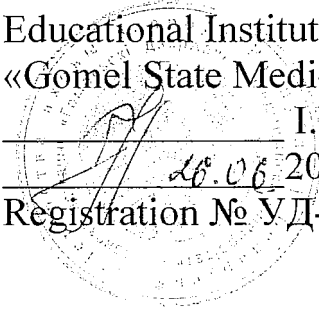


MINISTRY OF HEALTH OF THE REPUBLIC OF BELARUS
EDUCATIONAL INSTITUTION
«GOMEL STATE MEDICAL UNIVERSITY»

APPROVED

Rector of the
Educational Institution
«Gomel State Medical University»

I.V.Nazaranka


26.06 2026
Registration № УД- 200/уч.

INTERNAL DISEASES

**Curriculum of Educational Institution
in the academic discipline for the specialty
7-07-0911-01 «General Medicine»
(Faculty of International Students)**

4-5 course

The curriculum is based on the educational standard of higher education OSVO 7-07-0911-01-2023 in the specialty 7-07-0911-01 "General Medicine", approved and put into effect by the Decree of the Ministry of Education and the Ministry of Health of the Republic of Belarus dated 09/01/2023 No. 302/127; the curriculum of the educational institution Gomel State Medical University in the specialty 7-07-0911-01 "General Medicine", approved by the Rector of the University on 03/28/2023, Registration number 7-07-0911-01/04-FIS

THE COMPILERS:

E. N. Platoshkin, Head of the Department of Internal Diseases №2 with the course of Faculty of Advanced Training and Retraining, PhD of Medicine, Associate Professor;
E. G. Malaeva, Head of the Department of Internal Diseases №1 with courses of endocrinology and hematology, PhD of Medicine, Associate Professor;
S. A. Shut, Associate Professor of the Department of Internal Diseases №2 with the course of Faculty of Advanced Training and Retraining, PhD of Medicine, Associate Professor;
A. N. Tsyruelnikova, Senior lecturer at the Department of Internal Diseases №1 with courses of endocrinology and hematology;
S. G. Seifidinova, Senior lecturer at the Department of Internal Diseases №2 with the course of Faculty of Advanced Training and Retraining

REVIEWERS:

N.F.Bakalets, Head of the Department of Polyclinic Therapy and General Medical Practice with the course of Faculty of Advanced Training and Retraining, PhD of Medicine, Associate Professor;
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RECOMMENDED FOR APPROVAL:

Department of Internal Medicine No. 1 with courses in Endocrinology and Hematology (Protocol № 16 dated 04/24/2026)

Scientific and Methodological Council of the Gomel State Medical University Educational Institution
(Protocol № 7 dated 06. 2026)

EXPLANATORY NOTE

"Internal diseases" is an academic discipline containing systematic scientific knowledge about the etiology, pathogenesis and clinical manifestations, methods of diagnosis, treatment and prevention of diseases of internal organs: heart, lungs, stomach, liver, kidneys, serous membranes, blood system, connective tissue and joints.

Goal of the academic discipline "Internal diseases" is the formation of specialized competence for the diagnosis, treatment and prevention of diseases of internal organs.

Tasks of the academic discipline "Internal diseases" consists in the formation of students' scientific knowledge about:

- factors of the external and internal environment in the development of the disease;
- the structure of the main nosologies in the Clinic of internal Diseases;
- causes and mechanisms of development of diseases of internal organs;
- the most important typical manifestations of diseases of the respiratory system, circulatory system, gastrointestinal tract, urinary tract, blood, musculoskeletal system; modern diagnostic methods; strategies and tactics of patient management from the standpoint of evidence-based medicine;
- skills and abilities necessary for:
 - conducting a patient examination;
 - diagnosis and differential diagnosis;
 - drawing up a patient examination plan and evaluating the results of laboratory and instrumental research methods;
- the use of therapeutic agents for the treatment of diseases of internal organs;
- prevention of diseases of internal organs;
- conducting medical examination and rehabilitation of patients with diseases of internal organs;
- providing emergency medical care for major diseases of internal organs.

The place of academic discipline in the system of training a specialist with higher education

The academic discipline "Internal diseases" refers to the module "Internal diseases" of the component of the educational institution "Gomel State Medical University" curriculum in the specialty 7-07-0911-01 «General Medicine», approved by the Rector of the University on 03/28/2023 (registration number 7-07-0911-01/04-FIS).

Connections with another academic disciplines

Teaching and successful study of the discipline "Internal Diseases" is carried out on the basis of the knowledge and skills acquired by the student in the sections of the following disciplines:

Human anatomy. Topographic anatomy and operative surgery. The structure and functions of organs and systems of the body. Embryogenesis. Individual, sexual and age characteristics of the human body. Topography of internal organs and their anatomical and topographic relationships. Projection of internal organs onto the surface of the body. X-ray anatomy. The influence of work, physical exercise, social conditions and environmental factors on the development and structure of the human body. The relative position (syntopy) of organs, their projection onto the skin (holotopy), and their relation to the skeleton (skeletalotopy). Blood supply, innervation, and lymphatic drainage under normal and pathological conditions.

Medical and biological physics. The physical foundations of hemodynamics. Biopotentials and the mechanisms of their occurrence. Physical basics of electrocardiography. Physical pathogenic factors.

Medical chemistry. Molecular bases of metabolism, mechanisms of action of biologically active substances, biochemistry of tissues and organs, biological fluids.

Medical biology and general genetics. Levels of organization of living things (molecular-genetic, cellular, ontogenetic, biospheric-biogeocenotic). Medicinal plants. Biological pathogenic factors (helminths, protozoa, fungi, bacteria, viruses, etc.). Parasite-host interaction. Biological foundations of immunity. Hereditary disorders and diseases.

Normal physiology. The physiological foundations of the vital activity of cells, tissues and the whole human body in the conditions of its interaction with the environment. The physiological functions of the human body at various levels of organization, the mechanisms of their regulation and self-regulation. The main indicators characterizing the normal state of the physiological functions of the human body and its systems. The physiological foundations of a healthy lifestyle.

Pathological physiology. The general doctrine of the disease. Concepts and categories of pathology. Classification and nomenclature of diseases. Typical pathological processes. General patterns of occurrence and mechanisms of development of inflammation, tumor growth, fever, hypoxia, typical metabolic disorders, starvation, and neurogenic dystrophies. Principles of correction of structural and functional disorders in typical pathological processes. General patterns of disorders of various organs and systems of the human body. Mechanisms of compensation for violations of functions and structures, principles of correction of violations.

Histology, cytology, and embryology. The principles of organization and histological structure of organs and systems, the tissue and cellular composition of their structural and functional units, the relationship of various tissues in the organs. General patterns of reaction of tissues and organs to external influences, features of their radiosensitivity and radioresistance. The structural foundations of hemostasis.

Microbiology, virology, and immunology. Classification, morphological characteristics, genetics, physiology, ecology and evolution of microorganisms. The normal microflora of the human body. Etiology, pathogenesis, immunity and microbiological diagnostics, fundamentals of specific treatment and prevention of bacterial, viral, fungal and protozoal diseases. Characteristics of conditionally pathogenic microorganisms. Opportunistic infections and their diagnosis. Infections related to medical care. The immune system of the human body, age-related features. Natural, anti-infective, transplant, and antitumor immunity. Allergy, immunological tolerance. Immunopathology, clinical and environmental immunology.

General hygiene. The influence of the environment on health, the hygienic importance of air, soil, water, and solar radiation. Diseases associated with the adverse effects of climatic and social factors. Hygienic aspects of nutrition. Organization and implementation of preventive measures. Personal hygiene, hygienic requirements for the organization of work and rest. Ecology and rational use of natural resources.

Pharmacology. Principles of pharmacodynamics and pharmacokinetics of drugs. Factors determining therapeutic efficacy, side effects, allergenicity and toxicity of drugs.

The main means of drug therapy for various pathological processes and the most common diseases. Doctor's prescription. Prescribing medicines in various dosage forms.

Pathological anatomy. Common pathological processes. Compensatory and adaptive processes. Immunopathology. General issues of tumor growth. Particular pathological anatomy (classification, etiology, pathogenesis and morphogenesis, structural characteristics at macro and micro levels, pathomorphosis, outcomes and complications, thanatogenesis) of diseases of the heart and blood vessels, respiratory organs, gastrointestinal tract, biliary tract, liver, kidneys; features in people of different age groups.

