

<b>1. General information</b>	
<b>Name of the faculty</b>	
Educational program (branch, specialty, level of higher education, form of education)	22 Healthcare, 222 Medicine, second (master's) level of higher education, full-time
Academic year	2023-2024
<b>Name of discipline,</b> code (e-mail address on the website of LNMU named after Danylo Halytsky	Internal medicine Mandatory componenets-28 <a href="https://new.meduniv.lviv.ua/kafedry/kafedra-vnutrishnoyi-medytsyny-1">https://new.meduniv.lviv.ua/kafedry/kafedra-vnutrishnoyi-medytsyny-1</a>
Department (name, address, phone, e-mail)	Department of Internal Medicine №1 79010, Lviv, street Nekrasova, 4 tel./fax: +38 (032) 276-97-63 <a href="mailto:kaf_internalmed_1@meduniv.lviv.ua">kaf_internalmed_1@meduniv.lviv.ua</a>
Head of the department (contact e-mail)	Prof. Abrahamovych Orest docorest@gmail.com
Year of study (year in which the study of the discipline)	6 year
Semester (semester in which the study of the discipline is implemented )	XI-XII
Type of course / module (compulsory / optional)	compulsory
Teachers (names,	DMSc., prof. Abrahamovich Orest docorest@gmail.com

<p>surnames, scientific degrees and titles of teachers who teach the discipline, contact email)</p>	<p>PhD, Assoc. Prof Lesya Mykolayivna Proniv Lesya1257@gmail.com PhD, Assoc. Prof Pliatsko Mykhailo Grygorovych drplzk@gmail.com</p>
<p>Erasmus yes / no (availability of the discipline for students within the Erasmus + program)</p>	<p>yes</p>
<p>Person responsible for the syllabus (person to be commented on the syllabus, contact e-mail)</p>	<p>DMSc., prof. Abrahamovych Orest docorest@gmail.com PhD, Assoc. Prof Bilous Zoriana <a href="mailto:zoryanabilous@gmail.com">zoryanabilous@gmail.com</a> PhD, Assoc. Prof Pliatsko Mykhailo drplzk@gmail.com</p>
<p>Number of ECTS credits</p>	<p>9,0 credits</p>
<p>Number of hours (lectures / practical classes / independent work of students)</p>	<p>270 hours, 0 lec./ 144 prac. c., 126 stud. self prep.,</p>
<p>Language of instruction</p>	<p>Ukr/eng</p>
<p>Information about consultations</p>	<p>onsultations are held as needed in the first and second semesters</p>
<p>Address and telephone number of the clinical base</p>	<p>"Lviv Regional Clinical Hospital", 79010, Lviv, st. Nekrasova, 4 tel./fax: +38 (032) 276-97-63</p>
<p><b>2. Short annotation to the course</b></p>	
<p>The organization of the educational process is carried out according to the European credit transfer system of the Organization of the educational process (ECTS). The program of "Internal Medicine" in the 5th year involves the study of the basics of internal medicine in its main sections (cardiology, rheumatology, nephrology and military therapy), with emphasis on the study of etiology, pathogenesis, clinic, diagnosis, treatment and</p>	

prevention of basic and the most common diseases of the internal organs.

Approximate duration of practical classes - 5.0 hours. The main purpose of this course is to teach students the basics of internal medicine. Emphasis is placed on the skills of interviewing and clinical examination of the patient, diagnosis, differential diagnosis, treatment and prevention of diseases of the internal organs, diagnosis and emergency care in case of emergency, as well as medical manipulations. Students participate in the diagnostic and treatment process of patients under the guidance of teachers of the department. It is also provided to master / get acquainted with the procedures most often used in the practice of internal medicine. Practical classes, clinical tours with assistants, associate professors and professors of the department are the main part of this course. Each student records and reports the clinical results of the patient's examination to the assistant on a daily basis and writes a patient card.

### **3. The purpose and objectives of the course**

1. The purpose of teaching the discipline "Internal Medicine" is the formation of the ability to apply the acquired knowledge, skills, abilities and understanding to solve typical problems of the doctor in the field of health care, the scope of which provides certain lists of syndromes and symptoms of diseases, emergencies and diseases. that require special tactics of patient management; laboratory and instrumental research, medical manipulations.

