

MINISTRY OF HEALTH OF THE REPUBLIC OF BELARUS
Educational Institution
BELARUSIAN STATE MEDICAL UNIVERSITY

APPROVED

by Rector of the Educational
Institution «Belarusian State
Medical University»

S.P.Rubnikovich



**Контрольный
экземпляр**

INTERNAL DISEASES

**Curriculum of the educational institution
in the academic discipline for the specialty**

1-79 01 07 «Dentistry»

Curriculum is based on the educational program «Internal Diseases» approved 15.11.2023, registration # УД-07-28/2324/уч.; on the educational plan in the specialty 1-79 01 07 «Dentistry», approved 17.05.2023, registration # 7-07-0911-03/2324/mf.

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RECOMMENDED FOR APPROVAL:

by the Department of Propaedeutics of Internal Diseases of the educational institution «Belarusian State Medical University»
(protocol # 3 of 26.09.2023);

by the Scientific and Methodological Council of the educational institution «Belarusian State Medical University»
(protocol #11 of 15.11.2023)

EXPLANATORY NOTE

«Internal Diseases» is an academic discipline of the module «General Clinical Therapy Module # 1», which contains systemic scientific knowledge about the methods of clinical diagnosis, principles of treatment and prevention of diseases of internal organs.

The purpose of the academic discipline «Internal Diseases» is to form basic professional competence for the patient's examination, medical prevention of main internal disease and providing medical care in emergency conditions.

The objectives of studying the academic discipline «Internal Diseases» are to develop students' scientific knowledge about the causes, mechanisms of development, risk factors and the most important clinical manifestations of typical diseases of internal organs, methods of examining patients; skills and abilities necessary for:

- the patient's examination;
- interpretation of the results of laboratory and instrumental research methods;
- constructing a clinical diagnosis;
- developing a plan for diagnosis, treatment and prevention of major diseases of internal organs;
- providing medical care for conditions that pose a threat to human life and (or) health.

The knowledge, abilities and skills acquired during the study of the academic discipline «Internal Diseases» are necessary for the successful study of the disciplines «Infectious Diseases», «Dermatovenereology», «Forensic Medicine», «Clinical Pharmacology».

A student who has mastered the content of the educational material of the academic discipline «Internal Diseases» should have the following basic professional competence:

BPC. Use knowledge about the etiology and pathogenesis, clinical manifestations, complications, methods of diagnosis and differential diagnosis, apply the principles of treatment and prevention in diseases and injuries in adults and children, provide medical care in emergency conditions.

As a result of studying the discipline «Internal Diseases» students should

know:

etiology, pathogenesis, classification, clinical picture, diagnostic methods, principles of treatment and prevention of the most common diseases of internal organs;

diagnostic methods, emergency medical care and medical tactics in case of a conditions that pose a threat to human life and (or) health;

rules of medical ethics and deontology;

be able to:

plan and conduct communicative interaction with the patient based on the assessment of his mental and personal characteristics, individual reaction to the disease;

conduct a clinical examination of a patient with diseases of internal organs;

create a plan for laboratory and instrumental patient's examination;
 interpret the results of the patient's examination;
 provide medical care in case of life-threatening conditions;

master:

methods of physical examination of the patient;
 methodology of the formulation of the clinical diagnosis.

Total number of hours for the study of the discipline is 120 academic hours. Classroom hours according to the types of studies: lectures – 14 hours (including 5 hours of supervised student independent work), practical classes – 54 hours, student independent work (self-study) – 52 hours.

Intermediate assessment is carried out according to the syllabus of the specialty in the form of examination (6 semester).

Form of higher education – full-time.

**ALLOCATION OF ACADEMIC TIME
 ACCORDING TO SEMESTERS OF STUDY**

Code, name of the specialty	semester	Number of academic hours						Form of intermediate assessment
		total	in-class	including			out-of-class self-studies	
				lectures (including supervised independent work)	supervised student independent work	practical classes		
1-79 01 07 «Dentistry»	6	120	68	14	5	54	52	exam

THEMATIC PLAN

Section (topic) name	Number of class hours	
	lectures	practical
1. General plan of patient's examination. Basic and additional methods of patient's examination	2	3
2. Methods of clinical examination of patients with internal diseases	-	12
2.1. Methods of examination of patients with respiratory diseases	-	3
2.2. Methods of examination of patients with cardiovascular diseases	-	3
2.3. Methods of examination of patients with diseases of the digestive system	-	3
2.4. Methods of examination of patients with diseases of the urinary system, endocrine system, blood system	-	3
3. Respiratory diseases	2	6
3.1. Pneumonia. Pleurisy. Bronchial asthma. Chronic obstructive pulmonary disease	2	3
3.2. Emergency conditions in pulmonology	-	3
4. Cardiovascular diseases	4	12
4.1. Arterial hypertension. Atherosclerosis. Coronary heart disease: angina pectoris, myocardial infarction	1	3
4.2. Chronic rheumatic heart disease. Infectious endocarditis. Mitral and aortic heart diseases	1	3
4.3. Acute and chronic heart failure. Heart arrhythmias and conduction disorders	1	3
4.4. Cardiovascular emergencies. Cardiopulmonary resuscitation	1	3
5. Diseases of the digestive system	2	6
5.1. Stomach ulcer, duodenal ulcer. Gastritis. Hepatitis. Cirrhosis of the liver	1	3
5.2. Emergency conditions in gastroenterology	1	3
6. Diseases of the kidneys and urinary tract. Pyelonephritis. Glomerulonephritis. Acute and chronic renal failure	2	3
7. Diseases of the musculoskeletal system and connective tissue. Acute allergic reaction	-	3
8. Diseases of the blood system. Anemia. Leukemia. Coagulopathy	1	3
9. Diseases of the endocrine system. Diabetes mellitus. Thyroid disease	1	3
10. Internal diseases proceeding in typical forms	-	3
Total hours	14	54

CONTENT OF THE EDUCATIONAL MATERIAL

1. General plan of patient's examination. Basic and additional methods of patient's examination

Interview. The importance of interview for the diagnosis of diseases. Psychotherapeutic influence of the doctor on the patient. The scheme of Interview: passport information, patient complaints at admission (main and additional), the history of the present disease, the patient's life history (physical and intellectual development, material and living conditions; expert labor, hereditary and allergic anamnesis)..