Propaedeutics of Internal diseases. Age-related anatomical and physiological features of organs and systems of the human body. Methods of examination of healthy and sick people. Additional research methods and principles of diagnostic software development. The diagnostic process. Semiotics and syndromes of major lesions of organs and systems of the human body. Fundamentals of rational nutrition for therapeutic diseases in various age groups. International Classification of Diseases.

Radiation diagnostics and radiation therapy. Radiation imaging methods (X-ray, radionuclear, ultrasound, magnetic resonance imaging, medical thermography) and radiation therapy methods (ionizing radiation, ionizing radiation in combination with other methods) of various diseases, their characteristics in people of different age groups.

A student who has mastered the content of the teaching material of an academic discipline must have the following specialized competence: provide primary and specialized medical care for diseases of internal organs, including urgent and life-threatening conditions, occupational diseases; conduct medical and social examination of diseases of internal organs, including occupational diseases; possess methods of interpreting tests for the diagnosis of autoimmune and allergic diseases, the results of laboratory and immunological control during pathogenetic therapy.

A total of 328 academic hours are allocated for the study of the academic discipline, of which 203 are classroom hours. Distribution of classroom hours by type of classes: 48 hours of lectures; 155 hours of practical training.

The intermediate certification is conducted in accordance with the curriculum for specialty 1-79 01 01 "General Medicine" in the form of a test (7th, 8th, semester) and an exam (10th semester).

The form of higher education is full –time.

The distribution of classroom time by type of classes, semesters, and forms of intermediate academic discipline:

Semester ⁵	Number of classroom hours					Form of the attestations
	totally	lectures		practical classes		
		totally	of these Guided Student Independent Work	totally	of these Guided Student Independent Work	
7	60	18	-	42	-	test
8	62	14	-	48	-	test
9	44	8	-	36	-	

10	37	8	-	29	-	exam
Total hours	203	48	-	155	-	

THEMATIC PLAN

Title of the section (topic)	Total classroom hours	Classroom hours allocation by type of classes	
		lectures	practical classes
7th semester			
1. Diseases of the circulatory system			
1.1. History, subject and objectives of the academic discipline. Organization of therapeutic care in the Republic of Belarus. Arterial hypertension. Symptomatic arterial hypertensions	8	2	6
1.2. Atherosclerosis. Coronary heart disease. Angina pectoris	8	2	6
1.3. Acute coronary syndrome. Myocardial infarction	8	4	6
1.4. Circulatory insufficiency (syncope, collapse, acute and chronic heart failure)	8	2	6
1.5. Pulmonary embolism (PE). Pulmonary hypertension. Pulmonary heart	6	2	6
2. Kidney diseases			
2.1. Inflammatory kidney diseases	8	2	6
2.2. Acute kidney injury. Chronic kidney disease	8	2	6
3. Diseases of the digestive system			
3.1. Acid-associated diseases	2	2	-
Total number of hours per semester	60	18	42
8th semester			
3.2. Acid-associated diseases	6		6
3.3. Functional biliary disorders. Chronic pancreatitis	8	2	6
3.4. Chronic hepatitis. Metabolic liver diseases. Functional hyperbilirubinemia	8	2	6
3.5. Liver Cirrhosis. Hereditary liver diseases	8	2	6
3.6. Enteropathy. Irritable bowel syndrome. Inflammatory bowel diseases	8	2	6
4. Respiratory diseases			
4.1. Pneumonia. Suppurative lung diseases. Hemoptysis. Pleural effusion	8	2	6

4.2. Acute and chronic bronchitis. Chronic obstructive pulmonary disease	8	2	6
4.3. Bronchial asthma. Bronchiectasis	8	2	6
Total number of hours per semester	62	14	48
9th semester			
5. Heart diseases	44	8	36
5.1. Myocarditis. Pericarditis. Cardiomyopathy	10	4	6
5.2. Infectious endocarditis	8	2	6
5.3. Arrhythmias and heart blocks	14	2	12
5.4. Acquired heart defects. Prolapse of the mitral valve	6		6
5.5. Acute rheumatic fever. Chronic rheumatic heart disease	6		6
Total number of hours per semester	44	8	36
10th semester			
6. Joint diseases	16	4	12
6.1. Diseases of joints. Rheumatoid arthritis	8	2	6
6.2. Osteoarthritis. Gout	8	2	6
7. Systemic connective tissue diseases	21	4	17
7.1. Systemic lupus erythematosus. Systemic sclerosis. Dermatomyositis/polymyositis	13	2	11
7.2. Systemic vasculitis	8	2	6
Total number of hours per semester	37	8	29
Total number of hours per discipline	203	48	155

THE CONTENT OF THE EDUCATIONAL MATERIAL

4th year

1. Diseases of the circulatory system

1.1. History, subject and objectives of the academic discipline. Organization of therapeutic care in the Republic of Belarus. Arterial hypertension

The subject and objectives of the academic discipline "Internal diseases", its relation to other branches of medicine. Rules of medical ethics and deontology. The main therapeutic schools in the Republic of Belarus. Stages of therapy development. Organization of therapeutic care in the Republic of Belarus. Principles of evidence-based management of therapeutic pathology.

Arterial hypertension (AH). Definition of the concept. The medical and social significance of the problem. Etiology and pathogenesis of essential hypertension. AH risk factors. Classification of degrees of increase in blood pressure (BP). Defeat of "target organs". Conditions associated with hypertension. Risk stratification and prognosis in hypertension. The scheme of examination of the patient with hypertension. Principles of

hypertension treatment: physical activity, diet, main and additional groups of antihypertensive drugs, preferred combinations of drugs. Diagnosis and treatment of diseases characterized by high blood pressure in pregnant women. Complications of hypertension, prognosis, prevention of hypertension. Hypertensive crises: definition, classification, clinical manifestations of various variants, basic principles of treatment (relief of crises). Symptomatic arterial hypertension. Classification of symptomatic hypertension: renal (parenchymal, renovascular), endocrine (thyrotoxic, with Itsenko-Cushing syndrome, pheochromocytoma, Conn syndrome), hemodynamic (aortic coarctation, arterial atherosclerosis, aortic valve insufficiency), cerebral. Features of clinical manifestations, diagnosis and differential diagnosis of symptomatic hypertension. Therapeutic tactics for symptomatic hypertension.

1.2. Atherosclerosis. Coronary heart disease. Angina pectoris

Atherosclerosis. Etiology and pathogenesis of atherosclerosis. Formation of atherosclerotic plaque. Risk factors for atherosclerosis. Types of hyperlipidemia. Clinical manifestations and diagnosis of atherosclerosis depending on its primary localization (aorta, heart vessels, brain, limbs, kidneys, intestines). Methods for detecting atherosclerotic plaques: coronary angiography, CT, MRI, multispiral computed tomography. Principles of treatment of atherosclerosis, depending on the degree of risk of developing cardiovascular diseases and the type of hyperlipidemia: lifestyle modification, lipid-lowering diet, exercise, medications that normalize lipid metabolism, statins. Primary and secondary prevention of atherosclerosis. Indications for surgical treatment of atherosclerosis, including the use of endovascular techniques.

Coronary heart disease (CHD). The medical and social significance of the problem of coronary artery disease. Etiology and pathogenesis of coronary artery disease. The role of coronary artery stenosing atherosclerosis, vasospastic factor and thrombosis in the development of coronary artery disease. Clinical forms of coronary heart disease (WHO classification). Instrumental methods for the diagnosis of coronary insufficiency: ECG, stress and pharmacological tests, radionuclide examination, coronary angiography. Definition of "sudden cardiac death". The algorithm of intensive care in cardiology. High-tech methods of surgical treatment of coronary artery disease: coronary artery bypass grafting, angioplasty and stenting. Prognosis for coronary heart disease. Angina pectoris. Classification of angina pectoris. Pathogenesis and characteristics of pain syndrome in angina pectoris. Functional classes of angina pectoris. Diagnostic criteria and clinical variants of unstable angina pectoris: first-time, progressive, spontaneous, early postinfarction, after successful coronary artery bypass surgery or balloon angioplasty. Atypical clinical manifestations of angina pectoris. Painless myocardial ischemia. Differential diagnosis of angina pectoris. Principles of treatment of angina pectoris: medications that affect the symptoms and prognosis of the disease; groups of antianginal drugs; drugs that improve microcirculation and metabolism of the myocardium. Relief of angina attack. Organizational and therapeutic tactics for stable and unstable angina pectoris, possible outcomes.