2. The main tasks of studying the discipline "Internal Medicine" are:

- conduct surveys and clinical examinations of patients with major diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue and analyze their results;
- determine the etiological and pathogenetic factors of the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue;
- analyze typical clinical signs, identify clinical variants and complications of the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue;
- establish a preliminary diagnosis of the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue;
- prescribe laboratory and instrumental examination of patients with the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue and their complications;
- on the basis of evaluation of laboratory and instrumental examination results, make a differential diagnosis, substantiate and establish a clinical diagnosis of the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue;
- determine the necessary mode of work and rest during the treatment of the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue;
- determine the necessary medical nutrition in the treatment of the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue;
- determine the principles and nature of treatment in the treatment of the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue;
- prescribe treatment, including prognostic-modifying, of the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue and their complications;
- determine the tactics of emergency medical care on the basis of a diagnosis of emergency;
- provide emergency medical care on the basis of an emergency diagnosis;
- carry out primary and secondary prevention of the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue;
- assess the prognosis and efficiency of patients with the most common diseases of the circulatory system, urinary system, musculoskeletal system and connective tissue;
- perform medical manipulations;

- keep medical records;
- adhere to the requirements of ethics, bioethics and deontology in their professional activities.

**3. Competences and learning outcomes**, the formation of which is facilitated by the discipline (relationship with the normative content of training of higher education, formulated in terms of learning outcomes in the EPP (Educational and professional programs).

According to the requirements of the EPP, the discipline provides students with the acquisition of **competencies**:

- *integral*:

ability to solve typical and complex specialized tasks and practical problems in professional activities in the field of health care, or in the learning process, which involves research and / or innovation and is characterized by complexity and uncertainty of conditions and requirements.

-*general*:

GC1. Ability to abstract thinking, analysis and synthesis.

GC2. Ability to learn and master modern knowledge.

GC3. Ability to apply knowledge in practical situations.

GC4. Knowledge and understanding of the subject area and understanding of professional activity.

GC5. Ability to adapt and act in a new situation.

GC6. Ability to make informed decisions.

GC7. Ability to work in a team.

GC8. Interpersonal skills.

GC9. Ability to communicate in the state language both orally and in writing.

GC 11. Skills in the use of information and communication technologies.

GC 12. Definiteness and perseverance in terms of tasks and responsibilities.

GC 13. The ability to act socially responsibly and consciously.

GC 15. Ability to act on the basis of ethical considerations (motives)

- *special (professional, subject)*:

PC1. Skills of interviewing and clinical examination of the patient.

PC2. Ability to determine the required list of laboratory and instrumental studies and evaluate their results.

PC3. Ability to establish a preliminary and clinical diagnosis of the disease.

PC4. Ability to determine the required mode of work and rest during the treatment of diseases.

PC5. Ability to determine the nature of nutrition in the treatment of diseases.

PC6. Ability to determine the principles and nature of disease treatment.

PC7. Ability to diagnose emergencies.

PC8. Ability to determine the tactics of emergency medical care.

PC9. Emergency care skills.

PC11. Skills to perform medical manipulations.

PC13. Ability to carry out sanitary and hygienic and preventive measures.

PC15. Ability to determine the tactics of management of persons subject to dispensary supervision.

PC16. Ability to conduct a performance examination.

PC17. Ability to keep medical records.

PC18. Ability to conduct epidemiological and medical-statistical studies of public health; processing of state, social, economic and medical information.

PC19. Ability to assess the impact of the environment, socio-economic and biological determinants on the health of the individual, family, population.

PC20. Ability to analyze the activities of a doctor, department, health care institution, to take measures to ensure the quality of medical care and improve the efficiency of medical resources.

PC21. Ability to conduct activities for the organization and integration of medical care and

