort treatment for diseases of the internal organs.
3. Chronic gastritis. Morphological classification. Symptoms.
4. Rheumatic heart disease: clinical manifestation of endo - and myocarditis. Clinical manifestations of primary and recurrent rheumatic heart disease.
5. Chronic gastritis: etiological classification.
6. Coronary artery disease: etiology, risk factors. Pathogenesis of angina pectoris. Classification.
7. Community-acquired pneumonia. Features of the clinical picture. Treatment depending on the etiology.
8. Deficiency anemia. Etiology, pathogenesis. Iron metabolism in the body. Classification. Diagnostic criterion.
9. Infectious endocarditis: classification. Clinical picture depending on the variants of the course.
10. Hospital pneumonia: risk factors, clinical features and treatment, depending on the etiology.
11. Gastric ulcer. Etiology, pathogenesis, classification.
12. Pyelonephritis. Classification. Diagnostic criterion. Treatment.
13. Atypical pneumonia: clinical features, laboratory diagnosis, treatment.

14. Primary biliary cirrhosis: definition, clinical syndromes, diagnostic criteria. Treatment.
15. Mitral valve insufficiency: etiology, pathogenesis of hemodynamic disorders. Symptoms. Instrumental diagnostics.
16. Acute glomerulonephritis: etiology, pathogenesis, renal and extrarenal syndromes.
17. Chronic pancreatitis: etiology, symptoms. Treatment.
18. Mitral stenosis: etiology, pathogenesis of hemodynamic disorders. Symptoms. Instrumental diagnostics.
19. Treatment of pneumonia. Primary choice of antibiotic depending on clinical and etiological variant.
20. Chronic glomerulonephritis. Clinical implications. Classification. Medical tactics.
21. Aortic stenosis: pathogenesis of hemodynamic disorders. Diagnostic criterion. Features of the course (stages, complications).
22. COPD. Symptoms, instrumental diagnostics. Complications. Treatment.
23. Autoimmune hepatitis: diagnostic criteria, clinical syndromes. Treatment.
24. Aortic insufficiency: etiology, pathogenesis of hemodynamic disorder. Symptoms. Instrumental diagnostics.
25. COPD: classification, clinical syndromes. Mechanisms of bronchial obstruction. Treatment and prevention.
26. Tricuspid insufficiency: pathogenesis of hemodynamic disorders. Diagnostic criterion. Features of the course, complications.
27. Bronchial asthma: definition, pathogenetic variants. Clinical picture of the attack.
28. Crohn disease. Etiology, pathogenesis, symptoms, complications, treatment.
29. Tricuspid stenosis: etiology, pathogenesis of hemodynamic disorders. Symptoms. Instrumental diagnostics.
30. Unstable angina pectoris: variants of angina united under this concept. Clinical and laboratory diagnostics.
31. Laboratory characteristics of urinary syndrome in chronic glomerulonephritis.
32. Aortic stenosis: pathogenesis of hemodynamic disorder. Diagnostic criterion. Features of the course, complications.
33. Treatment of hypertension, depending on the stage. The main groups of antihypertensive drugs. Mechanism of action.



34. Syndromes of disorders of abdominal digestion (maldigestion) and absorption (malabsorption). Symptoms. Laboratory diagnostics.
35. Acute decompensation of cardiac activity. Etiology, pathogenesis of hemodynamic disorders. Symptoms. Diagnostic criterion.
36. Atherosclerosis: risk factors, pathogenesis. The clinical picture depending on the preferential localization. Treatment.
37. B12-deficiency anemia: clinical syndromes, diagnostic criteria, therapeutic tactics.
38. Chronic heart failure: pathogenesis, classification. Diagnostic criterion.
39. Bronchial asthma: classification by severity, the main criteria. Differential diagnostics of bronchial and cardiac asthma.
40. Classification of dyslipidemia. Treatment.
41. Chronic heart failure. Etiology. Mechanisms of cardio-hemodynamic disorders. Treatment.
42. Iron deficiency anemia: clinical syndromes, their pathogenesis and development sequence. Diagnostic and therapeutic tactics.
43. Symptoms and diagnosis of aplastic anemia.
44. Hypertension: classification. Symptoms depending on the stage.
45. Chronic antral gastritis: etiology, pathogenesis. Clinical syndrome. Complications. Treatment.
46. Chronic glomerulonephritis. Etiology. The value of the immune link of pathogenesis. Possibilities of therapy.
47. Hypertensive disease. Risk factors, prevention.
48. Atopic asthma. Etiology. Symptoms. Diagnostics. Treatment.
49. Cirrhosis. The Child-Pugh score. Portal hypertension symptoms. Treatment.
50. Hypertensive disease. Crises. Clinical picture. Treatment.
51. Bronchoectatic disease. Clinical syndrome. Diagnostics. Complications. Treatment.
52. Chronic glomerulonephritis. Clinical and morphological options. Etiology. Classification. Diagnostics.
53. Chronic gastritis: etiological classification. Methods of diagnosis of secretory function of the stomach.
54. Chronic glomerulonephritis: latent and hematuric forms, differential diagnosis.