1.3. Acute coronary syndrome. Myocardial infarction

Acute coronary syndrome: definition, clinical manifestations, diagnosis, and medical tactics in acute coronary syndrome with and without ST segment elevation.

Differentiated treatment of acute coronary syndrome. Revascularization of the coronary arteries. Prevention of acute coronary syndrome.

Myocardial infarction: risk factors, pathogenetic mechanisms of development of myocardial necrosis, typical and atypical clinical variants of disease onset, characteristics of pain syndrome, severity classes, periods of myocardial infarction. Laboratory and instrumental methods for the diagnosis of myocardial infarction: ECG, echocardiography (EchoCG), scintigraphy, radionuclide ventriculography, coronary angiography. Electrocardiographic diagnosis of myocardial infarction: according to the depth of the lesion, localization, periods. Biochemical markers of myocardial damage. Differential diagnosis of myocardial infarction. Complications of myocardial infarction in acute and subacute periods: cardiogenic shock, arrhythmias, acute left ventricular failure, progressive chronic heart failure, acute and chronic cardiac aneurysm, cardiac tamponade, postinfarction syndrome, thromboendocarditis. Principles of treatment of acute myocardial infarction: relief of pain, reperfusion of the affected artery, limitation of the area of ischemic damage, prevention of complications. Indications and contraindications for thrombolysis. Providing medical care for pre-hospital myocardial infarction. Emergency medical care for complications of myocardial infarction. Features of treatment in different periods of myocardial infarction. Indications for surgical treatment of myocardial infarction. Prognosis for myocardial infarction. Principles of physical and mental rehabilitation of patients after myocardial infarction. Primary and secondary prevention of myocardial infarction.

1.4. Circulatory insufficiency (syncope, collapse, acute and chronic heart failure)

Acute vascular insufficiency (syncope, collapse): causes, difference between syncope and collapse, diagnosis and emergency medical care. Acute heart failure (left ventricular: cardiac asthma and pulmonary edema) and right ventricular: acute pulmonary heart disease): causes, pathogenesis, pathophysiology, clinical manifestations. Instrumental diagnosis of acute heart failure: EchoCG, ECG, chest X-ray, CT with contrast, angiography. Emergency medical care for acute heart failure at the prehospital stage and in inpatient settings. Prognosis for acute heart failure. Prevention of acute heart failure. Chronic heart failure (CHF): epidemiology, etiology, pathogenesis, classification (Strazhesko-Vasilenko and the New York Heart Association – NYHA), criteria for diastolic and systolic myocardial dysfunction. Clinical manifestations of CHF by stages (functional classes). Instrumental diagnosis of CHF, a 6-minute walking test. Brain natriuretic peptide. Treatment of CHF: instrumental methods, drug therapy (basic, additional and auxiliary drugs), hardware and surgical treatment (revascularization, resynchronization therapy, implantable cardioverter defibrillators, heart transplantation, plasma ultrafiltration). The prognosis for CHF. Prevention of CHF.

1.5. Pulmonary embolism (PE). Pulmonary Hypertension. Pulmonary heart

PE: risk factors, causes and mechanisms of development, classification, clinical manifestations, diagnosis, differential diagnosis, emergency medical care. Principles of treatment depending on the risk of early death from PE. Primary and secondary prevention of PE. Pulmonary hypertension: concept, mechanisms of development, risk factors. Clinical classification: pulmonary arterial hypertension; pulmonary hypertension caused by diseases of the left heart; pulmonary hypertension associated with lung diseases

and/or hypoxia; chronic thromboembolic pulmonary hypertension; pulmonary hypertension with multifactorial or unknown mechanisms. Clinical and instrumental diagnostics of pulmonary hypertension: ECG, ultrasound of the heart and blood vessels, chest X-ray, external respiration function, ventilation and perfusion scanning of the lungs, high-resolution CT with contrasting pulmonary vessels, MRI, cardiac catheterization. Laboratory methods for the diagnosis of pulmonary hypertension. Risk assessment for pulmonary hypertension. Complications of pulmonary hypertension. Principles of treatment of pulmonary hypertension (general, supportive, initial, specific, combination therapy, surgical methods of treatment). Outcomes and prognosis of pulmonary hypertension. Pulmonary heart: definition, causes and mechanisms of development of acute and chronic pulmonary heart, classification, clinical signs, laboratory and instrumental diagnostic methods, principles of drug treatment, outcomes, prognosis, prevention.

2. Kidney diseases

2.1. Inflammatory kidney diseases

The role of urinary tract infection in the development of inflammatory kidney diseases. Acute pyelonephritis: etiology, pathogenesis, classification, clinical manifestations, diagnosis, treatment of pyelonephritis in pregnant women. Features of management of pregnant women with urinary tract infection. Chronic pyelonephritis: etiology, pathogenesis (the role of HLA genes, urinary tract infections, immune system conditions, vesicoureteral reflux in the development of chronic pyelonephritis), classification, clinical forms and manifestations, diagnosis, treatment, features of antibacterial therapy, prevention of exacerbations. Nephrotic syndrome: the most common diseases accompanied by the development of nephrotic syndrome, pathogenesis, clinical manifestations, diagnosis, complications, therapeutic tactics. Acute glomerulonephritis: etiology, pathogenesis, clinical manifestations. The concept of nephritic syndrome. Methods of diagnosis of acute glomerulonephritis, principles of treatment, outcomes, prognosis. Prevention of post-streptococcal glomerulonephritis. Chronic glomerulonephritis: pathogenesis of various forms, classification (clinical and morphological). The role of kidney biopsy in the diagnosis of nephrological diseases. Assessment of the functional state of the kidneys. A differentiated approach to the treatment of chronic glomerulonephritis. Tubulointerstitial nephritis: causes, clinical manifestations, diagnosis, treatment. Features of drug-induced interstitial nephritis.

2.2. Acute kidney injury. Chronic kidney disease

Acute kidney injury. Causes of development, pathophysiology, classification, stages by RIFLE, clinical manifestations, diagnostic criteria, treatment. Chronic kidney disease (CKD): classification of stages. The main diseases leading to the development of CKD. Factors of CKD progression. Monitoring of the functional state of the kidneys. Clinical manifestations, diagnostic methods, conservative treatment of CKD. Therapeutic aspects when using extracorporeal detoxification or efferent methods (hemodialysis, peritoneal dialysis). Kidney transplantation. Palliative care for patients with end-stage CKD. Renal amyloidosis: modern concepts of etiology and pathogenesis, classification. The most common diseases accompanied by the development of amyloidosis. Clinical stages of renal amyloidosis, diagnosis, the role of morphological examination, therapeutic tactics, preventive measures.

3. Diseases of the digestive system

3.1. Acid-associated diseases

Gastroesophageal reflux disease (GERD): definition, epidemiology, main risk factors, pathogenesis, classification, clinical picture. Extraesophageal manifestations of GERD: bronchopulmonary, otolaryngological, cardiological, dental. Instrumental diagnosis of GERD: esophagoscopy, daily pH measurement, X-ray examination, histological examination, manometry. Complications of GERD: esophageal strictures, bleeding, Barrett's esophagus. Risk factors for the development of GERD complications. Treatment of GERD. Management of patients with Barrett's esophagus.

Functional gastric dyspepsia: definition, epidemiology, causes, pathogenesis, classification (Roman criteria), clinical manifestations. Diagnostic criteria of epigastric pain syndrome and postprandial distress syndrome, differential diagnosis. Treatment of functional gastric dyspepsia. Chronic gastritis: definition, prevalence, role of exogenous and endogenous factors in the development of the disease, pathogenesis, classification. The main diagnostic methods for chronic gastritis are endoscopic, morphological, and detection of *Helicobacter pylori* infection. Assessment of secretory function. The leading morphological signs of chronic gastritis are the degree of inflammation, the activity of gastritis, the degree of atrophy and intestinal metaplasia, and the density of *Helicobacter pylori* infection. Treatment of *Helicobacter pylori*-associated gastritis (Maastricht Consensus) and other types of gastritis.