Inspection. The importance of inspection for the diagnosis of diseases. General rules and inspection techniques./

General inspection. General inspection. The general condition of the patient. Consciousness, types of its violation. The patient's position in bed (active, passive, forced). Body type. The concept of the constitutional type. Body temperature, types of temperature curves. Skin and visible mucous membranes. Discoloration of the skin. Pigmentation and depigmentation. Scars, rashes, hemorrhages, combs. Trophic changes: ulcers, bedsores, skin turgor. Development and distribution of subcutaneous fat. Edema, their localization, prevalence and severity. Methods of examination of lymph nodes. Diagnostic significance of changes detected during the examination of lymph nodes. Muscles: degree of development, tone, strength. Bones: shape, deformity, soreness. Joints: shape, mobility.

Palpation. Physical justification of the palpation method. General rules and techniques of palpation.

Percussion. Physical justification of percussion. General rules and techniques of percussion. Types of percussion.

Auscultation. Physical justification of the auscultation method. General rules and techniques of auscultation.

Additional methods of patient's examination.

Laboratory examination methods, their significance in diseases of internal organs. General blood analysis, biochemical blood analysis, urinalysis. A general idea of the diagnostic value of histological and cytological examination, biopsy of human organs, their role in the diagnosis of diseases of internal organs.

Instrumental diagnostic methods

X-ray examination. The importance of X-ray examination in the diagnosis of diseases of internal organs. Endoscopic examination methods. Ultrasound methods, their significance for the diagnosis of diseases of internal organs. Radioisotope methods. Methods of functional diagnostics: electrocardiography (ECG), spirometry.

Principles of epidemiological safety of medical care.

Examination of patients with diseases of internal organs: interview, general inspection, palpation, percussion, auscultation. Patient laboratory and instrumental examination planning, result interpretation. Making a diagnosis. Medical documentation fulfillment.

2. Methods of clinical examination of patients with internal diseases

2.1. Methods of examination of patients with respiratory diseases

Interview. The main complaints and their pathogenesis: dry cough, cough with sputum, persistent cough or paroxysmal cough, cough intensity; conditions for the appearance and relief of cough. Sputum characteristics: color, consistency, amount, odor; position of the patient, contributing to the best sputum evacuation. Hemoptysis, pulmonary bleeding: differences between pulmonary bleeding and nasopharyngeal bleeding, esophageal and gastric bleeding.

Chest pain: localization, type, possible connection with breathing or coughing. Shortness of breath, attacks of suffocation (inspiratory, expiratory, mixed dyspnea): mechanism of occurrence, diagnostic value.

Fever, sweating, chills. Voice change (hoarseness, aphonia), diagnostic value. Violation of nasal breathing, diagnostic value.

Inspection of patients with respiratory diseases. Forced position of the patient in case of asthma attack, pleural lesion, abscess, etc. Central cyanosis: mechanisms of formation. Nail clubbing (digital clubbing).

Chest shape: normosthenic (mesomorph), hypersthenic (endomorph), asthenic (ectomorph); pathological shapes: barrel chest (emphysematous), pigeon chest (pectus carinatum), funnel chest (pectus excavatum), asymmetric chest. Supra- and subclavian fossae, size of epigastric angle, position of the shoulder joints and clavicles. Chest symmetry (increase or decrease of one of the halves, local protrusion or sinking). Spine curvature (kyphosis, lordosis, scoliosis, kyphoscoliosis), diagnostic value. Chest circumference, chest excursion on inhalation and exhalation, diagnostic value of deviations from the norm.

Breath: type of breathing (thoracic, abdominal, mixed), symmetry of respiratory movements (lagging of one half in breathing), participation of auxiliary muscles in breathing, number of breaths per minute, depth of breathing (shallow, deep, Kussmaul breathing), breathing rhythm (rhythmic, arrhythmic, including Cheyne-Stokes respiration, Biot's respiration), objective signs of difficulty in inhaling and exhaling (inspiratory, expiratory and mixed dyspnea).

Palpation. Chest palpation technique. Identification of painful areas, their localization. Determination of resistance (elasticity) of the chest and pain points. The evaluation of vocal fremitus in symmetrical areas. Diagnostic value of chest palpation. Palpatory perception of chest vibrations in dry pleurisy.

Percussion. Comparative percussion, rules and technique. Percussion sounds in symmetrical chest areas in case of norm and pathology (clear resonant sound, dull, flatness, tympanic, hyper-resonant). Diagnostic value of comparative lung percussion.

Auscultation. Technique of lung auscultation. The concept of normal and pathological (adventitious) respiratory sounds, mechanism of their formation and diagnostic value. Characteristics of respiratory sounds in norm and pathology, diagnostic value.

Rales: mechanism of formation. Dry and wet rales. Localization and amount of rales. The effect of coughing and deep breathing on the appearance and

disappearance of rales. Crepitation. Pleural friction rub sound. Diagnostic value of pathological respiratory sounds.

Bronchophony: method of evaluation, diagnostic value in case of lung and pleura diseases.

Laboratory and instrumental examination methods

Concept of laboratory and instrumental examination methods in case of respiratory diseases: sputum and pleural fluid tests, concept of lung radiography, spirometry, bronchoscopy.

Examination of patients with respiratory diseases: interview, general inspection, palpation, percussion, auscultation. Laboratory and instrumental examination planning, result interpretation. Making a diagnosis. Medical documentation fulfillment.

