


MINISTRY OF HEALTH OF THE REPUBLIC OF BELARUS
EDUCATIONAL INSTITUTION
BELARUSIAN STATE MEDICAL UNIVERSITY

Контрольный
экземпляр

APPROVED
by First Vice-Rector, Professor
I.N.Moroz
12.08. 2023
Reg. # UD-6.01/2324 /edu. sub.



INTERNAL DISEASES

Curriculum of educational institution in the educational discipline for the
specialty 1-79 01 01 «General Medicine»
Sub-Residency «General Clinical Practice»

Minsk 2023

Curriculum is based on the educational program of educational institution in the educational discipline «Internal Diseases» for the Sub-Residency «General Clinical Practice (for foreign citizens) (for foreign citizens)», approved 11.08.2023, registration # УД-1. 01/2324/44. cy5.

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RECOMMENDED FOR APPROVAL:

by the 1st Department of Internal Diseases of the Educational Institution «Belarusian State Medical University»
(protocol # 13 of 23.06.2023);

by the Department of Cardiology and Internal Diseases of the Educational Institution «Belarusian State Medical University»
(protocol # 13 of 14.07.2023);

by the Scientific and Methodological Council of the Educational Institution «Belarusian State Medical University»
(protocol # 7 of 10.08.2023)

EXPLANATORY NOTE

«Internal Diseases» is the educational discipline containing systematized scientific knowledge on methods of diagnostics, treatment and prevention of diseases of internal organs.

The aim of teaching the educational discipline «Internal Diseases» for the sub-residency «General Clinical Practice (for foreign citizens)» consists of formation of academic, social, personal and professional competencies for providing medical care to patients with internal organ diseases.

The tasks of teaching the educational discipline consist of formation of scientific knowledge on etiology, pathogenesis, clinical manifestations of internal organs diseases, skills required for:

- methods of individual examination of a patient;
- methods for making examination plan for a patient and evaluation of obtained laboratory and instrumental data;
- clinical interpretation of laboratory and instrumental data;
- objective assessment of the features of Internal Diseases development and the tactics for individual treatment in the conditions of the department of therapeutic profile;
- conducting clinical examination, medical rehabilitation of patients with major internal organs diseases;
- emergency care for critical conditions in patients with internal organs diseases;
- ensuring epidemiological safety in the providing of medical care.

Teaching and successful learning of the discipline «Internal Diseases» for the sub-residency «General Clinical Practice (for foreign citizens)» is carried out on the basis of the knowledge and skills previously acquired by the students in the following disciplines:

Human Anatomy. The structure and function of organs and systems of an organism. Age features of morphological structures. Classification of internal organs according to their topography, origin, structure and functions. Anatomy and topography of the digestive system, respiratory system, urinary system, hematopoietic organs, cardiovascular system. The doctrine of the joints of bones.

Topographic Anatomy and Operative Surgery. Layered structure of anatomical regions. Organ interposition (syntopy), their skin projection (golotopiya), position over skeleton (skeletopy). Blood supply, innervation and lymph drainage in normal and pathological conditions.

Pathological Anatomy. Structural bases of diseases and pathological processes. Characteristic morphological changes of internal organs in human diseases. Morphogenesis and pathomorphosis of diseases. Principles of diseases classification.

Pathological Physiology. Causes, the main mechanisms of development and outcomes of typical pathological processes. Patterns of violations of the organs functions and systems when exposed to factors of the human environment. Reactivity of an organism and its significance in pathology. Pathophysiology of hemostasis, metabolism, endocrine system, blood system, respiration. Pathophysiology of the

gastrointestinal tract, kidneys. Disease outcomes. Inflammation. The response in acute phase. Fever. Stages of fever. The biological significance of fever. Typical metabolic disorders (vitamins, proteins, carbohydrates, lipids, nucleic acids, acid-base composition). Critical conditions (collapse, shock, and coma).

Biological Chemistry. The main parameters of the homeostasis of the internal environment. The biological role, structure and patterns of proteins, fats, carbohydrates, vitamins, minerals and trace elements metabolism. Metabolic cycles of xenobiotics.

Microbiology, Virology, Immunology. Pathogenic features of microorganisms (bacteria, fungi, protozoa, viruses) and their metabolic products, ways and factors of infectious diseases transmission. General Virology. Causative agents of acute respiratory infections (ARI). Methods of indication and identification of viruses. The microflora of the human body, its role in maintaining homeostasis and in pathology. Ecology of microbes. Dysbiosis. Bacterial carrier as a form of infection. Bacteriophages and their medical value. The role of opportunistic microbes in human pathology. Features of microbiological diagnosis. Chemotherapeutic drugs. Antibiotics. Effect on microbes of physical and chemical factors. Types of immunity. Forms of the immune response. Methods for assessing the immune status of the microorganism. Immunodeficiency. Immunocorrection. Basics of immunotherapy and immunoprophylaxis. Immunization issues.

Pharmacology. Classification of drugs. Pharmacodynamics and pharmacokinetics. Mechanisms of drug action, adverse reactions. Drug prescription procedure.

Propaedeutic of Internal Diseases. Anamnestic data and methods of examination the patient. Clinical methods of patients' examination with internal organs diseases. Laboratory and instrumental examinations (thermometry, spirometry, measurement of blood pressure (BP), venous pressure, blood flow velocity, gastric and duodenal intubation, analysis of sputum, blood, urine, feces, study of gastric juice, electrocardiogram removal). Theoretical knowledge about the main laboratory and instrumental methods of examinations conducted by medical specialists (endoscopy, radioisotope examination, electrocardiography, echocardiography, biopsy, sternal puncture, the study of respiratory function). The main clinical symptoms of diseases of respiratory system, blood circulation, digestion, liver, kidney, blood system, musculoskeletal system, grouping into typical syndromes. Methods of patient care, the implementation of basic nursing procedures.

Internal Diseases. Etiology, pathogenesis of typical internal organs diseases. The most important manifestations of diseases of respiratory system, blood circulation, gastrointestinal tract, urinary tract, musculoskeletal system, blood system. Risk factors for the development and exacerbation of diseases of internal organs. Comprehensive treatment, prevention of major diseases of internal organs, medical rehabilitation of patients.

Clinical Pharmacology. Clinical and pharmacological characteristics of essential drugs (pharmacokinetics, pharmacodynamics, indications for administration and dosing regimen, contraindications, adverse reactions and drug interactions). The strategy of choosing the most effective and safe drugs for the treatment of diseases,

taking into account the pharmacological properties of drugs, the nature of the pathological process, the functional state of the body, pharmacological and allergic history, economic aspects of pharmacotherapy. Dangerous combinations of drugs. Basics of pharmacotherapy of inflammation and allergies. Principles of pharmacological correction of metabolic disorders. Chemotherapy standards for bacterial, viral, fungal, protozoa, parasitic diseases.

Outpatient Therapy. The organization of medical care in the outpatient setting. Diagnostic and medical care in an outpatient setting. Preventive and rehabilitation activities. Examination of temporary disability and medico-social expertise. Clinical examination of the population.