Gastroduodenal ulcers: definition, prevalence, etiology, pathogenesis, factors of aggression and protection of the gastric mucosa, clinical manifestations depending on the location of the ulcer. Instrumental diagnosis of gastroduodenal ulcers: endoscopic and X-ray methods, histological examination, tests for the detection of *Helicobacter pylori*. Differential diagnosis of gastroduodenal ulcers. Complications of gastroduodenal ulcers: bleeding, perforation, penetration, perivisceritis, pyloric stenosis, malignancy. Tactics in the detection of complications of gastroduodenal ulcers. Treatment of uncomplicated ulcers: diet, eradication of *Helicobacter pylori*, antisecretory therapy, symptomatic medications, gastroprotectors. The duration of basic therapy depends on the location of the ulcer. Methods of secondary prevention of gastroduodenal ulcers: continuous maintenance therapy "on demand". Indications for surgical treatment of gastroduodenal ulcers.

Symptomatic ulcers: definition, NSAID-gastropathy, mechanisms of formation of symptomatic ulcers, endoscopic characteristics, clinical manifestations, risk factors for bleeding, treatment, prevention. Palliative care for patients with cancer of the gastroduodenal region.

3.2. Functional biliary disorders. Chronic pancreatitis

Functional biliary disorders: definition, causes, pathogenesis, classification, clinical manifestations. Diagnostic criteria, diagnosis and treatment of functional disorders of the gallbladder, biliary and pancreatic disorders of the Oddi sphincter. Chronic pancreatitis: definition, etiological factors, pathogenesis, classification, clinical picture, criteria of severity of chronic pancreatitis. Laboratory and instrumental diagnostic methods for chronic pancreatitis: dynamics of enzymes (alpha-amylases, lipases, elastases), coprological examination, ultrasound, endoscopic ultrasonography, fibrogastroduodenoscopy, CT, magnetic resonance cholangiopancreatography. Diagnostic criteria of chronic pancreatitis, differential diagnosis. Complications of chronic pancreatitis. Treatment of chronic pancreatitis: diet, medication (relief of pain,

compensation of exocrine deficiency, correction of nutritional status disorders), indications for surgical treatment.

3.3. Chronic hepatitis. Metabolic liver diseases. Functional hyperbilirubinemia

Chronic hepatitis: definition, epidemiology, etiology, pathogenesis (depending on etiological factors), classification. Biochemical markers of cytolytic syndrome, cholestasis, hepatocellular insufficiency, mesenchymal inflammatory syndrome. Criteria for the activity of chronic hepatitis: clinical, biochemical, morphological.

Autoimmune hepatitis: definition, prevalence, etiology (genetic and trigger factors), pathogenesis (defects in immunoregulation, main autoantibodies and target organs), main clinical manifestations (hepatic and extrahepatic), diagnosis, prognosis.

Chronic viral hepatitis: clinical features depending on the viral infection (B, C, E), verification of viral hepatitis, complications, prognosis, primary prevention, vaccination.

Chronic medicinal hepatitis: prevalence, drugs that cause hepatitis, mechanisms of direct cytotoxic effects of drug metabolites on the liver, clinical, biochemical, serological, morphological manifestations, prognosis.

Cryptogenic hepatitis: definition, differential diagnosis.

Hepatitis treatment: diet, indications for the use of antiviral drugs, corticosteroids, immunosuppressive drugs, hepatoprotectors, extracorporeal therapy methods.

Metabolic liver diseases: fatty liver disease: alcoholic and non-alcoholic fatty liver diseases (steatosis and steatohepatitis). Etiology, pathogenesis, clinical manifestations, diagnosis, treatment of metabolic liver diseases.

Hereditary pigmented hepatoses (Gilbert, Dabin-Johnson, Rotor syndromes): clinical manifestations, diagnosis, treatment, prognosis.

3.4. Liver cirrhosis. Hereditary liver diseases

Liver cirrhosis: definition, epidemiology, etiology, pathogenesis, classification, severity classes. Clinical manifestations of viral, alcoholic, primary and secondary biliary liver cirrhosis. Diagnosis of liver cirrhosis: transient liver elastography, liver biopsy, assessment of portal hypertension. Complications of liver cirrhosis: hypersplenism, portal hypertension, bleeding from varicose veins of the esophagus and stomach, portal hypertensive gastropathy and colopathy, ascites, spontaneous bacterial peritonitis, portosystemic encephalopathy, hepatopulmonary syndrome, hepatorenal syndrome. Disorders associated with liver cirrhosis: eating disorders, systemic hemodynamic disorders, respiratory system disorders, hemostasis, hepatocellular carcinoma. Differential diagnosis of liver cirrhosis, chronic hepatitis and hepatocarcinoma. Cancer markers.

Principles of liver cirrhosis treatment: general measures, drug treatment and its features in various forms of liver cirrhosis. Treatment of complications of liver cirrhosis. Indications for liver transplantation. Prognosis for cirrhosis of the liver. Prevention of liver cirrhosis.

Primary biliary liver cirrhosis: etiology, pathogenesis, clinical manifestations, diagnosis, treatment.

Hereditary liver diseases (hemochromatosis, primary and secondary iron overload syndrome, Wilson's disease): etiology, pathogenesis, clinical manifestations, diagnosis, treatment, prevention, prognosis.

3.5. Enteropathies. Irritable bowel syndrome. Inflammatory bowel diseases

Enteropathies: definition, etiology, pathogenesis, classification, the role of bacterial overgrowth in the intestine, enzymopathies, clinical manifestations. The main syndromes of enteropathy are digestive insufficiency, insufficiency of absorption, exudative enteropathy. Diagnostic methods of enteropathy (endoscopic, morphological, radiological, functional methods of studying absorption processes), changes in laboratory parameters, differential diagnosis. Treatment of enteropathy: diet, antibacterial therapy, probiotics and prebiotics, enzyme therapy, regulators of intestinal motor evacuation function.

Gluten enteropathy (celiac disease): etiology, pathogenesis, clinical manifestations, diagnosis, treatment, prevention, prognosis.

Irritable bowel syndrome: definition, prevalence, etiology and pathogenesis, pathophysiology. Clinical manifestations and diagnostic (Roman) criteria of the main variants of irritable bowel syndrome: with predominance of constipation, diarrhea, mixed, nonspecific. Treatment of irritable bowel syndrome: diet, effects on the psycho-emotional sphere, relief of pain, correction of impaired intestinal functions.

Inflammatory bowel diseases (IBD). Ulcerative colitis, Crohn's disease: definition, prevalence, etiology and pathogenesis, classification, clinical manifestations, extra-intestinal manifestations. Instrumental diagnostic methods for ulcerative colitis and Crohn's disease: endoscopic, morphological, X-ray, ultrasound. Criteria for the activity of ulcerative colitis and Crohn's disease, complications. Treatment of ulcerative colitis and Crohn's disease: diet, basic (induction and maintenance) therapy depending on the extent and degree of activity (derivatives of 5-aminosalicylic acid, glucocorticoids, immunosuppressants, monoclonal antibodies), symptomatic medications, indications for surgical treatment.

Colitis with a known etiology: ischemic, radiation, antibiotic-associated (pseudomembranous). Rare forms of colitis (microscopic colitis): collagen and lymphocytic.

4. Respiratory diseases

4.1. Pneumonia. Suppurative lung diseases. Pleural effusion

Pneumonia: definition, prevalence, etiology (bacterial, viral, caused by atypical pathogens, fungal pneumonia), predisposing factors, pathogenesis, classification, pathways of pathogen penetration. Clinical manifestations of pneumonia, criteria of severity. Clinical features of the course of pneumonia, depending on the type of pathogen and the state of the immune system. Verification of the causative agent of pneumonia (microbiological, immunological methods). Laboratory, instrumental, and X-ray examination methods for pneumonia. Differential diagnosis of pneumonia. Complications of pneumonia. Emergency conditions in pneumonia: acute respiratory failure (acute respiratory distress syndrome), acute vascular insufficiency, acute kidney injury, infectious and toxic shock, acute psychosis, DIC syndrome.