2.2. Methods of examination of patients with cardiovascular diseases

Interview. The main complaints and their pathogenesis: pain in the heart, mechanism of pain formation, nature of pain, pain localization, radiation, duration, intensity, relation to emotions, physical activity, night pain, methods of relief.

Dyspnea. Mechanism of cardiac dyspnea. Relation with physical activity and body position. Cardiac asthma, time and conditions of occurrence, duration, treatment.

Palpitations and interruptions in the work of the heart: type of arrhythmia (permanent, paroxysmal), duration, frequency, conditions of occurrence and finish. A feeling of pulsation in various parts of the body. Diagnostic value of heartbeat changes.

Cough, hemoptysis: character, mechanism of occurrence, diagnostic value.

Edema: the mechanism of formation, diagnostic value.

Headache, dizziness, vision disturbance: the mechanism of formation, diagnostic value.

Inspection. Patient's position. Skin color: erythema, pallor, cyanosis. Differences between central and peripheral cyanosis.

Edema, localization, prevalence, severity (pasty, moderate or pronounced edema). Accumulation of fluid in body cavities. Diagnostic value of edema.

Neck inspection: swelling and pulsation of veins. The difference between venous and arterial pulsation in the neck. Causes of pulsation in the neck, diagnostic value.

Examination of the heart area: cardiac hump. Cardiac pulsation. Apical impulse. Epigastric pulsation. Pathological pulsation in the heart, diagnostic value.

Palpation. Palpation of the apical and cardiac impulse. Characteristics of the apical impulse: localization, area, strength, height, resistance. Determination of systolic and diastolic tremors in the heart area. Palpation of the base of the heart. Diagnostic value of palpation of the heart area.

Percussion. Method of relative heart dullness borders estimation, vascular bundle percussion. Diagnostic value of relative heart dullness border changes.

Auscultation. Technique of auscultation of the heart. Heart auscultation in inspiration and expiration, at different patient's positions, at rest and in physical exertion. Heart sounds. Concept of heart sounds, mechanism of formation. The main sounds (1st and 2nd) and additional (3rd and 4th sounds, mitral valve opening sound,

systolic click). Main characteristics of heart sounds: strength, timbre. Heart sounds changes in pathology: weakening, strengthening, splitting, additional sounds. «Quail» rhythm, «gallop» rhythm, «pendular» rhythm, embryocardia. Tachycardia, bradycardia, arrhythmia.

Heart murmurs: mechanism of formation, classification. The difference between organic and functional heart murmurs. Systolic and diastolic heart murmurs. Places of the best listening heart murmurs, ways of conducting heart murmurs. Pericardial friction rub sound. Diagnostic value of cardiac murmurs.

Vascular examination. Inspection and palpation of the temporal, carotid, radial, popliteal arteries and dorsalis pedis arteries: pulsation, elasticity, tortuosity of the arteries, presence of nodules. Examination of veins. Dilation of the veins of the chest, abdominal wall, limbs. Thickening and soreness of the veins. Instrumental methods of vascular examination (ultrasound, angiography), the importance of these methods for the diagnosis of vascular diseases.

Examination of arterial pulse on radial arteries, comparison of pulse on both hands. Pulse rate, rhythm (presence of arrhythmia and pulse deficit). Volume, tension, speed and shape of the pulse.

Blood pressure (BP) measurement by Korotkov method: rules and technique. Systolic, diastolic, mean blood pressure, pulse blood pressure. Concept of arterial hypertension and hypotension.

Laboratory and instrumental examination methods. Diagnostic value of total cholesterol and lipoproteins level, total protein and proteinogram, electrolytes and other parameters of biochemical blood analysis.

Electrocardiography (method of registration, interpretation). Analysis of a normal electrocardiogram. X-ray examination of the heart (heart configuration), diagnostic value.

Examination of patients with cardiovascular diseases: interview, general inspection, palpation, percussion, auscultation. Laboratory and instrumental examination planning, result interpretation. Making a diagnosis. Medical documentation fulfillment.

2.3. Methods of examination of patients with diseases of the digestive system

Interview. The main complaints and their pathogenesis: pain, mechanism of occurrence, localization, radiation, relation with food intake, meal quality and type.

Characteristics of pain: type, intensity, time of the day, seasonality, duration, relief of pain.

Dyspeptic phenomena: dysphagia, odynophagia, nausea, vomiting, belching, heartburn, bloating (flatulence), relation with food intake, meal quality and type, methods of relieving dyspeptic phenomena. Appetite: decrease, increase (polyphagia), absence (anorexia). Aversion to food. Weight loss. Dry mouth, bitterness. Unpleasant taste, lack of taste. Drooling. Diagnostic value of changes in dyspeptic phenomena.

Stool: frequency, volume of bowel movements, color, shape, consistency, presence of impurities, blood, mucus. Causes, diagnostic value of various types of diarrhea. Constipation: mechanisms, diagnostic value.

Signs of esophageal, gastric, intestinal bleeding.

Inspection. Inspection of the oral cavity, pharynx, tonsils, posterior pharyngeal wall, condition of the oral mucosa, teeth. Inspection of the tongue: humidity, color, papillary layer, type of coated tongue.

Inspection of the abdomen in the vertical and horizontal patient's position. Abdominal regions. Abdomen shape, movement of the abdominal wall during breathing. Development of venous collaterals on the anterior abdominal wall («caput Medusae») and side walls. Hernias. Measurement of the abdomen circumference.

Percussion. Abdomen percussion. Percussion sound. Determination of free and drained fluid in the abdominal cavity. Method of evaluation of ascites in vertical and horizontal patient's position.

Palpation. Technique of superficial palpation of the abdomen. Condition of skin and subcutaneous tissue of the abdomen. Detection of hernias and divergences of the muscles of the anterior abdominal wall. Determination of painful places of the abdomen during palpation. Determination of resistance and muscle protection, diagnostic value.