Aims, objectives, structure and organization of specialized medical care in a hospital environment in the Republic of Belarus. Standards of examination of patients at the stages of medical care. Indications and contraindications for sanatorium treatment. Methods of rehabilitation treatment in the day care department, in-patient hospital at home. Groups of dispensary observation of the population, the regulatory legal framework of medical and social expertise.

Phthisiopulmonology. Examination of a patient with suspected respiratory tuberculosis. Epidemiology, etiology, pathogenesis, pathomorphology of tuberculosis. Classification, clinical presentation, diagnosis, differential diagnosis, treatment of pulmonary and extrapulmonary forms of tuberculosis. Complications of tuberculosis. Specific, sanitary and social prevention of tuberculosis. Classification, clinical presentation, diagnosis, differential diagnosis, treatment and complications of sarcoidosis of the respiratory system. Examination of temporary disability, medical and social expertise, medical rehabilitation of patients with tuberculosis and respiratory sarcoidosis.

Oncology. Organization of oncological care. Etiology, classification, pathogenesis of malignant neoplasms. The clinical picture, diagnosis, differential diagnosis and treatment of the main localizations of malignant tumors. Prevention of malignant neoplasms.

Surgical Diseases. Methods of patient examination with surgical diseases. Etiology, pathogenesis, clinical picture, prevention of surgical diseases and possible complications, methods of surgical treatment, indications for use.

Public Health and Healthcare. Basics of medical statistics and organization of statistical research. Public health: study methods, indicators. Morbidity, mortality. The most important medical and social problems. Public health. The organization of medical care. Current issues of prevention. Fundamentals of management, economics, planning, financing of health care. The international cooperation. Legislation of the Republic of Belarus in the field of health. Areas of activity of the World Health Organization (WHO) and other international organizations for the protection of human health and international cooperation in the field of health. Major national health programs. Examination of temporary disability and medico-social expertise.

As a result of studying the educational discipline «Internal Diseases» for the sub-residency «General Clinical Practice (for foreign citizens)» the student should

know:

risk factors, etiology, pathogenesis of major diseases of internal organs;
 features of the clinical picture, modern methods of diagnostics, differential diagnosis of the main internal organs diseases;

principles of treatment, prevention, medical rehabilitation for the main diseases of internal organs;

be able to:

conduct patient examination and evaluate the detected changes of the various organs and systems;

make and prove plan of examination for differential diagnostics in patient with: focal and disseminated lung diseases with bronchial obstruction, heartache, heart murmur and cardiomegaly, abnormal heart rhythm and conduction, hypertension and hypotension, myocardial damage, abnormal urinary sediment, hepatomegaly and hepatolienal syndrome, jaundice, acute abdomen, gastric and intestinal dyspepsia, pulmonary and gastrointestinal bleeding, lymphadenopathy and splenomegaly, anemia, hemoblastosis, coma, fainting, edema, fever, hemorrhagic syndrome, lesions of the joints, shock, side effects of medicines;

determine and assign minimum laboratory and instrumental investigations required for diagnosis;

evaluate and interpret the results of the examination (clinical and biochemical tests, sternal puncture, electrocardiogram, spirometry, bicycle ergometry, daily monitoring of blood pressure and electrocardiogram, bronchoscopy and esophagogastrosocopy, x-rays, ultrasound and etc.);

choose the best treatment for a particular patient, individualized drug therapy considering mechanisms of action, pharmacokinetics and pharmacodynamics of drugs, preventing their undesirable side effects, possible interactions with concomitant administration of other drugs; recommend non-drug therapy;

choose dosage form, dose and route of administration of drugs, implement the dosing regimen;

appoint and hold antibacterial, anti-inflammatory, immunosuppressive, antiplatelet and anticoagulant therapy;

write out prescriptions for regular medications;

provide emergency medical care for the most common emergency situations in professional activity: hypertensive crisis, an asthma attack, pulmonary embolism, acute coronary syndrome, angina attacks, myocardial infarction, cardiac asthma and pulmonary edema, cardiogenic shock, fainting, collapse, life-threatening disturbances of heart rhythm and conduction, an attack of renal and hepatic colic, acute pancreatitis, coma with diabetes mellitus, anaphylactic shock, pulmonary, gastrointestinal bleeding;

carry out cardio-pulmonary resuscitation;

give the patient recommendations for the prevention of diseases of internal organs, healthy lifestyle, taking into account the state of health;

follow the rules of medical ethics and deontology;

master the skills of:

conducting a physical examination of the patient;

recording and interpreting an electrocardiogram;
blood glucose testing;
peak flowmetry and its interpretation;
subcutaneous, intramuscular injection and intravenous infusion techniques;
gastric lavage technique;
aspiration of the pleural cavity in pleural effusion, abdominal cavity in ascites;
technique of performing primary pulmonary cardiac resuscitation;
providing emergency medical care for hypertensive crises, asthma attacks, pulmonary embolism, acute coronary syndrome, angina attacks, myocardial infarction, cardiac asthma and pulmonary edema, cardiogenic shock, fainting, collapse, life-threatening disturbances of heart rhythm and conduction, an attack of renal and hepatic colic, acute pancreatitis, coma with diabetes, acute allergic reactions, pulmonary, gastrointestinal bleeding;

Total number of hours for the discipline study is 404 academic hours.

Classroom hours according to the types of studies: lectures - 20 hours (including 7 hours of supervised student independent work), practical classes - 210 hours; student independent work (self-study) - 174 hours.

Intermediate assessment is carried out according to the syllabus of the specialty in the form of a credit (11(12) semester).

Final assessment – state examination.

Form of higher education – full-time.

THEMATIC PLAN

Section (topic) name	Number of class hours	
	lectures	practical
1. Emergency conditions and functional diagnostics in cardiology	20	–
Emergency Cardiology		
1.1. Sudden death. Cardiopulmonary resuscitation	2	–
1.2. Syncope	2	–
1.3. Critical cardiac arrhythmias	2	–
1.4. Differential approach to diagnosis and management of hypertensive crises	2	–
1.5. Acute coronary syndrome, differential diagnosis, treatment	2	–
1.6. Acute heart failure	2	–
1.7. Primary and secondary prevention of acute cardiovascular disorders	2	–
Functional diagnostics in cardiology		
1.8. Functional diagnostics in cardiology. Echocardiography	2	–
1.9. Non-invasive X-ray diagnosis in cardiology: radionuclide diagnosis, CT scan, magnetic resonance imaging	2	–
1.10. Interventional techniques in cardiology. Indications for cardiac surgery	2	–
2. Diseases of the respiratory system	–	35
2.1. Differential diagnosis of the bronchial obstruction syndrome and its treatment principles	–	7
2.2. Differential diagnosis of the pulmonary infiltration syndrome and its treatment principles	–	7
2.3. Differential diagnosis of the fluid presence in the pleural cavity. Diseases of the pleura	–	7
2.4. Interstitial and purulent lung diseases and its treatment principles	–	7
2.5. Differential antibiotic therapy for lung diseases	–	7
3. Diseases of the circulatory system	–	49
3.1. Differential diagnosis and treatment of chronic forms of coronary heart disease	–	7
3.2. Diagnosis and treatment of acute coronary syndrome with and without elevation of the ST segment. Atypical forms of myocardial infarction	–	7
3.3. Differential diagnosis and modern principles of treatment of arterial hypertension	–	7
3.4. Differential diagnosis and differentiated treatment of cardiac arrhythmias and conduction disorders	–	7
3.5. Differential diagnosis of chest pain	–	7
3.6. Differential diagnosis and treatment of endocardial and myocardial lesions	–	7
3.7. A differentiated approach to the treatment of chronic heart	–	7