Treatment of pneumonia: indications for hospitalization, antibacterial therapy, step-by-step antibacterial therapy, criteria for the effectiveness of antibacterial therapy, antiviral drugs, anti-inflammatory drugs, symptomatic treatment. Criteria for recovery and discharge from the hospital. Prognosis and outcomes of pneumonia. Prevention of pneumonia.

Suppurative lung diseases: definition, classification. Acute infectious lesions: abscess and gangrene. Risk factors for the development of suppurative lung diseases. Etiology of lung abscesses and gangrene. Clinical manifestations and diagnosis of acute and chronic lung abscess, mediastinum, and lung gangrene. Differential diagnosis of lung abscess with tuberculous cavities, bronchiectasis, suppurated cysts and hypoplasia, pleural empyema, mycotic suppuration, and cavity cancers. Complications of suppurative lung diseases. Principles of therapeutic methods of treatment of suppurative lung diseases, indications for surgical treatment. Outcomes of suppurative lung diseases, prognosis. Prevention of suppurative lung diseases.

Hemoptysis: clinical manifestations, diagnosis, therapeutic and diagnostic bronchoscopy, conservative treatment.

Pleural effusion: etiology and pathogenesis. Clinical and laboratory signs of exudate and transudate. Classification of pleurisy (dry, exudative, convoluted, meta- and parapneumonic, tumor, tuberculous, post-traumatic, systemic connective tissue diseases, reactive, with PE). Clinical manifestations, diagnosis, and course of pleural effusion. Indications and methods of puncture of the pleural cavity. Laboratory assessment of pleural effusion, differential diagnosis. Complications and outcomes of pleural effusion. Treatment of pleural effusion, indications for surgical treatment. Prevention of pleural effusion.

4.2. Acute and chronic bronchitis. Chronic obstructive pulmonary disease

Acute and chronic bronchitis: definition, prevalence, etiology, pathogenesis, clinical manifestations, diagnosis and differential diagnosis, treatment and prevention.

Chronic obstructive pulmonary disease (COPD): definition, epidemiology, risk factors. Pathological processes in COPD. The modern concept of COPD (GOLD), developed by the World Health Organization (WHO). Clinical manifestations and variants of COPD (assessment of the severity of shortness of breath, severity of exacerbation). Extrapulmonary manifestations of COPD. Instrumental research methods for COPD, functional parameters of external respiration at different stages of the disease, differential diagnosis. Complications of COPD. Principles of management of patients with stable course and exacerbation of COPD: bronchodilator therapy (changing doses, multiplicity and methods of taking medications), oxygen therapy, the use of antibacterial therapy for an infectious episode, the use of glucocorticoid drugs, including combinations with long-acting β_2 -agonists, respiratory support.

4.3. Bronchial asthma. Bronchiectasis

Bronchial asthma: definition, etiology, risk factors, pathogenesis, classification (GINA), clinical manifestations. Diagnosis of various forms of asthma: with a predominance of the allergic component, non-allergic, mixed, unspecified. The role of spirometry and peak fluometry in determining the variability of symptoms and indicators of lung function. Allergy detection. Asthmatic status: diagnostic criteria, treatment. The tactics of treating patients depend on the severity of asthma at the onset of the disease and on the degree of control over the disease during its development and course (with controlled, partially controlled, uncontrolled asthma). Inhalation therapy of asthma, types of inhalers. Nebulizer therapy for asthma. Prevention of bronchial asthma. Prognosis for bronchial asthma.

Bronchiectasis: definition, etiology, pathogenesis, predisposing factors. Identification of hereditary diseases associated with the formation of bronchiectasis. Clinical manifestations of bronchiectasis. The main diagnostic methods for bronchiectasis are chest X-ray, CT, MRI, bronchoscopy, and bronchography. Complications of bronchiectasis: pulmonary and extrapulmonary. Conservative treatment of bronchiectasis: antibacterial (with suppuration), postural drainage, rehabilitation bronchoscopy, improvement of mucociliary transport, correction of immune disorders, oxygen therapy, physical therapy. Indications for surgical treatment of bronchiectasis. Prognosis for bronchiectasis.

5th year

5. Heart diseases

5.1 Myocarditis. Pericarditis. Cardiomyopathy

Myocarditis: definition, etiology and pathogenesis, classification, pathomorphology, clinical picture. Diagnosis of myocarditis. Myocardial biopsy. Principles of treatment. Complications. Features of the course and treatment of viral myocarditis. Outcomes. Forecast. Prevention of myocarditis in risk groups.

Cardiomyopathy: definition, etiology. Pathogenesis of intracardiac hemodynamic disorders in dilated, hypertrophic, restrictive cardiomyopathy and arrhythmogenic dysplasia of the right ventricle. Classification. Secondary cardiomyopathies. The main clinical syndromes. Instrumental diagnostics: ECG, EchoCG, MRI, radionuclide methods, myocardial biopsy. Medical and surgical methods of treatment. Complications. Forecast. Curation of patients with cardiomyopathy: collection of complaints and medical history; objective examination; preparation of an examination plan; interpretation of the results of laboratory and instrumental examination methods; diagnosis; preparation of a treatment plan.

Pericarditis: definition, etiology and pathogenesis, classification, clinical manifestations. Diagnosis of dry, exudative, and adhesive (constrictive) pericarditis. Principles of treatment. Complications. Cardiac Tamponade. Indications for pericardial puncture and surgical treatment. Complications of pericarditis. Outcomes and prognosis in pericarditis. The plan of examination and treatment of patients with pericarditis.

5.2 Infectious endocarditis

Infectious endocarditis (IE): definition, epidemiology, etiology and pathogenesis. Classification. Groups and risk factors. Pathomorphology.

Clinical manifestations of IE, depending on the etiology, as well as in people with prosthetic heart valves, the elderly and senile, with diabetes mellitus, suffering from alcoholism and drug addiction, and HIV-infected.

Diagnosis of IE: laboratory: blood culture for hemoculture, markers of inflammation; instrumental: EchoCG, CT of the heart, MRI.

Diagnostic criteria and differential diagnosis of infectious endocarditis with other diseases accompanied by fever (acute rheumatic fever, systemic connective tissue diseases, hemoblastoses, tumors). Complications.

Drug treatment (etiotropic, pathogenetic and symptomatic), criteria of cure. Forecast. Indications for surgical treatment. Prevention in risk groups.

5.3. Arrhythmias and heart blocks

Risk factors, electrophysiological mechanisms of arrhythmias and heart blocks. Classification of arrhythmias. The main diagnostic methods for arrhythmias and heart blocks, daily ECG monitoring.

Extrasystole: etiology, classification by Lawn, organic and functional extrasystoles, clinical manifestations, ECG diagnosis of extrasystoles, antiarrhythmic therapy, prevention.

Atrial fibrillation and flutter: etiology, pathogenesis, classification, hemodynamic disorders, clinical symptoms. Drug treatment: features of treatment of paroxysmal and permanent forms, risk scales of thromboembolic complications and bleeding, antiplatelet and anticoagulant therapy. Preparing the patient for cardioversion. Prognosis for atrial fibrillation and flutter.

Paroxysmal rhythm disturbances, clinical picture. ECG diagnosis of paroxysmal tachycardia. Differences between ventricular and supraventricular forms of paroxysmal tachycardia. Ventricular preexcitation syndromes. Algorithms for relieving an attack of paroxysmal tachycardia. Indications for electropulse therapy, percutaneous radiofrequency ablation of the arrhythmia source. Prevention of paroxysmal tachycardia attacks. Prognosis for paroxysmal cardiac arrhythmias.

Ventricular fibrillation: etiology, clinical manifestations, ECG diagnostics, resuscitation algorithms, sudden cardiac death (main causes and prevention).

Heart blocks (sinoauricular, atrioventricular, and intraventricular): etiology, pathogenesis, ECG diagnostics. Complications of heart blocks: Morgagni-Adams-Stokes syndrome, heart failure. Medical treatment of heart blocks, temporary pacing, implantation of the pacemaker. Forecast for blocks

Sinus node weakness syndrome: classification, diagnosis, and medical tactics. Indications for implantation of intracardiac devices (pacemakers, resynchronizing devices, cardioverter defibrillators).