Laboratory and instrumental examination methods. Diagnostic value of bilirubin level, alanine aminotransferase, aspartate aminotransferase, lactate dehydrogenase, amylase. The concept of pH-metric method.

Esophagogastroduodenoscopy, colonoscopy, rectoromanoscopy, ultrasound examination of abdominal organs.

Examination of patients with diseases of the digestive system: interview, general inspection, palpation, percussion, auscultation. Laboratory and instrumental examination planning, result interpretation. Making a diagnosis. Medical documentation fulfillment.

2.4. Methods of examination of patients with diseases of the urinary system, endocrine system, blood system

Methods of examination of patients with kidney and urinary tract diseases.

Interview. The main complaints and their pathogenesis. The mechanism of edema. The difference between renal edema and edema in patients with cardiovascular diseases. Dysuria, oliguria, polyuria, nocturia, pollakiuria, urine discoloration.

Headaches, shortness of breath, visual disturbances, dyspeptic phenomena, itching, bleeding, pain, renal colic.

Inspection. Appearance of a patient with kidney disease. Features of the edema, difference between renal edema and other edema. Skin scratches, uric acid crystals on the skin. Appearance of a patient in case of uremia. Swelling, bulging, asymmetry in the lumbar region. Evaluation of urine.

Palpation. The technique of palpation of the right and left kidneys. Nephroptosis, kidney displacement, kidney enlargement and pain. Examination of pain at the urethral points.

Percussion. Assessment of kidney tenderness symptom, diagnostic value.

Laboratory tests. Urinalysis. Nechiporenko's urine test. Zimnitsky's urine test. Diagnostic value of urea, creatinine, electrolytes (potassium, sodium, calcium), cholesterol, total protein and its fractions in blood serum in kidney disease.

Instrumental examination methods. Ultrasound examination of the kidneys. Concept of X-ray kidney examination. Plain X-ray of the kidney. Intravenous and retrograde pyelography. Nephroangiography. Concept of cystoscopy, catheterization of the bladder and ureters, chromocystoscopy, kidney scanning, radioisotope nephroangiography, kidney biopsy.

Methods of examination of patients with diseases of the endocrine system.

Interview. The main complaints and their pathogenesis in case of endocrine diseases. Dry mouth, thirst, polyuria, increased appetite, itching, muscle weakness, diarrhea or constipation, palpitations, fatigue, weight loss, fever.

Inspection. Inspection of patients with endocrine diseases: skin changes, facial expression, eye symptoms, goiter. Weight loss, obesity, body mass index calculation.

Palpation. Palpation of the thyroid gland.

Laboratory and instrumental methods of examination of patients with endocrine diseases.

Methods of examination of patients with diseases of the blood system.

Interview. The main complaints and their pathogenesis in blood diseases. Sore throat, bones, bleeding, fever.

Inspection. Appearance of a patient with a blood disease. Discoloration of skin and mucous membranes, enlargement of subcutaneous lymph nodes, bruising, petechiae.

Palpation. Technique of peripheral lymph nodes palpation.

Laboratory and instrumental methods of examination of patients with diseases of the blood system.

Examination of patients with urinary system diseases, endocrine system, blood system diseases: interview, general inspection, palpation, percussion, auscultation. Laboratory and instrumental examination planning, result interpretation. Making a diagnosis. Medical documentation fulfillment.

3. Respiratory diseases

3.1. Pneumonia. Pleurisy. Bronchial asthma. Chronic obstructive pulmonary disease

Pneumonia: etiology, pathogenesis, main clinical manifestations. Laboratory (examination of blood, sputum, pleural effusion) and instrumental (radiography, computed tomography) diagnostics, prevention, principles of treatment of pneumonia. Coronavirus infection COVID-19: etiology, pathogenesis, diagnosis, treatment.

Bronchial asthma: etiology, pathogenesis, risk factors, main clinical manifestations. Laboratory (examination of blood, sputum) and instrumental (bronchoscopy, spirometry, spirometry) methods of diagnosing bronchial asthma.

Pleurisy: etiology, pathogenesis, main clinical manifestations. Laboratory (examination of blood, pleural effusion) and instrumental (radiography, computed tomography) diagnostics, prevention, principles of treatment of pleurisy.

Chronic obstructive pulmonary disease (COPD): etiology, pathogenesis, main clinical manifestations. Laboratory (examination of blood, sputum) and instrumental (radiography, computed tomography, spirometry) diagnostics, prevention, principles of treatment and prevention of COPD.

Examination of patients with respiratory diseases: interview, general inspection, palpation, percussion, auscultation. Laboratory and instrumental examination planning, result interpretation. Making a diagnosis. Medical documentation fulfillment.

3.2. Emergency conditions in pulmonology

Bronchial asthma attack: emergency medical care and principles of treatment.

Obturation of trachea or large bronchus by a foreign body: clinical manifestations, emergency medical care.

Pulmonary hemorrhage: etiology, pathogenesis, clinical manifestations, laboratory and instrumental diagnostics, emergency medical care and principles of treatment. Examination of patients with respiratory diseases: interview, general inspection, palpation, percussion, auscultation. Laboratory and instrumental examination planning, result interpretation. Making a diagnosis. Medical documentation fulfillment.

4. Cardiovascular diseases

4.1. Arterial hypertension. Atherosclerosis. Coronary heart disease: angina pectoris, myocardial infarction

Arterial hypertension: etiology, pathogenesis, classification, main clinical signs. Instrumental and laboratory data for arterial hypertension. Principles of treatment of arterial hypertension. The concept of secondary hypertension.

Atherosclerosis: etiology and pathogenesis. The main biochemical parameters of lipid metabolism. Risk factors for atherosclerosis.