marketing of medical services.
<b>4. Prerequisite of the course</b>
<p><b>Interdisciplinary links</b> are based on students' study of human anatomy, medical biology, histology, cytology and embryology, pathomorphology, physiology, pathophysiology, medical and biological physics, bioorganic and biological chemistry, microbiology, virology and immunology, pharmacology, radiology, radiology internal medicine.</p> <p>The discipline "Internal Medicine" contributes to the formation of integrative final program learning outcomes, for which students must:</p> <ul style="list-style-type: none"> <li>• conduct professional activities in social interaction based on humanistic and ethical principles; identify future professional activities as socially significant for human health;</li> <li>• apply knowledge of general and professional disciplines in professional activities;</li> <li>• comply with the norms of sanitary and hygienic regime and safety requirements during professional activities;</li> <li>• use the results of independent search, analysis and synthesis of information from various sources to solve typical problems of professional activity;</li> <li>• argue information for decision-making, be responsible for them in standard and non-standard professional situations; adhere to the principles of deontology and ethics in professional activities;</li> <li>• to carry out professional communication in modern Ukrainian, to use skills of oral communication in a foreign language, analyzing texts of professional orientation and to translate foreign language information sources;</li> <li>• adhere to the norms of communication in professional interaction with colleagues, management, work effectively in a team;</li> <li>• analyze the information obtained as a result of scientific research, summarize, systematize and use it in professional activities.</li> </ul>
<b>5. Program learning outcomes</b>
<p>PLO 1. Collect data on patient complaints, medical history, life history, conduct and evaluate the results of physical examination.</p>
<p>PLO 2. Evaluate information on the diagnosis, using a standard procedure based on the results of laboratory and instrumental studies.</p>
<p>PLO 3. Highlight the leading clinical symptom or syndrome. Establish the most probable or syndromic diagnosis of the disease. Assign laboratory and / or instrumental examination of the patient. Carry out differential diagnosis of diseases. Establish a preliminary and clinical diagnosis.</p>
<p>PLO 4. To determine the necessary mode of work and rest in the treatment of the disease.</p>
<p>PLO 5. To determine the necessary medical nutrition in the treatment of the disease.</p>
<p>PLO 6. To determine the principles and nature of treatment (conservative, operative) of the disease.</p>
<p>PLO 7. Determine the tactics of emergency medical care on the basis of a diagnosis of emergency.</p>
<p>PLO 8. Provide emergency medical care on the basis of an emergency diagnosis.</p>
<p>PLO 11. Perform medical manipulations.</p>
<p>PLO 12. To form among the fixed contingent of the population dispensary groups of patients; groups of healthy people subject to dispensary supervision. Implement a system of anti-epidemic and preventive measures within the primary health care. Implement a system of primary prevention measures within the primary health care. Organize secondary and tertiary prevention measures among the assigned contingent of the population.</p>
<p>PLO 14. To determine the tactics of examination and secondary prevention of patients subject to dispensary supervision; tactics of examination and primary prevention of healthy persons subject to dispensary supervision</p>
<p>PLO 15. To determine the presence and degree of restrictions on life, type, degree and duration of disability with the execution of relevant documents.</p>
<p>PLO 17. Conduct screening for major non-communicable diseases; evaluate morbidity indicators, integrated health indicators; identify risk factors for the occurrence and course of</p>

disease; to form risk groups of the population. Determine the source and / or location of the required information depending on its type; receive the necessary information from a specific source; process and analyze the received information.
PLO 18. Identify negative environmental factors; to analyze the incidence of the population, identifying risk groups.
PLO 19. Carry out the selection and use of unified clinical protocols for the provision of medical care, developed on the basis of evidence-based medicine; develop and use local health care protocols.
PLO 20. To form rational medical routes of patients.
PLO 21. Form goals and determine the structure of personal activities.
PLO 22. Adhere to a healthy lifestyle, use the techniques of self-regulation and self-control
PLO 23. To be aware of and guided in its activities by civil rights, freedoms and responsibilities, to raise the general educational and cultural level.
PLO 24. Adhere to the requirements of ethics, bioethics and deontology in their professional activities.

### 5. List of learning outcomes

Learning outcome code	The content of the learning outcome	References to the code of the competence matrix
<b>Category:</b> <b>Kn</b> - knowledge <b>Ab</b> - ability <b>Co</b> – competence <b>AR</b> - autonomy and responsibility	Learning outcomes determine that the student must know, understand and be able to perform, after completing the discipline. Learning outcomes follow from the set learning goals. To enroll in the discipline, it is necessary to confirm the achievement of each	Symbol of the Program Learning Outcome ( <b>PLO</b> ) code in the High Education Standard
Kn-1	Have specialized knowledge about the person, his organs and systems, know the methods and standard schemes of questioning and physical examination of the patient.	PLO-1
Ab-1	Be able to have a conversation with the patient; on the basis of algorithms and standards, using standard techniques, to conduct a physical examination of the patient. Be able to assess the state of human health	
Co-1	Skills of interviewing and clinical examination of the patient	
AR-1	Be responsible for the quality collection of information received on the basis of interviews, surveys, examinations, palpation, percussion of organs and systems, timely assessment of human health and taking appropriate measures	
Kn-2	Know the standard methods of laboratory and instrumental research (according to list 4)	PLO-2
Ab-2	Be able to analyze the results of laboratory and instrumental studies and on their basis to assess information about the patient's diagnosis (according to list 4)	
Co -2	Ability to determine the required list of laboratory and instrumental studies and evaluate their results	
AR-2	Be responsible for deciding on the evaluation of laboratory and instrumental research results	