failure		
4. Diseases of the digestive system	–	42
4.1. Differential diagnosis and treatment of diseases of the esophagus	–	7
4.2. Differential diagnosis and treatment of gastroduodenal zone diseases	–	7
4.3. Differential diagnosis and treatment of chronic hepatitis and liver cirrhosis	–	7
4.4. Differential diagnosis of jaundice and hepatosplenomegaly	–	7
4.5. Differential diagnosis and treatment of pancreatic diseases	–	7
4.6. Diagnosis, differential diagnosis of inflammatory bowel diseases and their treatment principles	–	7
5. Diseases of the joints and connective tissue	–	42
5.1. Modern possibilities of treating rheumatic diseases: nonsteroidal anti-inflammatory drugs, glucocorticosteroids, cytostatics, genetic engineering biological agents	–	7
5.2. Differential diagnosis and treatment of rheumatoid arthritis and osteoarthritis	–	7
5.3. Differential diagnosis and treatment of spondyloarthritis, arthritis associated with infection and erythema nodosum	–	7
5.4. Differential diagnosis and principles of treatment of microcrystalline arthritis. Criteria for diagnosis, treatment and prevention of osteoporosis	–	7
5.5. Differential diagnosis of connective tissue systemic diseases and systemic vasculitides	–	7
5.6. Antiphospholipid Syndrome. Principles of treatment of connective tissue systemic diseases and systemic vasculitides	–	7
6. Kidney diseases	–	21
6.1. Diagnostic capabilities of laboratory and instrumental research methods in nephrology. Differential diagnosis in cases of chronic kidney disease	–	7
6.2. Differential diagnosis in nephrotic syndrome	–	7
6.3. Renal lesions in diabetes mellitus, systemic connective tissue diseases, systemic vasculitides, gout, multiple myeloma. Modern treatment options	–	7
7. Diseases of the blood system	–	21
7.1. Differential diagnosis in anemic syndrome, treatment principles of anemia	–	7
7.2. Differential diagnosis of leukemoid reactions and hemoblastoses, principles of treatment	–	7
7.3. Differential diagnosis of hemorrhagic diathesis. Transfusion of blood components in diseases of internal organs	–	7
Total hours	20	210

CONTENT OF THE EDUCATIONAL MATERIAL

1. Emergency conditions and functional diagnostics in cardiology

Emergency Cardiology

1.1. Sudden death. Cardiopulmonary resuscitation

Definition of «sudden cardiac death». Risk factors and predictors of sudden coronary death. Pathogenesis of cardiac arrest. Clinical, biological death. Cardiopulmonary resuscitation. The sequence and methodology of the main resuscitation measures in case of cardiac arrest. Typical mistakes during resuscitation. Primary and secondary prevention of sudden cardiac death.

1.2. Syncope

Syncope: diagnostic criteria, classification. Causes of neuroreflex and orthostatic syncope. Syncope of cardiovascular origin. Special syncope. Algorithm for the diagnosis and treatment of syncope. Risk stratification of sudden death in syncope. Examination program for differential diagnosis in syncope. Scheme of diagnostic search in a patient with prolonged loss of consciousness. Critical ischemia of brain structures. Emergency medical care in case of syncope.

1.3. Critical cardiac arrhythmias

The main etiological and pathogenetic aspects of rhythm and conduction disorders. Stratification criteria for the severity of arrhythmias. Diagnostic algorithm for rhythm and conduction disorders.

Atrial fibrillation/flutter, ECG criteria, diagnosis, treatment. Atrial fibrillation and flutter in WPW syndrome.

Ventricular tachycardia. Fibrillation and flutter of the ventricles. Algorithm for diagnosis and treatment in case of life-threatening cardiac conduction disorders in ventricular tachycardia, fibrillation, ventricular flutter.

Sinoatrial blockade. Sick sinus syndrome. Atrioventricular blockade. The Frederick Phenomenon. Algorithm for diagnosis and treatment of life-threatening cardiac conduction disorders.

Pacemakers, cardioverter-defibrillators, resynchronization devices: principles of operation, indications and contraindications for installation.

1.4. Differential approach to diagnosis and management of hypertensive crises

Classifications, mechanisms of formation and diagnostic criteria for hypertensive crises. Emergency medical care for hypertensive crises, indications for hospitalization. Hypertensive crises complicated by acute coronary syndrome, acute left ventricular failure, aortic aneurysm dissection, subarachnoid, intracerebral hemorrhage. Primary and secondary prevention of cerebral infarction.

1.5. Acute coronary syndrome, differential diagnosis, treatment

Acute coronary syndrome, definition of the concept, pathogenesis, diagnostic criteria, classification, differential diagnosis, treatment.

Acute coronary syndrome with ST segment elevation, diagnosis, choice of reperfusion strategy.

Acute coronary syndrome without ST segment elevation, diagnosis, selection of patients for coronary angiography.

1.6. Acute heart failure

Acute cardiovascular insufficiency: main etiopathogenetic factors of development, classification and diagnostic criteria, emergency medical care (decrease in preload on the heart, pressure in the pulmonary circulation, decrease in the volume of circulating fluid), a differentiated approach to emergency care. Collapse. Acute heart failure.

Cardiogenic shock: diagnostic criteria, classification, diagnostic and treatment algorithm.

1.7. Primary and secondary prevention of acute cardiovascular disorders

Basic approaches to stratification of cardiovascular risk. Principles of primary prevention of cardiovascular diseases. Non-drug methods for the prevention of cardiovascular diseases, the importance of reducing salt in the diet, a comprehensive change in diet, the principles of physical training.

Secondary prevention of cardiovascular accidents. Adherence to drug therapy. Groups of drugs that significantly reduce mortality in patients with postinfarction atherosclerosis. Ways to reduce mortality from diseases of the circulatory system.

Functional diagnostics in cardiology

1.8. Functional diagnostics in cardiology. Echocardiography

Electrocardiography (ECG). Long-term ECG recording. Stress tests in cardiology. ECG test with physical activity. ECG test with frequent atrial stimulation. Pharmacological ECG tests. A differentiated approach to the use of functional research methods in cardiology.