5.4. Acute rheumatic fever. Chronic rheumatic heart disease

Acute rheumatic fever: definition, epidemiology, etiology, pathogenesis, clinical manifestations. Diagnostics. Diagnostic criteria. Classification. Differential diagnosis. Treatment. Outcomes. Prevention is primary and secondary. Chronic rheumatic heart disease. Definition. Diagnostics. Patient management tactics.

5.5 Acquired heart defects. Mitral valve prolapse

Acquired heart defects. Mitral valve insufficiency. Mitral stenosis. Insufficiency of the aortic valve. Aortic stenosis. Etiology of valvular defects. The pathogenesis of hemodynamic disorders in acquired heart defects. Clinical manifestations, direct and indirect signs of heart defects. The importance of instrumental methods in the diagnosis of heart defects (ECG, EchoCG, cardiac X-ray, MRI).

Combined heart defects: features of clinical manifestations, determination of the prevalence of the defect, diagnosis, course, complications, prognosis. Relative and absolute valve insufficiency. Complications of acquired heart defects. Causes of decompensation of heart defects. Prognosis of acquired heart defects. Principles of treatment of heart defects, indications for surgical treatment. Features of medical tactics for managing patients with prosthetic valves. Mitral valve prolapse. Definition. Causes of primary and secondary mitral valve prolapse. Classification. Diagnostics. The

importance of electrocardiography and echocardiography for diagnosis. Course, complications, prognosis. Principles of therapeutic treatment, indications for surgical treatment. Minor cardiac anomalies (MCAs).

6.0 Joint diseases

6.1. Joints diseases. Rheumatoid arthritis

Prevalence of joint diseases, social significance, nomenclature.

Rheumatoid arthritis: definition, epidemiology, pathogenesis. The role of genetic factors. Clinical manifestations. Laboratory and instrumental diagnostics. Diagnostic criteria. Classification. Differential diagnosis of rheumatoid arthritis with gout, osteoarthritis, joint syndrome in systemic connective tissue diseases, acute rheumatic fever. Complications. Treatment: basic, pathogenetic, symptomatic, non-medicinal methods of treatment, physical rehabilitation. Prevention of exacerbations. Forecast.

Palliative care for patients with diseases of the musculoskeletal system and connective tissue with loss of the ability to self-care and the presence of persistent pain syndrome.

6.2 Osteoarthritis. Gout

Osteoarthritis: definition, prevalence, etiology and pathogenesis, risk factors. Clinical manifestations depend on the localization of the process. Diagnostics. Differential diagnosis. Drug and non-drug treatment. Physical rehabilitation. Prevention of progression. Outcomes. Forecast.

Gout: definition, epidemiology. Causes of primary and secondary hyperuricemia. The pathogenesis of gout. Classification. The main clinical syndromes. Acute attack of gout: provoking factors, clinical manifestations. Laboratory and instrumental diagnostics. Differential diagnosis. Complications of gout. Principles of gout treatment: basic, anti-inflammatory, relief of acute gout attack. Forecast. Prevention.

7.0 Systemic connective tissue diseases

7.1 . Systemic lupus erythematosus. Systemic sclerosis. Dermatomyositis/polymyositis

Systemic lupus erythematosus: definition, epidemiology, etiology and pathogenesis. Clinical manifestations. Laboratory and instrumental diagnostics. Classification. Diagnostic criteria. Differential diagnosis. Course. Principles of treatment. Outcomes. Complications. Forecast.

Systemic sclerosis: definition, epidemiology, etiology and pathogenesis. Clinical manifestations. Laboratory and instrumental diagnostics. Classification. Diagnostic criteria. Differential diagnosis. Principles of treatment. Outcomes. Forecast.

Dermatomyositis/polymyositis: definition, epidemiology, etiology and pathogenesis. Clinical manifestations. Laboratory and instrumental diagnostics. Diagnostic criteria. Differential diagnosis. Primary and secondary dermatomyositis/polymyositis. Treatment. Course. Forecast.

7.2. Systemic vasculitis

Etiology and pathogenesis. Classification. Principles of diagnosis and treatment of systemic vasculitis.

Vasculitis with a predominant lesion of small vessels (Schoenlein-Henoch purpura, IgA vasculitis, granulomatosis with polyangiitis): clinical manifestations, course options, diagnosis, treatment.

Vasculitis with predominant damage to medium-sized vessels (polyarteritis nodosa): clinical manifestations, course options, diagnosis, treatment.

Vasculitis with predominant damage to large vessels (nonspecific aortoarteritis, temporal arteritis): clinical manifestations, course options, diagnosis, treatment. Diagnostic criteria of polymyalgia rheumatica.

**EDUCATIONAL METHODOLOGICAL CARD FOR THE ACADEMIC DISCIPLINE
"INTERNAL DISEASES"**

Section number	Section number, topic title	Number of classroom hours				Number of hours of supervised independent work of students	Forms of knowledge assessment
		Lectures	Ppractical classes	Laboratory classes	Other		
1	2	3	4	5	6	7	8
	4th year						
	Lectures:						
	7th semester						
1	History, subject and objectives of the academic discipline "Internal diseases". Organization of therapeutic care in the Republic of Belarus. Arterial hypertension.	2					
2	Atherosclerosis. Coronary heart disease. Angina pectoris.	2					
3	Acute coronary syndrome.	2					
4	Myocardial infarction.	2					
5	Circulatory insufficiency (syncope, collapse, acute and chronic heart failure).	2					
6	Pulmonary embolism (PE). Pulmonary hypertension. Cor pulmonale.	2					
7	Inflammatory kidney diseases	2					
8	Acute kidney injury. Chronic kidney disease.	2					
9	Acid-associated diseases.	2					
	8th semester						
8	Functional biliary disorders. Chronic pancreatitis.	2					

9	Chronic hepatitis. Metabolic liver diseases. Functional hyperbilirubinemia.	2					
10	Liver cirrhosis. Hereditary liver diseases.	2					
11	Enteropathies. Irritable bowel syndrome. Inflammatory bowel disease.	2					
12	Pneumonia. Suppurative lung diseases. Hemoptysis. Pleural effusion.	2					
13	Acute and chronic bronchitis. Chronic obstructive pulmonary disease.	2					
14	Bronchial asthma. Bronchiectasis.	2					
	Practical classes:						
	7th semester						
1	Arterial hypertension.		6				Oral examination, testing, practical skills assessment
2	Atherosclerosis. Coronary heart disease. Angina pectoris.		6				Oral examination, testing, practical skills assessment
3	Acute coronary syndrome. Myocardial infarction.		6				Oral examination, testing, practical skills assessment
4	Circulatory insufficiency (syncope, collapse, acute and chronic heart failure).		6				Oral examination, testing, practical skills assessment
5	Pulmonary embolism (PE). Pulmonary hypertension. Cor pulmonale.		6				Oral examination, testing, practical skills assessment
6	Inflammatory kidney diseases.		6				Oral examination, testing, practical skills assessment
7	Acute kidney injury. Chronic kidney disease.		6				Oral examination, testing, practical skills assessment
	8th semester						

9	Acid-associated diseases.		6				Oral examination, testing, practical skills assessment
10	Functional biliary disorders. Chronic pancreatitis.		6				Oral examination, testing, practical skills assessment
11	Chronic hepatitis. Metabolic liver diseases. Functional hyperbilirubinemia.		6				Oral examination, testing, practical skills assessment
12	Liver Cirrhosis. Hereditary liver diseases.		6				Oral examination, testing, practical skills assessment
13	Enteropathy. Irritable bowel syndrome. Inflammatory bowel diseases.		6				Oral examination, testing, practical skills assessment
14	Pneumonia. Suppurative lung diseases. Hemoptysis. Pleural effusion		6				Oral examination, testing, practical skills assessment
15	Acute and chronic bronchitis. Chronic obstructive pulmonary disease		6				Oral examination, testing, practical skills assessment
16	Bronchial asthma. Bronchiectasis.		6				Oral examination, testing, practical skills assessment
	5th year						
	Lectures:						
	9th semester						
1	Diseases of joints. Rheumatoid arthritis	2					
2	Osteoarthritis. Gout	2					
3	Systemic lupus erythematosus. Systemic sclerosis. Dermatomyositis/polymyositis	2					
4	Systemic vasculitis	2					
	10th semester						