Coronary heart disease (CHD): definition, etiology, pathogenesis, classification, risk factors. Clinical forms of coronary heart disease.

Angina pectoris: the main clinical manifestations, characteristics of pain syndrome. Instrumental and laboratory data for angina pectoris (biochemical blood analysis, ECG, stress and pharmacological tests, 24 hour ECG-monitoring, coronary angiography). Principles of angina pectoris treatment.

Myocardial infarction: main clinical manifestations. Stages of the disease. Laboratory methods of investigation in myocardial infarction: creatine phosphokinase, MB fraction of creatine phosphokinase, troponin. ECG-signs of myocardial infarction. Echocardiography (heart ultrasound) in myocardial infarction. Principles of treatment and prevention of myocardial infarction.

Examination of patients with cardiovascular diseases: interview, general inspection, palpation, percussion, auscultation. Laboratory and instrumental examination planning, result interpretation. Making a diagnosis. Medical documentation fulfillment.

4.2. Chronic rheumatic heart disease. Infectious endocarditis. Mitral and aortic heart diseases

Chronic rheumatic heart disease: etiology, pathogenesis, main clinical manifestations, diagnosis, principles of treatment and prevention.

Infectious endocarditis: etiology, pathogenesis, main clinical manifestations, laboratory and instrumental diagnostics. The role of a dentist in the prevention of infectious endocarditis.

Mitral and aortic heart diseases: etiology, pathogenesis of hemodynamic disorders in mitral regurgitation, mitral stenosis, aortic regurgitation, aortic stenosis. The main clinical manifestations of mitral and aortic heart diseases, value of instrumental diagnostic methods (ECG, Echocardiogram).

Examination of patients with cardiovascular diseases: interview, general inspection, palpation, percussion, auscultation. Laboratory and instrumental examination planning, result interpretation. Making a diagnosis. Medical documentation fulfillment.

4.3. Acute and chronic heart failure. Heart arrhythmias and conduction disorders

Acute and chronic heart failure: etiology, classification, pathogenesis of hemodynamic disorders. Clinical manifestations of acute left ventricular heart failure. Clinical manifestations of chronic heart failure. Principles of treatment and prevention acute and chronic heart failure.

Clinical manifestations and ECG-signs of cardiac rhythm and conduction disorders: extrasystole, atrial fibrillation, ventricular fibrillation, atrioventricular block, His bundle branch blocks.

Examination of patients with cardiovascular disease: interview, general inspection, palpation, percussion, auscultation. Laboratory and instrumental examination planning, result interpretation. Making a diagnosis. Medical documentation fulfillment.

4.4. Cardiovascular emergencies. Cardiopulmonary resuscitation

Clinical manifestations of cardiogenic shock, acute vascular insufficiency (collapse, fainting). The difference between collapse and fainting. Emergency medical care for acute left ventricular failure, cardiogenic shock, fainting, collapse. Methods of cardiopulmonary resuscitation.

Carrying out cardiopulmonary resuscitation.

Examination of patients with cardiovascular emergencies: interview, general inspection, palpation, percussion, auscultation. Laboratory and instrumental examination planning, result interpretation. Making a diagnosis. Medical documentation fulfillment.

5. Diseases of the digestive system

5.1. Stomach ulcer, duodenal ulcer. Gastritis. Hepatitis. Cirrhosis of the liver

Acute and chronic gastritis, gastric and duodenal ulcers: etiology, pathogenesis, risk factors, main clinical manifestations, laboratory and instrumental diagnostics (esophagogastroduodenoscopy, pH-metry, biopsy), principles of treatment and prevention.

Chronic hepatitis: etiology, pathogenesis, risk factors, main clinical manifestations. Laboratory (bilirubin, total protein, proteinogram, enzymes) and instrumental (ultrasound) diagnostics, principles of treatment and prevention.

Liver cirrhosis: etiology, pathogenesis, main clinical manifestations, risk factors. Laboratory (bilirubin, total protein, proteinogram, enzymes, blood clotting parameters) and instrumental (ultrasound) diagnostics, principles of treatment.

Examination of patients with digestive system diseases : interview, general inspection, palpation, percussion, auscultation. Laboratory and instrumental

examination planning, result interpretation. Making a diagnosis. Medical documentation fulfillment.

5.2. Emergency conditions in gastroenterology

The main clinical signs of gastrointestinal bleeding. Differences between gastric and pulmonary bleeding. Principles of diagnosis of occult gastrointestinal bleeding. Emergency medical care for esophageal, gastric and intestinal bleeding.

Examination of patients with digestive system diseases: interview, general inspection, palpation, percussion, auscultation. Laboratory and instrumental examination planning, result interpretation. Making a diagnosis. Medical documentation fulfillment.

6. Diseases of the kidneys and urinary tract. Pyelonephritis. Glomerulonephritis. Acute and chronic renal failure

Acute and chronic glomerulonephritis, pyelonephritis: etiology, pathogenesis, clinical manifestations, risk factors. Laboratory (complete blood count, biochemical blood tests, urine tests) and instrumental (ultrasound) diagnostics, principles of treatment.

Acute renal failure (acute kidney injury), chronic renal failure (chronic kidney disease): etiology, classification, clinical manifestations. Laboratory and instrumental diagnostics, principles of treatment.

Examination of patients with kidney and urinary tract diseases: interview, general inspection, palpation, percussion, auscultation. Laboratory and instrumental examination planning, result interpretation. Making a diagnosis. Medical documentation fulfillment.

7. Diseases of the musculoskeletal system and connective tissue. Acute allergic reactions

Rheumatoid arthritis: etiology, pathogenesis, main clinical manifestations. Osteoarthritis: etiology, pathogenesis, main clinical manifestations. Laboratory and instrumental diagnostics of diseases of the musculoskeletal system, principles of treatment.