Echocardiography, research methodology, indications. Transesophageal echocardiography, indications, contraindications. The value of echocardiography in the diagnosis of cardiovascular diseases. Stress echocardiography.

1.9. Non-invasive X-ray diagnosis in cardiology: radionuclide diagnosis, CT scan, magnetic resonance imaging

The main methods of radiation research: traditional radiology, computed tomography, magnetic resonance imaging. Artificial contrast in radiodiagnosis. Pharmaceutical preparations for contrasting. A differentiated approach to the use of non-invasive methods of radiodiagnosis in cardiology (radionuclide research methods, single-photon emission computed tomography, magnetic resonance imaging). Indications and contraindications for the use of modern methods of radiological examination of patients with diseases of the cardiovascular system.

1.10. Interventional techniques in cardiology. Indications for cardiac surgery

Coronary angiography: indications and contraindications.

Modern possibilities of interventional and cardiac surgery in diseases of the cardiovascular system.

Indications for percutaneous coronary intervention and surgical treatment for coronary heart disease.

Indications and differentiated approach to interventional and cardiac surgery in patients with acquired heart disease, aortic pathology.

2. Diseases of the respiratory system

2.1. Differential diagnosis of the bronchial obstruction syndrome and its treatment principles

Topical issues of medical ethics and deontology. Principles of formation of the personality of a medical worker. The main models for building doctor-patient communications.

Differential diagnostics between various types of broncho-obstructive syndrome: asthmatic, allergic, autoimmune, infectious-inflammatory, obstructive, dyskinetic, emphysematous, hemodynamic, endocrine-humoral, neurogenic and others. The value of spirometry, studies of the gas composition of blood and exhaled air, bronchoscopy. Principles of asthma and chronic obstructive pulmonary disease treatment.

Examination of patients with diseases that occur with bronchial obstruction (complaints and history of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

2.2. Differential diagnosis of the pulmonary infiltration syndrome and its treatment principles

Definition of the term «pulmonary infiltration syndrome». Causes of infiltration. Inflammatory and non-inflammatory infiltrates. Tumor infiltrates. Lung cancer. Pulmonary tuberculosis. Differential diagnosis of specific, allergic infiltrates, infiltrates with venous thromboembolism, systemic connective tissue diseases, congestive-hypostatic disorders in the lungs. Fungal lesions of the lungs. Pulmonary eosinophilia. Differential diagnosis of lung atelectasis. Tactics of the general practitioner in the examination and treatment of patients with lung diseases.

Examination of patients with pneumonia and other pulmonary pathology (complaints and history of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

2.3. Differential diagnosis of the fluid presence in the pleural cavity. Diseases of the pleura

Clinical and X-ray picture with pleural effusion. Additional research methods: ultrasound, computed tomography. Technique and results interpretation of pleural puncture. Complications of pleural puncture. Differential diagnosis of pleural effusion. General practitioner tactics. Sacculated pleuritis. Empyema. Spontaneous pneumothorax: diagnosis, emergency medical care. Management of patients with pleura diseases. Treatment of pleura diseases.

Examination of patients with pleura diseases (complaints and history of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

2.4. Interstitial and purulent lung diseases and its treatment principles

Features of the clinical picture and instrumental-laboratory changes in interstitial lung diseases. Differential diagnosis in interstitial and disseminated processes in the lungs. Idiopathic pulmonary fibrosis, exogenous (toxic) alveolitis, disseminated and miliary pulmonary tuberculosis, pneumoconiosis, sarcoidosis, lung damage in vasculitis and diffuse connective tissue diseases, tumor dissemination in the lungs. Acute and chronic purulent destruction of the lungs, lung abscess, pulmonary gangrene: features of development, clinical manifestations. Diagnostic plan of examination. The choice of treatment tactics for patients with lung diseases, treatment features.

Examination of patients with interstitial lung disease and purulent lung diseases (complaints and anamnesis of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

2.5. Differential antibiotic therapy for lung diseases

The main groups of antibiotics. Antibiotics for the treatment of community-acquired pneumonia caused by atypical pathogens, nosocomial pneumonia. Antifungal antibiotics. Differentiated antibiotic therapy by methods of usage, duration of therapy, combinations of antibiotics. Adverse reactions to antibacterial drugs. The use of antiviral drugs in pulmonology. Prevention of lung diseases.

Examination of patients with respiratory pathology (complaints and anamnesis of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

3. Diseases of the circulatory system

3.1. Differential diagnosis and treatment of chronic forms of coronary heart disease

Prevalence and classification of coronary heart disease (CHD). Definition of the concept of «ischemic cascade». Painless myocardial ischemia. Distinctive features of ischemic pain. Relief of pain. Classification, diagnosis and treatment of stable angina. Risk stratification of cardiovascular complications. Electrocardiography (ECG) and Holter monitoring in the diagnosis of chronic coronary insufficiency. Load tests with physical and drug load. Non-invasive methods for diagnosing CHD. Indications for target and diagnostic coronary angiography.

Examination of patients with circulatory system diseases (complaints and history of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

3.2. Diagnosis and treatment of acute coronary syndrome with and without elevation of the ST segment. Atypical forms of myocardial infarction

Definition, diagnosis of acute coronary syndrome, organizational tactics of a general practitioner. GRACE risk stratification. Emergency medical care, a

differentiated approach to the treatment of patients with acute coronary syndrome. Methods of reperfusion therapy. Atypical clinical forms of myocardial infarction. Classes of severity. ECG and laboratory diagnosis of myocardial infarction. Markers of myocardial necrosis. The value of echocardiographic research. Drug therapy depending on the method of reperfusion of the infarct-related artery. Thrombolytic and anticoagulant therapy. Indications for percutaneous coronary intervention and cardiac surgery.

Examination of patients with acute coronary syndrome (complaints and history of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

3.3. Differential diagnosis and modern principles of treatment of arterial hypertension

Prevalence, modern classification, risk stratification, variants of the development and complications of arterial hypertension. Classification of symptomatic hypertension. Features of clinical manifestations of nephrogenic, endocrine, hemodynamic and other arterial hypertension. ECG with myocardial hypertrophy. Plan and algorithm for examining patients with increased blood pressure. Differential diagnosis of primary and secondary arterial hypertension. The objectives of the treatment of hypertension, differentiated approach to treatment. Target blood pressure in various diseases of internal organs. Modern antihypertensive drugs. Prevention of sudden death, heart attack and stroke in people with arterial hypertension.

Examination of patients with arterial hypertension (complaints and history of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

3.4. Differential diagnosis and differentiated treatment of cardiac arrhythmias and conduction disorders

Differential diagnosis of arrhythmias. Tachyarrhythmias. Extrasystole. Paroxysmal rhythm disturbances. Ventricular tachycardia. Ventricles fibrillation. Wolff-Parkinson-White syndrome. Treatment of cardiac arrhythmias: emergency medical care, elective treatment, drug and surgical treatment. Risk stratification of thromboembolic complications in atrial fibrillation. Classification and pharmacokinetics, antiarrhythmic drugs, adverse reactions, interaction with other drugs and among themselves. General principles of antiarrhythmic drugs choice. Cardiac arrhythmias prevention.