5	Myocarditis. Pericarditis. Cardiomyopathy	4					
6	Infectious endocarditis	2					
7	Arrhythmias and heart blocks	2					
	Practical classes:						
	9th semester						
1	Myocarditis. Pericarditis. Cardiomyopathy		6				Oral examination, testing, practical skills assessment
2	Infectious endocarditis		6				Oral examination, testing, practical skills assessment
3	Arrhythmias and heart blocks		12				Oral examination, testing, practical skills assessment
4	Acute rheumatic fever. Chronic rheumatic heart disease		6				Oral examination, testing, practical skills assessment
5	Acquired heart defects. Prolapse of the mitral valve		6				Oral examination, testing, practical skills assessment
	10th semester						
6	Diseases of joints. Rheumatoid arthritis		6				Oral examination, testing, practical skills assessment
7	Osteoarthritis. Gout		6				Oral examination, testing, practical skills assessment
8	Systemic lupus erythematosus. Systemic sclerosis. Dermatomyositis/polymyositis		11				Oral examination, testing, practical skills assessment
9	Systemic vasculitis		6				Oral examination, testing, practical skills assessment

INFORMATION AND METHODOLOGICAL PART

BASIC LITERATURE

1. Emergency conditions in diseases of internal organs = Emergency conditions in internal organs diseases: textbook. allowance for foreigners. students of higher education institutions. education in the specialty "Medicine. the case" / E. G. Malaeva, T. V. Aleynikova, O. A. Yarmolenko, T. A. Kurman ; Ministry of Health of the Republic. Belarus, educational institution "Gomel. gos. med. un-t". - Gomel: GomSMU, 2025. – 283 p.

ADDITIONAL LITERATURE

2. Alekseeva, E. S. Gallstone disease, chronic cholecystitis and functional biliary disorders in outpatient practice = Gallstone disease, chronic cholecystitis and functional biliary disorders in outpatient practice : textbook.-method. aid / E. S. Alekseeva, V. V. Droshenko ; Bel. state. med. un-t, Dept. polyclinic therapy. – Minsk: BSMU, 2024. – 39 p.: ill., tabl. – URL: <https://rep.bsmu.by/handle/BSMU/44607> (accessed: 17.04.2026).

3. Buinevich, I. V. Urgent conditions in pulmonology = Urgent conditions in pulmonology : textbook. – method. manual / I. V. Buinevich, E. N. Platoshkin, N. E. Platoshkin ; UO "Gomel State Medical University". University, Department of Phthisiology and Pulmonology with a course in Phthisiology and Pulmonology, Department of Internal Diseases No. 2 with a course in Phthisiology and Pulmonology. – Gomel: GomSMU, 2023. – 57 p. : ill., tabl. ; 60x84/8. – Rec. UMO for Higher Medical and Pharmaceutical Education.

4. Internal Diseases: Electronic Educational and Methodological Complex on the Subject "Internal Diseases" for Students of Higher Education Institutions Studying the Specialty "Medicine" / Gomel State Medical University. University of Medicine, Faculty of Medicine, Department of Internal Medicine No. 1 with a course in endocrinology; comp.: E. G. Malaeva, S. A. Khoduleva, E. V. Citko [and others]. Gomel: GomSMU, 2025. URL: <https://dl.gsmu.by/course/view.php?id=134> . (date of access: 04/17/2026).

5. Clinical electrocardiography = Clinical electrocardiography : a manual for students of higher education institutions. education students studying in the specialty 1-79 01 01 "Lech. delo" / Ministry of Health of the Republic of Belarus, Educational institution "GrSMU", 1st Department of Internal Diseases; V. M. Pyrochkin [et al.]. Grodno : GrSMU, 2019. - 199 p.

6. Clinical research methods for patients with respiratory diseases = Clinical examination methods in the case of respiratory diseases : textbook.- the method. the manual / Ministry of Health of the Republic. Belarus, Bel. gos. med. University, Department of Propaedeutics of Internal Diseases; G. M. Khvashchevskaya [et al.]. - Minsk : BSMU, 2023. - 27, [3] p.

7. Braunwald's Heart disease : a textbook of cardiovascular medicine / ed. by Douglas P. Zipes [et al.] ; ed. and online ed. : Eugene Braunwald. – 11th ed. – [Philadelphia]: Elsevier, 2019. – xxviii, 1944, DI-4, I-64 p. : ill., col. phot., tab. + Expert consult online.

8. Chronic kidney disease, dialysis, and transplantation: a companion to Brenner and Rector's The Kidney / J. Himmelfarb, T. Alp Ikizler. – 4th ed. – [Philadelphia] : Elsevier, 2019. – xii, 779 p. : ill., phot., tab. + Expert consult online.

9. Davidson's Essentials of medicine / ed. by J. Alastair Innes. – 3rd ed. – Edinburgh [et al.] : Elsevier, 2021. – xvii, 863 p. : ill., tab.

10. Hampton, J. 150 ECG Cases / John Hampton, David Adlam, Joanna Hampton. – 5th ed. – Edinburgh : Elsevier, 2019. – xiii, 313 p. : ill.

11. Internal medicine: critical care : textbook : for students of higher education establishments - med. univ., inst. and acad. / ed. by O. Ya. Babak, O. M. Bilovol. - Kyiv : AUS Medicine Publishing, 2018. - 367 p. : ill., tab.

12. Kumar & Clark's clinical medicine / ed. by A. Feather, D. Randall, M. Waterhouse ; forew. by P. J. Kumar, M. L. Clark. – 10th ed. – London [et al.] : Elsevier, 2021. – xix, 1544 p. : col. ill., tab. + Student consult online.

ELECTRONIC DATABASES

13. BookUp. The Great Medical Library: [website]. – URL: <https://www.books-up.ru/ru/catalog/bolshaya-medicinskaya-biblioteka/> (accessed on 17.04.2026).

14. MedBaseGeotar: reference and information system [website]. – URL: <https://medbase.ru/pages/index.html> (accessed on 17.04.2026).

15. Wiley. Online Library: [website]. – URL: <https://onlinelibrary.wiley.com/> (date of access: 17.04.2026). 4. Znanium: electronic library system: [website]. – URL: <https://znanium.ru/> (date of access: 17.04.2026).

ELECTRONIC EDUCATIONAL AND METHODOLOGICAL COMPLEX

Internal Diseases: Electronic Educational and Methodological Complex on the Academic Subject "Internal Diseases" for Students of Higher Education Institutions Studying the Specialty "Medicine" [Electronic Resource] / GomSMU, Faculty of Medicine, Department of Internal Diseases No. 1 with a Course in Endocrinology; compiled by E. G. Malayeva, S. A. Khoduleva, E. V. Tsitko, A. N. Tsyruhnikova, Z. V. Grekova, T. V. Aleynikova, O. A. Yarmolenko, and O. B. Khodunov. –Gomel:GomSMU,2025.– Mode of access: <https://dl.gsmu.by/course/view.php?id=134>

LIST OF TOOLS USED TO DIAGNOSTICATE THE RESULTS OF EDUCATIONAL ACTIVITIES

The assessment of the students' learning outcomes is carried out using the department's assessment tools, which include:

- a list of questions for the midterm assessment (test, exam);
- test assignments;
- a set of situational problems;
- inpatient (outpatient) medical records;
- results of laboratory and instrumental examinations of patients (a set of X-rays/cardiograms, etc.);

- communicative tasks (including those using simulation equipment, the "Simulated Patient" method);
- OSCE examination station passports for the academic discipline;
- simulation equipment;

The following forms are used to diagnose competencies during assessment:

Orally:

Oral survey;

Written:

Written tests;

Standardized tests;

Assessment based on a modular rating system;

Assessment based on the developing cooperation method;

Assessment based on the project-based method,

Assessment based on the case study method;

Assessment based on a business game;

Oral and written forms:

reports about classroom practical exercises with their oral defense;

reports about home practical exercises with their oral defense;

Technical form:

e-tests.