Concept of allergy. Etiology and pathogenesis of acute allergic reactions (urticaria, Quincke's edema, anaphylactic shock), the main clinical manifestations. Stevens-Johnson syndrome: etiology, main clinical manifestations. Emergency medical care for acute urticaria, Quincke's edema, anaphylactic shock.

Examination of patients with diseases of the musculoskeletal system and connective tissue diseases: interview, general inspection, palpation, percussion, auscultation. Laboratory and instrumental examination planning, result interpretation. Making a diagnosis. Medical documentation fulfillment.

8. Diseases of the blood system. Anemia. Leukemia. Coagulopathy

Anemia: definition, classification, etiology and pathogenesis. The main clinical manifestations and laboratory signs of anemia. Principles of treatment.

Acute and chronic leukemia: definition, classification, etiology and pathogenesis. Clinical manifestations of leukemia, laboratory and instrumental diagnostics, principles of treatment.

Coagulopathy: definition, classification, etiology and pathogenesis. Clinical manifestations, laboratory and instrumental diagnostics, principles of treatment.

Examination of patients with diseases of the blood system: interview, general inspection, palpation, percussion, auscultation. Laboratory and instrumental examination planning, result interpretation. Making a diagnosis. Medical documentation fulfillment.

9. Diseases of the endocrine system. Diabetes mellitus. Thyroid diseases

Diabetes mellitus: etiology, pathogenesis, classification. Clinical manifestations of diabetes mellitus. Laboratory examination methods in case of diabetes mellitus (blood glucose and acetone in urine, glucose tolerance test and glycemic profile, glycosylated hemoglobin). Principles of treatment and prevention of diabetes mellitus.

The main differential diagnostic criteria and emergency medical care for diabetic (hyperketonemic) and hypoglycemic comas.

Thyrotoxicosis, hypothyroidism: etiology, pathogenesis, main clinical manifestations. Laboratory and instrumental diagnostics, principles of treatment.

Examination of patients with endocrine system diseases: interview, general inspection, palpation, percussion, auscultation. Laboratory and instrumental examination planning, result interpretation. Making a diagnosis. Medical documentation fulfillment.

10. Internal diseases proceeding in typical forms

Examination of patients with diseases of internal organs proceeding in typical forms: interview, general inspection, palpation, percussion, auscultation. Laboratory and instrumental examination planning, result interpretation. Making a diagnosis. Medical documentation fulfillment.

ACADEMIC DISCIPLINE CURRICULAR CHART

Section, topic #	Section (topic) name	Number of hours				self-studies	Form of control
		lectures (including supervised independent work)	supervised student independent work	practical			
1.	General plan of patient's examination. Basic and additional methods of patient's examination	2	0,5	3	2	Interview	
2.	Methods of clinical examination of patients with diseases of internal organs	-	-	12	8		
2.1.	Methods of examination of patients with respiratory diseases	-	-	3	2	Interview; situational tasks and tests; written questioning; workbooks; electronic tests; evaluation using electronic-mechanical simulators and robot simulators; evaluation using virtual simulators	
2.2.	Methods of examination of patients with cardiovascular diseases	-	-	3	2	Interview; situational tasks and tests; written questioning; workbooks; electronic tests; evaluation using electronic-mechanical simulators and robot simulators; evaluation using virtual simulators	
2.3.	Methods of examination of patients with diseases of the digestive system	-	-	3	2	Interview; situational tasks and tests; written questioning; workbooks; electronic tests; evaluation using electronic-mechanical simulators and robot simulators; evaluation using virtual simulators	

2.4.	Methods of examination of patients with diseases of the urinary system, endocrine system, blood system.	-	-	3	2	Interview; written questioning; workbooks; electronic tests; situational tasks and tests
3.	Respiratory diseases	2	0,5	6	6	
	Respiratory diseases	2	0,5	-	-	
3.1.	Pneumonia. Pleurisy. Bronchial asthma. Chronic obstructive pulmonary disease	-	-	3	3	Interview; situational tasks and tests; written questioning; workbooks; electronic tests; evaluation using electronic-mechanical simulators and robot simulators; evaluation using virtual simulators
3.2.	Emergency conditions in pulmonology	-	-	3	3	Interview; situational tasks and tests; workbooks
4.	Cardiovascular diseases	4	2	12	12	
	Cardiovascular diseases	2	1	-	-	
	Heart failure. Heart rhythm and conduction disorders. Cardiovascular emergencies	2	1	-	-	
4.1.	Arterial hypertension. Atherosclerosis. Coronary heart disease: angina pectoris, myocardial infarction	-	-	3	3	Interview; situational tasks and tests; written questioning; electronic tests; evaluation using electronic-mechanical simulators and robot simulators; evaluation using virtual simulators
4.2.	Chronic rheumatic heart disease. Infectious endocarditis. Mitral and aortic heart diseases	-	-	3	3	Interview; situational tasks and tests; written questioning; electronic tests; evaluation using electronic-mechanical simulators and robot simulators; evaluation using virtual simulators
4.3.	Acute and chronic heart failure. Heart arrhythmias and conduction disorders	-	-	3	3	Interview; situational tasks and tests; written questioning; workbooks; electronic tests
4.4.	Cardiovascular emergencies. Cardiopulmonary resuscitation	-	-	3	3	Interview; situational tasks and tests; workbooks