Examination of patients with disturbances of heart rhythm and conduction (complaints and history of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

3.5. Differential diagnosis of chest pain

Possible causes of chest pain. The concept of acute aortic syndrome. Management of patients with dissecting aortic aneurysm. Pathology of the myocardium, pericardium, manifested by pain in the heart. Chest pain associated with pathology of the pleura, lungs, spine. PE, diagnostic and treatment algorithm. Differential diagnosis of pain in the chest.

Examination of patients with chest pain (complaints and medical history, physical examination); planning surveys; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

3.6. Differential diagnosis and treatment of endocardial and myocardial lesions

Instrumental and laboratory methods of diagnostics of myocardium inflammatory lesions. Diagnosis of myocarditis. Endomyocardial biopsy, indications for conduction. Differential diagnosis. ECG with hormonal and metabolic disorders, myocardial inflammation. Risk factors, etiological factors, clinical picture, classification, diagnostic methods. Diagnostic criteria, principles of differential diagnosis of infective endocarditis. «Masks» of infective endocarditis. Ways to verify the diagnosis. Indications for cardiac and drug treatment. The basic principles of antibiotic therapy. Prevention of infective endocarditis.

Examination of patients with inflammatory heart disease (collection of complaints and history of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

3.7. A differentiated approach to the treatment of chronic heart failure

Heart failure: definition, concept, classification. The advantages and disadvantages of the used classifications of chronic heart failure. Latent heart failure. The basic principles of diagnosis and differential diagnosis. Modern approaches to the treatment of chronic heart failure. Algorithms of treatment. Cor pulmonale. Heart transplantation.

Examination of patients with chronic cardiovascular insufficiency (complaints and anamnesis of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

4. Diseases of the digestive system

4.1. Differential diagnosis and treatment of diseases of the esophagus

Gastroesophageal reflux disease (GERD), achalasia of the cardia, Barret esophagus, esophagitis, esophagus cancer. Esophageal dysphagia, causes of appearance. Symptomatology of diseases of the esophagus. Differential diagnosis in violation of swallowing. The main methods of diagnosis, differential diagnosis and treatment of diseases of the esophagus.

Examination of patients with pathology of the esophagus (complaints and anamnesis of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis;

drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

4.2. Differential diagnosis and treatment of gastroduodenal zone diseases

Functional dyspepsia, chronic gastritis, gastroduodenal ulcers, neoplasms. Diagnosis of complications of gastroduodenal ulcers. Principles of drug therapy of gastroduodenal lesions. The place of physiotherapy in the treatment of ulcers. Prevention of ulcers recurrence.

Examination of patients with pathology of the gastroduodenal zone (complaints and anamnesis of diseases, physical examination); drawing up an investigation plan; interpretation of the results of laboratory and instrumental research methods; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

4.3. Differential diagnosis and treatment of chronic hepatitis and liver cirrhosis

Etiological classification of chronic hepatitis. Definition of nosological forms: autoimmune hepatitis, chronic hepatitis B, chronic hepatitis D, chronic hepatitis C, drug-induced hepatitis, Wilson-Konovalov disease, liver disease caused by α 1-antitrypsin deficiency. Clinical symptoms. Laboratory symptoms. Drugs for etiotropic therapy. Drugs that cause toxic liver disease. Alcoholic hepatitis. Doses of alcohol that increase the risk of liver damage. Signs of alcohol damage to other organs (chronic pancreatitis, Dupuytren contracture, myocardiodystrophy, encephalopathy, polyneuropathy), concomitant manifestations (nutritional deficiency, vitamin deficiency), liver biopsy. Clinical picture. Features of laboratory diagnosis. Treatment. Non-alcoholic and alcoholic steatohepatitis. Biliary, viral, alcoholic cirrhosis, cirrhosis in hereditary diseases. The main clinical syndromes and symptoms. Complications. Differential diagnosis. Features of treatment of certain forms of cirrhosis. Indications for liver transplantation.

Examination of patients with liver pathology (complaints and anamnesis of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

4.4. Differential diagnosis of jaundice and hepatosplenomegaly

Classification of jaundice. Laboratory diagnosis of hepatocyte damage syndrome. Instrumental diagnostics for jaundice and hepatosplenomegaly. Tactics of a general practitioner in identifying hemolytic, parenchymal or obstructive jaundice. Differential diagnosis of hepatosplenomegaly, tactics of a general practitioner in detecting a disease. Indications for consultation with a surgeon, hematologist.

Examination of patients with liver pathology (complaints and anamnesis of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

4.5. Differential diagnosis and treatment of pancreatic diseases

Diagnosis and differential diagnosis in chronic pancreatitis. Assessment of nutritional status. The program of patients' examination. The main directions of conservative treatment.

Examination of patients with pancreatic pathology (complaints and history of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

4.6. Diagnosis, differential diagnosis of inflammatory bowel diseases and their treatment principles

Inflammatory bowel diseases: ulcerative colitis, Crohn's disease. Diagnostic criteria: clinical, endoscopic, histological, cytological, radiological, laboratory. Extraintestinal manifestations. Complications. Differential diagnosis. Principles of drug therapy. Indications for surgical treatment.

Examination of patients with intestinal pathology (complaints and anamnesis of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

5. Diseases of the joints and connective tissue

5.1. Modern possibilities of treating rheumatic diseases: nonsteroidal anti-inflammatory drugs, glucocorticosteroids, cytostatics, genetic engineering biological agents

Nonsteroidal anti-inflammatory drugs (NSAIDs): features, mechanism of action, classification, effectiveness. The interaction of NSAIDs with other drugs. Adverse reactions: NSAID-gastropathy, the risk of cardiovascular complications. The mechanism of action of glucocorticosteroid hormones, indications and contraindications for their purpose. Pulse therapy: indications, contraindications, adverse reactions. Cytostatics used in rheumatic diseases. Genetically engineered biological drugs, indications for use. Extracorporeal treatment in rheumatology: indications, contraindications, adverse reactions.

Examination of patients with diseases of joints and connective tissue (complaints and anamnesis of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

5.2. Differential diagnosis and treatment of rheumatoid arthritis and osteoarthritis

Etiology, pathogenesis, pathological features, extra-articular manifestations of rheumatoid arthritis, criteria for laboratory and instrumental diagnostics, differential diagnosis, treatment methodology. Osteoarthritis: etiology, pathogenesis, clinical variants, diagnostic methods, drug and non-drug therapy.

Examination of patients with rheumatoid arthritis and osteoarthritis (complaints and history of the disease, physical examination); drawing up a survey plan;

interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

5.3. Differential diagnosis and treatment of spondyloarthritis, arthritis associated with infection and erythema nodosum

Clinical forms of spondyloarthritis. Features of the articular syndrome, differential diagnosis, pathogenetic therapy. Diagnostic algorithm and therapy for psoriatic arthritis. The main forms of reactive arthritis, the principles of diagnosis. Etiopathogenetic, symptomatic therapy of reactive arthritis. Principles of diagnosis and pathogenetic therapy for enteropathic arthropathies. Infectious arthritis (tuberculosis, viral, Lyme borreliosis): diagnosis and treatment guidelines. Erythema nodosum: differential diagnosis algorithm, treatment principles.