55. Hypertensive crises: types of crises, symptoms, treatment.
56. Insufficiency of the mitral valve. Etiology, pathogenesis of hemodynamic disorders. Symptoms. Diagnostic criterion.
57. Gastric ulcer. Symptoms, differential diagnostics. Treatment.
58. Physiotherapy treatment for pneumonia.
59. CHD. Definition, pathogenesis, risk factors. Classification.
60. Chronic viral hepatitis. Phases of viral infection, their diagnostic criteria. Symptoms. Principles of etiological treatment, prevention.
61. Chronic kidney disease. Classification. Diagnostics. Treatment.
62. CHD. Angina: pathogenesis and clinic of pain syndrome. Clinical variant. Diagnostic method.
63. Hypertensive form of chronic glomerulonephritis. Pathogenesis of hypertension syndrome. Differential diagnosis of hypertension.
64. CHD. Exertional angina. Classification. Diagnostics, medical tactics.
65. Asthmatic status. Etiology, pathogenesis. Classification. Clinic depending on the stage. Treatment.
66. Cirrhosis. Etiology, clinical criteria, main syndromes.
67. Variant angina. Pathogenesis, clinical manifestations.
68. COPD. Phenotypes. Spirographic classification. Clinic. Treatment.
69. Nephrotic form of chronic glomerulonephritis, pathogenesis of edematous syndrome. Symptoms, treatment.
70. Osteoarthritis. Pathogenesis, clinical manifestations. Treatment.
71. Liver failure, pathogenesis, clinical manifestations. Treatment.
72. Rheumatoid arthritis. Symptoms. Diagnostics. Treatment.
73. Acute leukemia. Treatment. Criteria for improvement, recovery.
74. Heart attack. ECG and laboratory diagnostics depending on the stage.
75. Bronchial asthma. Group of drugs and the principles of the stepped approach to treatment.
76. Treatment of uncomplicated myocardial infarction.
77. Acute coronary syndrome. Pathogenesis. Symptoms, laboratory and instrumental diagnostics. Treatment.
78. Dyslipidemia. Etiology, pathogenesis. Treatment.

79. Autoimmune hepatitis. Etiology. Clinical and laboratory manifestations.
80. Complications of myocardial infarction depending on the stage. Clinical implications. Diagnostics.
81. Chronic hepatitis: etiological classification. The degree of activity of the pathological process.
82. Vibration disease. Pathogenesis. Clinical implications.
83. Unstable angina, clinical options. Instrumental and laboratory diagnostics.
84. Acute leukemia: classification, principles of early diagnosis, diagnostic criteria. Medical tactics.
85. Chronic leukemia. Classification, diagnosis. Medical tactics.
86. Postinfarction cardiosclerosis. ECG and laboratory diagnostics. Diagnosis of an aneurysm of the heart.
87. Clinical features of pathogenetic variants of bronchial asthma. Diagnostic criterion.
88. Dust diseases of the lungs. Etiology. Symptoms. Diagnostics.
89. Features of clinical and morphological manifestations of silicosis.
90. Infective endocarditis. Etiology. Symptoms. Diagnostics. Treatment.
91. Myocarditises. Etiology. Classification. Symptoms.
92. Myocarditises. Instrumental and laboratory diagnostics. Principles of etiological treatment.
93. Pericarditis, definition, etiology, pathogenesis, symptoms, diagnosis, treatment.
94. Violation of excitability of the myocardium of the heart, etiology, pathogenesis, classification, symptoms, diagnostics, treatment, prophylaxis.
95. Cardiac conduction disorders, etiology, pathogenesis, classification, symptoms, diagnosis, treatment, prevention.
96. Pulmonary insufficiency. Pathogenesis. Classification. Diagnostics.
97. Pulmonary heart. Etiology, pathogenesis, classification, symptoms and stages of the course. Method of research. Treatment.
98. Hypertension of the small circle of blood circulation. The concept of primary (idiopathic) pulmonary hypertension.
99. Pulmonary embolism, pulmonary infarction. Pathogenesis of hemodynamic disorders. Treatment.
100. Myocardiopathies. Classification. Symptoms, diagnosis, treatment.

**Criteria for grading evaluation of the student in the exam/competition  
in the discipline "Faculty therapy, occupational diseases»**

<b>Exam grade</b>	<b>Requirements to the formed competences</b>
«excellent»	Grade "excellent" is given to a student, if he/she deeply and firmly learned the program material, exhaustively, consistently, clearly and logically presents it, is able to closely link the theory with practice, freely copes with tasks, questions and other types of application of knowledge, and does not complicate with the answer when modifying tasks, uses the material of monographic literature in the answer, correctly justifies the decision, has versatile skills and techniques of performing practical tasks;
«good»	Grade "good" is given to a student, if he/she knows the material, competently and essentially sets it without allowing significant inaccuracies in the answer to the question, correctly applies the theoretical provisions in solving practical issues and problems, has the necessary skills and techniques of their implementation;
«satisfactory»	Grade "satisfactory" is given to a student if he/she has knowledge only of the basic material, but did not learn its details, admits inaccuracies, insufficiently correct formulations, violations of logical sequence in the statement of program material, has difficulties at performance of practical works;
«unsatisfactory»	Grade "unsatisfactory" is given to a student who knows the significant parts of the program material, allows substantial errors, uncertain, with great difficulty performs practical work.