Kn-3	Know the algorithms for diagnosing diseases; algorithms for isolating leading symptoms or syndromes (according to list 1); previous and clinical diagnoses (according to list 2); methods of laboratory and instrumental examination (according to list 4)	PLO-3	
Ab-3	Be able to make an informed decision about the selection of the leading clinical symptom or syndrome; be able to make a preliminary and clinical diagnosis of the disease (according to list 2); to appoint laboratory and instrumental examination of the patient (according to list 4) by applying standard methods		
Co -3	Ability to establish a preliminary and clinical diagnosis of the disease		
AR-3	Be responsible for making informed decisions and actions regarding the correctness of the established preliminary and clinical diagnosis of diseases		
Kn-4	Know about ethical and legal norms; algorithms and standard schemes for determining the mode of work and rest during treatment, based on preliminary and clinical diagnosis of the disease (according to list 2)	PLO-4	
Ab-4	Be able to determine, on the basis of preliminary and clinical diagnosis, by making an informed decision the necessary mode of work and rest during the treatment of the disease (according to list 2)		
Co -4	Ability to determine the required mode of work and rest during the treatment of diseases		
AR-4	To be responsible for the validity of the appointment of work and rest during the treatment of the disease (according to list 2)		
Kn-5	Know the algorithms and standard schemes of nutrition during the treatment of diseases (according to list 2)	PLO-5	
Ab-5	Be able to determine, on the basis of preliminary and clinical diagnosis, the nature of nutrition during the treatment of diseases (according to list 2)		
Co -5	Ability to determine the nature of nutrition in the treatment of diseases		
AR-5	To be responsible for the validity of the determine of nutrition during the treatment of the disease (according to list 2)		
Kn-6	Know algorithms and standard schemes of treatment of diseases (according to list 2)	PLO-6	
Ab-6	Be able to determine the principles and nature of treatment of the disease (according to list 2)		
Co -6	Ability to determine the principles and nature of disease treatment		
AR-6	Be responsible for deciding on the principles and nature of treatment of the disease (according to list 2)		

Kn-7	Have specialized knowledge about urgent human conditions; know the standard methods of human examination (at home, on the street, in a health care facility) in the absence of information; principles of emergency medical care	PLO-7	
Ab-7	Be able to identify emergencies (according to list 3); to carry out organizational and diagnostic measures aimed at saving and saving human life		
Co -7	Ability to diagnose emergencies and determine tactics of emergency medical care		
AR-7	Be responsible for the correctness and timeliness of diagnosing an emergency, its severity and tactics of emergency medical care		
Kn-8	Know the algorithms for providing emergency medical care in emergencies (according to list 3)	PLO-8	
Ab-8	Be able to provide emergency medical care during an emergency (according to list 3)		
Co-8	Have the skills to provide emergency medical care		
AR-8	Be responsible for the timeliness and quality of emergency medical care		
Kn-9	Know algorithms for performing medical manipulations (according to list 5)	PLO-11	
Ab-9	Be able to perform medical manipulations (according to list 5)		
Co -9	Skills to perform medical manipulations		
AR-9	Be responsible for the quality of medical manipulations (according to list 5)		
Kn-10	To know the system of sanitary-hygienic and preventive measures among the fixed contingent of the population. Know the principles of medical examination of different groups of the population: Know the indicators of evaluation of the organization and effectiveness of medical examination.	PLO-12	
Ab-10	Be able to form groups of the population for their medical examination.		
Co -10	Ability to carry out sanitary and hygienic and preventive measures		
AR-10	Be responsible for the timely and high-quality implementation of measures to assess the health of the population		
Kn-11	Know the relevant ethical and legal norms for medical examination of the population; examination tactics and principles of secondary prevention of patients subject to dispensary supervision; to know the principles of organization of primary prevention of healthy persons subject to dispensary supervision	PLO-14	
Ab-11	Be able to assess the health of patients and the affected population; to organize medical examination of persons subject to dispensary supervision		
Co -11	Ability to determine the tactics of management of persons subject to dispensary supervision		
AR-11	To be responsible for the quality of the organization of dispensary supervision of certain contingents of		