Examination of patients with spondyloarthritis (complaints and anamnesis of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

5.4. Differential diagnosis and principles of treatment of microcrystalline arthritis. Criteria for diagnosis, treatment and prevention of osteoporosis

Gout, pyrophosphate arthropathy, hydroxyapatite arthropathy: pathogenesis, clinical manifestations, diagnosis, differential diagnosis, treatment principles. The clinical picture, diagnosis, differential diagnosis of osteoporosis (osteopenia, osteomalacia). Risk factors for osteoporosis, classification. The goals of osteoporosis therapy. Pathogenetic therapy, groups of drugs. Prevention of osteoporosis, primary and secondary. Medical rehabilitation of patients with osteoporosis.

Examination of patients with microcrystalline arthritis (complaints and anamnesis of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

5.5. Differential diagnosis of connective tissue systemic diseases and systemic vasculitide

Antiphospholipid syndrome. Algorithm for diagnosis and treatment. Diagnostic algorithm for systemic connective tissue diseases. Features of the articular syndrome, clinical picture in systemic diseases of the connective tissue. Differential diagnosis. The possibilities of immunological diagnosis. Outcome and prognosis of systemic lupus erythematosus, systemic sclerosis, dermato-and polymyositis. Primary and secondary forms of vasculitis. Diagnostic algorithm for systemic vasculitis. Differential diagnosis. Immunological diagnosis. Forecast.

Examination of patients with systemic connective tissue diseases (complaints and medical history, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

5.6. Antiphospholipid Syndrome. Principles of treatment of connective tissue systemic diseases and systemic vasculitides

The goal of therapy of systemic connective tissue disease. Differentiated approach depending on the activity of the disease, organ damage. Purpose, stages of treatment of systemic vasculitis. The main groups of drugs used to treat systemic connective tissue diseases, vasculitis: indications, contraindications, adverse reactions, interaction with other drugs, duration of therapy. Plasmapheresis. The concept of synchronous intensive care. Symptomatic therapy of systemic connective tissue diseases and vasculitis.

Examination of patients with systemic connective tissue diseases (complaints and medical history, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

6. Kidney diseases

6.1. Diagnostic capabilities of laboratory and instrumental research methods in nephrology. Differential diagnosis in cases of chronic kidney disease

Impaired filtration, reabsorption and secretion. The most important renal functions (urination; regulation of homeostasis; synthesis and increment of biologically active substances; regulation of hematopoiesis). Laboratory methods of examination of patients with kidney disease (urinary syndrome). Instrumental methods for the diagnosis of renal pathology. Methods for studying the kidneys functional state.

Biopsy of the kidney (indications and contraindications). The main causes and classification of chronic kidney disease (CKD). Tactics of a General Practitioner in the Examination and Treatment of Patients with CKD. Features of urinary syndrome with glomerulonephritis. Differential diagnosis. Interstitial nephritis: etiology, clinical presentation, features of interstitial nephritis, treatment, prognosis. Pyelonephritis. Risk factors for pyelonephritis. Modern methods of diagnosis of pyelonephritis. Antibacterial therapy for pyelonephritis. Criteria of antibacterial drugs selection.

Examination of patients with kidney and urinary tract diseases (complaints and anamnesis of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

6.2. Differential diagnosis in nephrotic syndrome

Definition of the term «nephrotic syndrome». The main symptoms. Diseases contributing to the development of the syndrome. Clinical manifestations. Diagnostic capabilities. Differential diagnosis. Treatment strategy.

Examination of patients with kidney and urinary tract diseases (complaints and anamnesis of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

6.3. Renal lesions in diabetes mellitus, systemic connective tissue diseases, systemic vasculitides, gout, multiple myeloma. Modern treatment options

Mechanisms of kidney damage in diabetes mellitus, systemic connective tissue diseases, systemic vasculitis, gout, multiple myeloma. Clinical and laboratory manifestations. Diagnostic capabilities. Principles of treatment.

Examination of patients with kidney pathology in diabetes mellitus, systemic connective tissue diseases, systemic vasculitis, gout (complaints and history of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

7. Diseases of the blood system

7.1. Differential diagnosis in anemic syndrome, treatment principles of anemia

Classification of anemia. Differential diagnosis. Diagnostic algorithm for anemic syndrome. Iron deficiency, B12-deficient and folic-deficient, hemolytic, aplastic anemia, anemia of chronic disease, anemia in patients with chronic kidney disease. Principles of treatment. Criteria for the effectiveness of treatment.

Examination of patients with anemic syndrome (complaints and history of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

7.2. Differential diagnosis of leukemoid reactions and hemoblastoses, principles of treatment

Etiology of leukemoid reactions. A picture of peripheral blood test. Diagnosis and differential diagnosis of leukemoid reactions and hemoblastosis. Principles of treatment of hemoblastosis.

Examination of patients with leukemoid reactions, hemoblastosis (complaints and history of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

7.3. Differential diagnosis of hemorrhagic diathesis. Transfusion of blood components in diseases of internal organs

The main types of hemorrhagic diathesis. Causes of thrombocytopenia. Diagnosis and differential diagnosis. Blood components: erythrocyte mass, leukocyte concentrate, platelet concentrate, plasma. Blood products: complex action drugs (albumin, protein); correctors of the hemostatic system (cryoprecipitate, prothrombin complex, fibrinogen, thrombin, fibrinolysin, hemostatic sponge for local use); means of immunological action (γ -globulins, immunoglobulins - tetanus, anti-influenza, anti-rhesus, antistaphylococcal, etc.). Blood solutions. Terms of storage components and blood products. Expiration dates. The procedure for the general practitioner during blood transfusion. Criteria for assessing the patient's condition during blood transfusion and after it. Blood transfusion reactions and complications. Prevention of complications.

Examination of patients with hemorrhagic diathesis (complaints and history of the disease, physical examination); drawing up a survey plan; interpretation of laboratory and instrumental examination results; making a diagnosis; drawing up a treatment plan, an algorithm for providing emergency medical care, drawing up medical records.