5.	Diseases of the digestive system	2	0,5	6	6	6
	Diseases of the digestive system. Emergency conditions in gastroenterology	2	0,5	-	-	
5.1.	Stomach ulcer, duodenal ulcer. Gastritis. Hepatitis. Cirrhosis of the liver	-	-	3	3	Interview; situational tasks and tests; written questioning; electronic tests
5.2.	Emergency conditions in gastroenterology	-	-	3	3	Interview; situational tasks and tests; written questioning; workbooks; electronic tests
6.	Diseases of the kidneys and urinary tract. Pyelonephritis. Glomerulonephritis. Acute and chronic renal failure	2	1	3	6	
	Diseases of the kidneys and urinary tract	2	1	-	-	
	Diseases of the kidneys and urinary tract. Pyelonephritis. Glomerulonephritis. Acute and chronic renal failure	-	-	3	6	Interview; situational tasks and tests; written questioning; electronic tests
7.	Diseases of the musculoskeletal system and connective tissue. Acute allergic reactions	-	-	3	-	Interview; situational tasks and tests; written questioning; electronic tests
8-9	Diseases of the blood system. Diseases of the endocrine system	2	0,5	-	-	
8.	Diseases of the blood system. Anemia. Lenkemia. Coagulopathy	-	-	3	4	Interview; situational tasks and tests; written questioning; electronic tests
9.	Diseases of the endocrine system. Diabetes mellitus. Thyroid diseases	-	-	3	4	Interview; situational tasks and tests; written questioning; electronic tests
10.	Internal diseases proceeding in typical forms	-	-	3	4	Interview; situational tasks and tests; written questioning; workbooks; electronic tests; evaluation using electronic-mechanical simulators and robot simulators; evaluation using virtual simulators. Exam
	Total	14	5	54	52	

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.
3. Harrison`s principles of internal medicine. Vol. 1 / ed. by D. L. Longo, D. L. Kasper, J. L. Jameson [et. al]. – 20th ed. – 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]. – 20th ed. – New York [etc.] : McGrawHill Medical, 2018. – 3610 p.
5. Internal medicine: critical care : textbook / О. Ya. Babak [и др.]; ed. by. О. Ya. Babak, О. М. Bilovol. – Kyiv : AUS Medicine Publishing, 2018. – 368 p.

Additional:

6. Пронько, Г. П. Пропедевтика внутренних болезней = Propedeutics of internal diseases : учеб. пособие. – Минск : Адукацыя і выхаванне, 2020. – 472 с.
7. Арсентьева, И. Л. Symptoms, diagnosis, principles of treatment and prevention of acute allergic diseases – Минск : БГМУ, 2021.– 31 p.
8. Хващевская, Г. М. Учебная история болезни «Educational Case History in Internal Medicine (for Dentists)». Практикум. – Минск : БГМУ, - 2021. – 36 с.
9. Сиденко, В. М. Гастродуоденальные язвы = Peptic ulcer disease : учеб.-метод. пособие. – Минск : БГМУ, 2019. – 24 с.
10. Шолкова, М. В. Практические навыки по обследованию органов желудочно-кишечного тракта = Manual in gastrointestinal system examination. – Минск : БГМУ, 2019. – 40 с.
11. Переверзева, Е. В. Симптоматология, диагностика, принципы лечения анемий, гемобластозов = Semeiotics, diagnosis, principles of treatment of anemia and leukemia – Минск : БГМУ, 2019. – 16 с.
12. Практикум «Физикальные методы исследования» = «Physical examination methods» / Э. А. Доценко, [и др.]. – Минск : БГМУ, 2021.- 104 с.
13. Клиническая электрокардиография : пособие для студентов учреждений высшего образования, обуч. по спец 1-79 01 01 «Лечебное дело» = Clinical electrocardiography : manual for students of higher education institutions studying in the specialty 1-79 01 01 «Medical business»/ – Гродно : ГрГМУ, 2019. – 200 с.
14. Малаева, Е. Г. Гастроэнтерология = Gastroenterology: учеб. пособие для иностр. студентов учреждений высш. образования по мед. спец. / Е. Г. Малаева.– Гомель : ГомГМУ, 2017. – 124 с.

15. Emergency and urgent medical care: student training manual / О. Ю. Бодулев, О. М. Дикий, А. И. Могильник [и др.]; Ukrainian Medical Stomatological Academy; под общ. ред. Д. А. Шкурупия. – Винница : Нова книга, 2019. – 200 p.

16. Family medicine : textbook. In 3 books. Book 1. General issues of family medicine / О. М. Hyrina, L. М. Pasiyeshvili, О. М. Barna [и др.]; ed. by О. М. Hyrina, L. М. Pasiyeshvili. – Kyiv : AUS Medicine Publishing, 2016. – 555 p. – Семейная медицина. В 3 кн. Книга 1. Общие вопросы семейной медицины.

17. Family medicine : textbook. In 3 books. Book 2. Symptoms and Syndromes in Clinical Course of Internal Diseases / L. S. Babinets, О. М. Barna, S. V. Biletskyi [и др.] ; ed. by О. М. Hyrina, L. М. Pasiyeshvili. – Kyiv : AUS Medicine Publishing, 2018. – 376 p.

18. Family medicine : textbook. In 3 books. Book 3. Special part. Multidisciplinary general medical practice / L. S. Babinets, P. A. Bezditko, S. A. Bondar [и др.] ; ed. by О. М. Hyrina, L. М. Pasiyeshvili, L. S. Babinets. – Kyiv : AUS Medicine Publishing, 2020. – 615 p.

19. Internal medicine : critical care: textbook / О. Ya. Babak, [и др.]; ed. by О. Ya. Babak, О. М. Bilovol. – Kyiv : AUS Medicine Publishing, 2018. - 368 p.

20. Алексеева, Е. С. Нефротический синдром в амбулаторной практике = Nephrotic syndrome in outpatient practice : учеб.-метод. пособие / Е. С. Алексеева, В. В. Дрощенко, Е. В. Яковлева. – Минск : БГМУ, 2019. – 26 с.

21. Герасименюк, Д. С. Использование симуляционной технологии в неотложной медицине: сердечно-легочная реанимация = Medical simulation in emergency medicine: CPR training: учеб.-метод. пособие / Д. С. Герасименюк. – Минск : БГМУ, 2020. – 22 с.