Simulation-based assessment:

assessment of communicative skills using a standardized (simulated) patient;

assessment using electronic-mechanical simulators and robotic training devices;

assessment using virtual simulators;

assessment using combined (multicomponent) simulators, including elements of oral, written, and technical diagnostics.

Midterm assessment for the academic discipline is conducted in the form of a credit (semesters 7 and 9) and an exam (semesters 8 and 10).

The credit/differentiated credit/exam is conducted in oral/written/oral-written/simulation (OSCE) form and includes:

an oral survey on the questions of the examination card.

LEARNING OUTCOMES

As a result of studying the academic discipline “Internal Diseases”, the student must

know:

Definition, etiology, pathogenesis, clinical manifestations, diagnostic methods, differential diagnosis, principles of emergency care, treatment and prevention of major internal diseases, principles of patient rehabilitation;

rules of medical ethics and deontology;

be able to:

Conduct a patient examination and evaluate any changes identified in various organs and systems;

Develop and justify an examination plan for differential diagnosis in patients with lung damage, bronchial obstruction, heart pain, heart murmurs and cardiomegaly, arterial hypo- and hypertension, cardiac arrhythmia and conduction disturbances, myocardial damage, syncope, shock, abnormal urinary tests, hepatomegaly, hepatosplenic syndrome, jaundice, gastric and intestinal dyspepsia, gastrointestinal bleeding, lymphadenopathy and splenomegaly, anemia, hemoblastosis, hemorrhagic syndrome, joint damage, and adverse drug reactions;

Determine and prescribe the minimum laboratory and instrumental tests necessary to establish a diagnosis;

Assess and interpret the obtained examination results;

Select the optimal treatment strategy for the patients, prescribe individualized drug therapy taking into account the mechanism of action, pharmacokinetics, and pharmacodynamics of the drugs, prevent their unwanted side effects, and possible interactions with other drugs when prescribed concomitantly; and recommend non-drug therapy;

Select the dosage form, dose, and route of administration of medications, and implement the dosing regimen;

Maintain medical records (compile medical histories: examinations, rounds, research justifications, diaries, prescription sheets, and expert assessments);

Write a doctor's prescription for routine medications, including taking into account social entitlements to subsidized medications;

Provide emergency medical care for the most common emergency conditions encountered in practice;

Ensure continuity in the provision of examinations and treatment in outpatient and inpatient settings;

Develop a patient rehabilitation program and monitor its implementation;

Give the patient recommendations on primary prevention and a healthy lifestyle, taking into account their health status;

Use educational, scientific and reference literature;

Comply with the rules of medical ethics and deontology;

master:

Electrocardiogram recordings and evaluations;

Spirometry, X-ray, and chest CT evaluations; pH monitoring of the esophagus and stomach;

Blood typing and Rh factor determinations;

Subcutaneous, intramuscular injections, and intravenous infusions;

Gastric lavage;

Interpretation of laboratory and instrumental examination data for internal organ diseases;

Use of assessment scales (hypertension risk stratification, HAS-BLED, GRACE, CHA2DS2-VASc, Child-Pugh, psychometric tests for liver cirrhosis, assessment of IBD activity indices, nutritional status, Glasgow Coma Scale);

Use of medical calculators (CURB-65, SCF, BMI, etc.);

Cardiopulmonary-cerebrovascular resuscitation;

Use of clinical protocols for the diagnosis and treatment of internal organ diseases;

Use of diet therapy for internal organ diseases.

The student must acquire not only theoretical knowledge, practical skills and abilities in the specialty, but also develop their value-personal and spiritual potential, understand the social significance of their future professional activity, learn to observe academic and work discipline, the norms of medical ethics and deontology, and also understand the educational aspect of the educational content.

LIST OF PRACTICAL SKILLS DEVELOPED IN THE STUDY OF AN ACADEMIC DISCIPLINE USING SIMULATION-BASED TRAINING TECHNOLOGIES

4th year

1. Pain management in acute coronary syndrome.
2. Treatment of the cardiogenic shock.
3. Cardiopulmonary resuscitation.
4. Management of cardiac asthma and pulmonary edema.
5. Management of hypertensive crisis.
6. Treatment of the patients with circulatory failure.
7. Electrical defibrillation.
8. Recording and interpreting ECGs.
9. Reading plain chest radiographs, fluorograms, and CT scans.
10. Functional tests in the diagnosis of coronary heart disease (methods and interpretation).
11. Interpretation of laboratory tests in therapy.
12. EGDS: concepts, indications, and contraindications.
13. Evaluation of ultrasound data of the abdominal cavity and retroperitoneal space, heart (echocardiography), and blood vessels.
14. Emergency care for gastrointestinal bleeding.
15. Management of hepatic colic.
16. Emergency care for hepatic coma.
17. Emergency care for renal colic.
18. Emergency care for acute kidney injury and uremic coma.
19. Introduction to hemodialysis and blood ultrafiltration techniques, indications, and contraindications.
20. Performing a pleural puncture;
21. Evaluation of spirometry and peak flowmetry data;
22. Management of an asthma attack and status asthmaticus;
23. Providing emergency care for spontaneous pneumothorax;
24. Providing emergency care for pulmonary hemorrhage.

5th year

1. Cardiopulmonary resuscitation.
2. Electrical defibrillation.
3. Recording and interpreting an ECG.
4. Determining blood type and Rh factor.

5. Techniques for performing subcutaneous, intramuscular injections, and intravenous infusions.
6. Emergency care for hypertensive crisis.
7. Emergency care for cardiogenic shock.
8. Emergency care for acute left ventricular failure (cardiac asthma, pulmonary edema).
9. Emergency care for acute rhythm disturbances (paroxysmal tachycardia, fibrillation, atrial flutter, ventricular fibrillation).
10. Emergency care for Morgagni-Adams-Stokes syndrome.
11. Emergency care for pulmonary embolism.
12. Emergency care for gastrointestinal bleeding.
13. Transfusion of blood, its components, and blood substitutes.
14. Compiling medical records for admitted patients.
15. Prescribing medications (list of medications included).

PROTOCOL OF THE AGREEMENT OF THE CURRICULUM

Name of the academic discipline for which consent is required	Name of the Department	Proposals for changes to the curriculum content of an educational institution for an academic discipline	The decision made by the department that developed the curriculum
Occupational diseases	Department of Phthisiopulmonology with the course of Advanced Training and Retraining	There are no proposals for additions or changes.	
Clinical pharmacology	Department of General and Clinical Pharmacology	There are no proposals for additions or changes.	
Outpatient therapy	Department of Polyclinic (Out-patient) Therapy and General Medical Practice with the course of Advanced Training and Retraining	There are no proposals for additions or changes.	

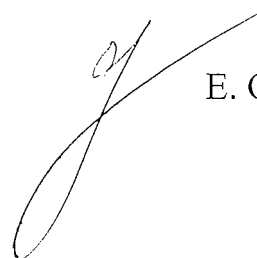
THE COMPILERS:

Head of the Department of Internal Diseases №2 with the course of Faculty of Advanced Training and Retraining, PhD of Medicine, Associate Professor of the educational institution "Gomel State Medical University"



E. N. Platoshkin

Head of the Department of Internal Diseases №1 with courses of endocrinology and hematology, PhD of Medicine, Associate Professor of the educational institution "Gomel State Medical University"



E. G. Malaeva

Associate Professor of the Department of Internal Diseases №2 with the course of Faculty of Advanced Training and Retraining, PhD of Medicine, Associate Professor of the educational institution "Gomel State Medical University"



S. A. Shut

Senior lecturer at the Department of Internal Diseases №1 with courses of endocrinology and hematology of the educational institution "Gomel State Medical University"



A. N. Tsyruhnikova

Senior lecturer at the Department of Internal Diseases №2 with the course of Faculty of Advanced Training and Retraining of the educational institution "Gomel State Medical University"



S. G. Seifidinova

The design of the curriculum and accompanying documents meets the established requirements.

Methodologist of the educational and methodological department of the educational institution "Gomel State Medical University"



E.F. Storogic

Head of the Department of Acquisition, Cataloging, and Scientific Processing of Documents at the Gomel State Medical University



P.K. Klimenkova