EDUCATIONAL METHODOLOGICAL CARD OF EDUCATIONAL DISCIPLINE «INTERNAL DISEASES» FOR THE SUB-RESIDENCY «GENERAL CLINICAL PRACTICE (FOR FOREIGN CITIZENS)» (FOR FOREIGN CITIZENS)

Number of theme, section	Section (topic) name	Number of class hours			out-of-class self-studies	Equipment	Literature	Form of knowledge assessment
		lectures	self-supervised study	practical				
1.	Emergency conditions and functional diagnostics in cardiology	20	7	-	20			
1.1.	Sudden death. Cardiopulmonary resuscitation	2	1	-	2	1, 2	1, 3-7, 10 1, 7, 8	
1.2.	Syncope	2	1	-	2	1, 2	1, 3-7, 10 1, 7, 8	
1.3.	Critical cardiac arrhythmias	2	1	-	2	1, 2	1, 3-7, 10 1, 7, 8	
1.4.	Differential approach to diagnosis and management of hypertensive crises	2	0,5	-	2	1, 2	1, 3-7, 10 1, 7, 8	
1.5.	Acute coronary syndrome, differential diagnosis, treatment	2	0,5	-	2	1, 2	1, 3, 4, 5, 7 1, 7, 8	
1.6.	Acute heart failure	2	0,5	-	2	1, 2	1, 3-7, 10 1, 7, 8	
1.7.	Primary and secondary prevention of acute cardiovascular disorders	2	0,5	-	2	1, 2	1, 3-7, 10 1, 7, 8	
1.8.	Functional diagnostics in cardiology. Echocardiography	2	0,5	-	2	1, 2	1, 3-7 1, 7, 8	
1.9.	Non-invasive X-ray diagnosis in cardiology: radionuclide diagnosis, CT scan, magnetic resonance imaging	2	0,5	-	2	1, 2	1, 3-7, 10 1, 7, 8	
1.10	Interventional techniques in cardiology. Indications for cardiac surgery	2	1	-	2	1, 2	1, 3-7, 10 1, 7, 8	
2.	Diseases of the respiratory system	-	-	35	28			
2.1.	Differential diagnosis of the bronchial obstruction syndrome and its treatment principles	-	-	7	6	1-6	1, 3, 4, 6, 8, 9, 11 2-5, 7	
2.2.	Differential diagnosis of the pulmonary infiltration syndrome and its treatment principles	-	-	7	5	1-5	1, 2-6, 8, 11	
2.3.	Differential diagnosis of the fluid presence in the pleural cavity. Diseases of the pleura	-	-	7	6	1-5	1, 3, 4, 6, 8, 10 1, 7, 8	
2.4.	Interstitial and purulent lung diseases and its treatment principles	-	-	7	5	1-5	1, 3, 4, 6, 8, 10 1, 7, 8	

2.5.	Differential antibiotic therapy for lung diseases	-	-	7	6	1-5	2-5,7	10
3.	Diseases of the circulatory system	-	-	49	37			
3.1.	Differential diagnosis and treatment of chronic forms of coronary heart disease	-	-	7	6	1-5	1,3-7,10	1,3,4,6,8
3.2.	Diagnosis and treatment of acute coronary syndrome with and without elevation of the ST segment. Atypical forms of myocardial infarction	-	-	7	5	1-5	1,3-7,10	1,2-6,8
3.3.	Differential diagnosis and modern principles of treatment of arterial hypertension	-	-	7	5	1-5	1,3-7,10	1,3,4,6,8
3.4.	Differential diagnosis and differentiated treatment of cardiac arrhythmias and conduction disorders	-	-	7	5	1-5	1,3-7,10	1,3,4,6,8,
3.5.	Differential diagnosis of chest pain	-	-	7	6	1-5	1,3-7,10	1,3,4,6,8, 10
3.6.	Differential diagnosis and treatment of endocardial and myocardial lesions	-	-	7	5	1-5	1,3-7,10	1,3,4,6,8,
3.7.	A differentiated approach to the treatment of chronic heart failure	-	-	7	5	1-5	1,3-7,10	1,3,4,6-8
4.	Diseases of the digestive system	-	-	42	29			
4.1.	Differential diagnosis and treatment of diseases of the esophagus	-	-	7	4	1-5	2-5,7,8	1,3,4,6,8, 11
4.2.	Differential diagnosis and treatment of gastroduodenal zone diseases	-	-	7	5	1-5	2-5,7,8	1,3,4,6,8, 11
4.3.	Differential diagnosis and treatment of chronic hepatitis and liver cirrhosis	-	-	7	5	1-5	2-5,7,8	1,3,4,6,8, 11
4.4.	Differential diagnosis of jaundice and hepatosplenomegaly	-	-	7	5	1-6	2-5,7,8	1,3,4,6,8-12
4.5.	Differential diagnosis and treatment of pancreatic diseases	-	-	7	5	1-5	2-5,7,8	1,3,4,6,8, 10
4.6.	Diagnosis and differential diagnosis of inflammatory bowel diseases and their treatment principles	-	-	7	5	1-5	2-5,7,8	1,3,4,6-8
5.	Diseases of the joints and connective tissue	-	-	42	30			
5.1.	Modern possibilities of treating rheumatic diseases: nonsteroidal anti-inflammatory drugs, glucocorticosteroids, cytosatics, genetic engineering biological agents	-	-	7	5	1-5	1,3-5,7	1,3,4,6,8
5.2.	Differential diagnosis and treatment of rheumatoid arthritis and	-	-	7	5	1-5	1,3-5,7	1,3,4,6,8,

	osteoarthritis									10,11
5.3.	Differential diagnosis and treatment of spondyloarthritis, arthritis associated with infection and erythema nodosum	-	7	5	1-5	1,3-5,7				1,3,4,6,8
5.4.	Differential diagnosis and principles of treatment of microcrystalline arthritis. Criteria for diagnosis, treatment and prevention of osteoporosis	-	7	5	1-5	1,3-5,7				1,3,4,6,8
5.5.	Differential diagnosis of connective tissue systemic diseases and systemic vasculitis	-	7	5	1-5	1,3-5,7				1,3,4,6,8
5.6.	Antiphospholipid syndrome. Principles of treatment of connective tissue systemic diseases and systemic vasculitis	-	7	5	1-5	1,3-5,7				1,3,4,6-8
6.	Kidney diseases	-	21	15						
6.1.	Diagnostic capabilities of laboratory and instrumental research methods in nephrology. Differential diagnosis in cases of chronic kidney disease and its treatment principles	-	7	5	1-5	2-5,7				1,3,4,6,8,10
6.2.	Differential diagnosis in nephrotic syndrome and its treatment principles	-	7	5	1-5	2-5,7				1,3,4,6,8
6.3.	Renal lesions in diabetes mellitus, systemic connective tissue diseases, systemic vasculitides, gout, multiple myeloma. Modern treatment options	-	7	5	1-5	2-5,7				1,3,4,6-8
7.	Diseases of the blood system	-	21	15						
7.1.	Differential diagnosis in anemic syndrome, treatment principles of anemia	-	7	5	1-5	1,3-5,7,9				1,3,4,6,8
7.2.	Differential diagnosis of leukemoid reactions and hemoblastoses, principles of treatment	-	7	5	1-5	1,3-5,7,9				1,3,4,6,8
7.3.	Differential diagnosis of hemorrhagic diathesis. Transfusion of blood components in diseases of internal organs	-	7	5	1-5	1,3-5,7,9				1,3,4,6-8,10
	Total hours	20	7	210	174					

INFORMATION AND INSTRUCTIONAL UNIT

LITERATURE

Basic:

1. Internal medicine : textbook for English-speaking students of higher medical educational establishment. P. 1 : Cardiology. Rheumatology. Hematology / ed. by M. A. Stanislavchuk, V. K. Sierkova. - Vinnytsya : Nova Knyha, 2019. - 407 p.