METHODOLOGICAL RECOMMENDATIONS FOR THE ORGANIZATION AND PERFORMANCE OF STUDENT INDEPENDENT WORK IN THE ACADEMIC DISCIPLINE

Time for independent work can be used by students to:

- preparation for practical classes;
- exam preparation;
- studying of topics (questions) submitted for independent work;
- preparation of abstracts and presentations.

METHODOLOGICAL RECOMMENDATIONS FOR THE ORGANIZATION AND PERFORMANCE OF SUPERVISED STUDENT INDEPENDENT WORK IN THE ACADEMIC DISCIPLINE

Main forms of supervised student independent work:

- preparation for practical classes;
- fulfillment the workshop;
- preparation and presentation of abstracts;
- presentation of the report;
- computer testing;
- preparation and participation in active forms of education.

Control of supervised student independent work is carried out in the form of:
 test paper;
 the final class in the form of an oral interview, written work, testing;
 discussions of abstracts;
 assessment of an oral reply to a question, report or problem solving at the classes;
 checking up abstracts, written reports;
 checking the fulfilment of the workbook;
 individual interview.

LIST OF AVAILABLE DIAGNOSTIC TOOLS

The following forms are used for competences assessment:

Oral form:

interview;
 situational tasks and tests;

Written form:

written questioning;
 workbooks.

Oral - written form:

exam.

Technical form:

electronic tests.

Simulation form:

evaluation using electronic-mechanical simulators and robotic simulators;
 evaluation using virtual simulators.

LIST OF AVAILABLE TEACHING METHODS

Traditional method (lecture, practical classes);

Active (interactive) methods:

Case-Based Learning (CBL);

Research-Based Learning (RBL).

training based on simulation technologies.

LIST OF PRACTICAL SKILLS

List of practical skills in the academic discipline	Forms of practical skill control
1. Inspection of the skin and subcutaneous tissues.	Performing practical skills at the patient's bedside. Performing a practical skill using simulation equipment
2. Inspection and palpation of the lymph nodes of the head and neck.	
3. Inspection and palpation of the thyroid gland.	
4. Chest shape estimation (inspection and palpation).	

<ol style="list-style-type: none"> 5. Palpation of chest pain points. 6. Comparative percussion of the lungs. 7. Auscultation of the lungs. 8. Assessment the pulse on the radial, carotid arteries and dorsalis pedis artery. 9. Palpation of the apical impulse. 10. Auscultation of the heart. 11. Superficial palpation of the abdomen. 	<p>Performing practical skills at the patient's bedside.</p> <p>Performing a practical skill using simulation equipment</p>
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LIST OF EQUIPMENT USED

1. Mannequin for CPR «Mini-Ann».
2. Ambu breathing bag.
3. Multimedia projector/TV.
4. Peak flowmeter.
5. Pulse oximeter.
6. Mechanical tonometer.
7. A container with a lid for collecting household waste in healthcare organizations.
8. Stethoscope.
9. Electrocardiograph.
10. Manikin «Physico».
11. Auscultation manikin (heart and lung auscultation)
12. Auscultation simulator.
13. Abdominal palpation manikin.

LIST OF LECTURES

1. General plan of patient's examination. Basic and additional methods of patient's examination.
2. Respiratory diseases.
3. Cardiovascular diseases.
4. Heart failure. Heart rhythm and conduction disorders. Cardiovascular emergencies.
5. Diseases of the digestive system. Emergency conditions in gastroenterology.
6. Diseases of the kidneys and urinary tract.
7. Diseases of the blood system. Diseases of the endocrine system.

LIST OF PRACTICAL CLASSES

1. General plan of patient's examination. Basic and additional methods of patient's examination. Medical ethics and deontology.
2. Methods of examination of patients with respiratory diseases.
3. Methods of examination of patients with cardiovascular diseases.
4. Methods of examination of patients with diseases of the digestive system.

5. Methods of examination of patients with diseases of the urinary system, endocrine system, blood system.
6. Pneumonia. Pleurisy. Bronchial asthma. Chronic obstructive pulmonary disease.
7. Emergency conditions in pulmonology.
8. Arterial hypertension. Atherosclerosis. Coronary heart disease. Angina pectoris. Myocardial infarction.
9. Chronic rheumatic heart disease. Mitral and aortic heart diseases. Infectious endocarditis.
10. Acute and chronic heart failure. Heart arrhythmias and conduction disorders.
11. Cardiovascular emergencies. Cardiopulmonary resuscitation.
12. Stomach ulcer, duodenal ulcer. Gastritis. Hepatitis. Cirrhosis of the liver.
13. Emergency conditions in gastroenterology.
14. Diseases of the kidneys and urinary tract. Pyelonephritis. Glomerulonephritis. Acute and chronic renal failure
15. Diseases of the musculoskeletal system and connective tissue. Acute allergic reactions.
16. Diseases of the blood system. Anemia. Coagulopathy. Leukemia.
17. Diseases of the endocrine system. Diabetes mellitus. Thyroid disease.
18. Internal diseases proceeding in typical forms.

PROTOCOL OF THE CURRICULUM APPROVAL

BY OTHER DEPARTMENTS

Title of the discipline requiring approval	Department	Amendments to the curriculum in the academic discipline	Decision of the department, which designed the curriculum (date, protocol #)
Infectious Diseases	Infectious Diseases	There are no offers	protocol # or 26.09.2023
Dermatovenereology	Skin and Venereal Diseases	There are no offers	protocol # or 26.09.2023
Forensic Medicine	Pathological Anatomy and Forensic Medicine	There are no offers	protocol # or 26.09.2023
Clinical Pharmacology	Clinical Pharmacology	There are no offers	protocol # or 26.09.2023

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

Dean of the Medical Faculty for International Students of the Educational Institution «Belarusian State Medical University»

13.11.2023

O.S.Ishutin

Methodologist of the Educational Institution «Belarusian State Medical University»

13.11.2023

S.V.Zaturanova