2. Internal medicine : textbook for English-speaking students of higher medical educational establishment. P. 2 : Pulmonology. Gastroenterology. Nephrology. Diseases of the internal organs in countries with hot climate / ed. by M. A. Stanislavchuk, V. K. Sierkova. - Vinnytsya : Nova Knyha, 2019. - 359 p.

Additional:

3. Harrison`s principles of internal medicine. Vol. 1 / ed. by D. L. Longo, D. L. Kasper, J. L. Jameson [et. al]. - New York [etc.] : McGrawHill Medical, 2018. - 1796 p.

4. Harrison`s principles of internal medicine. Vol. 2 / ed. by D. L. Longo, D. L. Kasper, J. L. Jameson [et. al]. - New York [etc.] : McGrawHill Medical, 2018. - 3610 p.

5. Internal medicine : critical care : textbook / Babak, O. Ya. [и др.] ; ed. by O. Ya. Babak, O. M. Bilovol. - Kyiv : AUS Medicine Publishing, 2018. - 368 p.

6. Clinical electrocardiography : manual for students of higher education institutions studying in the specialty 1-79 01 01 «General Medicine»/ – Grodno : GRSMU, 2019. – 200 p.

7. Ashar, B. H. The Hopkins internal medicine board review.- Philadelphia, 2015. – 720 p.

8. Sidzenka, V. M Peptic ulcer disease: a study-methodological guide for students of higher educational institutions studying on the english language for the speciality 1-79 01 01 «General Medicine».- Minsk : BSMU, 2019 – 24 p.

9. Textbook of hematology : a study-methodological guide for students of higher educational institutions studying on the english language for the speciality 1-79 01 01 «General Medicine» / V. M. Pyrochkin, A. T. Fiyas, Y. I. Karpovich. – Grodno : GRSMU, 2018. – 188 p.

10. Basics of electrocardiogram / Э. А. Доценко [и др.] ;. – Minsk : BSMU, 2019. – 96 p.

CHARACTERISTICS OF THE USED TRAINING METHODS

In organizing the educational process, traditional methods of teaching the academic discipline are used: lectures, practical classes, as well as elements of the students' managed independent work.

The educational process is organized by using traditional and modern educational technologies (simulation training technologies, «standardized patient» techniques, various forms of communication, variable models of independent work, modular and rating training systems, test and other competence assessment systems, etc.)

Practical classes are conducted on the basis of therapeutic departments of health organizations. During practical exercises under the supervision of a teacher, students independently collect patient complaints and a history of the disease, conduct a physical examination, draw up a plan for laboratory and instrumental examination, interpret the results of laboratory and instrumental research methods, formulate a diagnosis, draw up a treatment or surgery plan, draw up medical records. Practical training is provided by solving situational problems, test tasks, practicing patient examination skills, diagnosing and differential diagnosis of diseases, conducting medical interventions using electronic-mechanical, virtual and multi-component simulators, communicative competence skills using a standardized (simulated) patient.

Self-independent work consists of studying the main and additional literature, monographs and periodical literature, preparing reports, abstracts, presentations and short reports on the most important issues of clinical laboratory diagnostics, studying topics (questions) for self-dependent study, preparing for practical exercises and credit.

Students get acquainted with safe working conditions, international requirements and ethical norms during safety training.

LIST OF TRAINING AIDS

1. Multimedia presentations.
2. Video films.
3. Medical records of inpatients.
4. Results of additional examination methods (laboratory, functional, ultrasound, radiation, etc.)
5. Simulation equipment.
6. Standardized patients.

LIST OF AVAILABLE DIAGNOSTIC TOOLS

The evaluation of the student's educational achievements is carried out using the fund of evaluation tools and technologies of the higher education institution. The fund of assessment of student achievements includes:

standard tasks in various forms (oral, written, test, situational, simulation);
 topics of literature reviews;
 medical records of inpatients and the results of additional methods of examination (laboratory, functional, radiation);
 other diagnostic tools.

The following forms of knowledge assessment are used to diagnose competencies:

Oral form:

1. Interview.
2. Report at the conference.

Written form:

3. Tests.

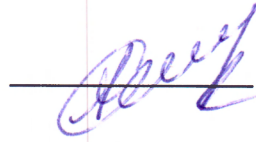
4. Literature review.
5. Publication of the article, report.
- Oral-written form:
6. Situational tasks.
7. Test
- Technical form:
8. Electronic tests.
- Simulation form:
9. Assessment of communicative skills competence using a standardized (simulated) patient.
10. Evaluation using electronic-mechanical simulators and robotic simulators.
11. Evaluation using virtual simulators.

LIST OF PRACTICAL SKILLS

1. Questioning the patient (collection of complaints, anamnesis).
2. Conducting a physical examination of the patient.
3. Drawing up a plan for laboratory and instrumental examination for a specific disease or syndrome.
4. Record of the electrocardiogram and its interpretation.
5. Conduct peak flow measurement and its interpretation.
6. Conducting blood glucose metering.
7. Puncture of the pleural cavity in pleural effusion, abdominal cavity in ascites.
8. Clinical interpretation of the results of laboratory, instrumental studies in diseases of the internal organs.
9. Formulation of the diagnosis.
10. Drawing up a treatment plan.
11. Registration of medical documentation.
12. Performing primary pulmonary cardiac resuscitation.
13. Providing emergency medical care for hypertensive crises, asthma attacks, pulmonary embolism, acute coronary syndrome, angina attacks, myocardial infarction, cardiac asthma and pulmonary edema, cardiogenic shock, fainting, collapse, life-threatening disturbances of heart rhythm and conduction, an attack of renal and hepatic colic, acute pancreatitis, coma with diabetes, acute allergic reactions, pulmonary, gastrointestinal bleeding.
14. Issuing a doctor's prescription.

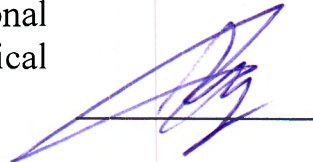
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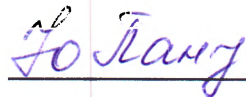
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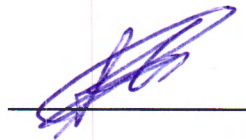
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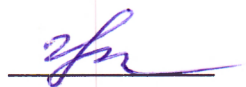
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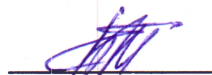
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E.M. Balysh

Curriculum content, composition and accompanying documents comply with established requirements.

Dean of the Medical Faculty for
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institution «Belarusian State Medical
University»

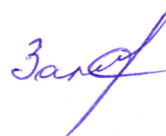
09.08. 2023



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09.08. 2023



S.V. Zaturanova