	persons		
Kn-12	Have basic knowledge of medical and social examination	PLO-15	
Ab-12	Be able to draw up the relevant documents certifying temporary disability		
Co -12	Ability to conduct a performance examination		
AR-12	To be responsible for the validity of decisions on medical and social examination of working capacity		
Kn-13	Know standard methods, including modern computer information technology, processing of state, social and medical information	PLO-17	
Ab-13	Have standard methods of medical and statistical research.		
Co -13	Ability to conduct epidemiological and medical-statistical studies of public health; processing of state, social, economic and medical information		
AR-13	Be responsible for the validity of the conclusions about the state of health of the population; high-quality and timely execution of statistical processing and analysis of the received information		
Kn-14	Know the methods of assessing public health and the principles of risk groups	PLO-18	
Ab-14	Be able to assess the health of the population and plan preventive measures		
Co -14	Ability to assess the impact of the environment, socio-economic and biological determinants on the health of the individual, family, population		
AR-14	Be responsible for timely conclusions on the state of health of the population on the basis of the negative impact of environmental factors, socio-economic and biological determinants, for the timely submission of proposals for appropriate preventive measures.		
Ab-15	Be able to choose the appropriate unified clinical protocol for the provision of medical care	PLO-19	
Ab-16	Be able to organize their own work, work in a team with junior medical staff or in an interdisciplinary team	PLO-20	
Ab-17	Be able to form goals and determine the structure of personal activities	PLO-21	
AR-15	Be responsible for maintaining a healthy lifestyle and timely use of self-regulatory methods	PLO-22	
AR-16	To be aware of and guided in their activities by civil rights, freedoms and responsibilities, to raise the general educational and cultural level.	PLO-23	
Co -15	Adhere to the requirements of ethics, bioethics and deontology in their professional activities	PLO-24	
AR-17	Be responsible for compliance with the requirements of ethics, bioethics and deontology in their professional activities.		
<b>6. Format and scope of the course</b>			
Course format - full-time			
Type of study activities	Number of hours	Number of groups	

lectures	0	1	
practical	198		
seminars	0		
independent	162		

### 7. Topics and content of the course

Class type code	Topic	Content of training	Code learning outcome
P-1 (practical lesson - 1)	World pandemic COVID-19. Diagnosis of SARS-CoV-2. Clinical manifestations, prevention and treatment. Management of a patient with hypertension	World pandemic COVID-19. Diagnosis of SARS-CoV-2. Clinical manifestations, prevention and treatment. Differential diagnosis of arterial hypertension: essential and secondary (renal, endocrine, geodynamic, central genesis, etc.). Stratification of the risk of cardiovascular complications and determination of the prognosis. Drawing up a survey plan. Tactics of patient management depending on the risk group. Principles of non-drug and drug treatment of hypertension. Drugs of the first and second line of treatment. Modern recommendations for the choice of antihypertensive drugs. Treatment standards. Monotherapy and combination therapy. Side effects of antihypertensive drugs. Hypertensive crises, features of treatment tactics. Primary and secondary prevention. Prognosis and working ability	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-2	Management of patients with symptomatic hypertension	Differential diagnosis of arterial hypotension: vasodepressor fainting, progressive orthostatic hypotension, iatrogenic hypotension, fainting in heart, endocrine and nervous diseases, metabolic disorders, hysterical neurosis. Drawing up a plan of examination and tactics of patient management. Laboratory and instrumental methods of additional examination. Vasopressors.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-3	Management of a patient with arterial hypotension and fainting	Differential diagnosis of arterial hypertension: mechanisms leading to arterial hypertension. Drawing up a plan of examination and tactics of patient management. Laboratory and instrumental methods of additional examination. Antihypertensive drugs.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-4	Management of a patient with cardiac arrhythmia	Differential diagnosis of atrial and ventricular arrhythmias, atrial fibrillation, sinus node weakness syndromes and Wolf-Parkinson-White. Drawing up a survey plan, additional laboratory and instrumental methods of examination. Tactics of patient management. The main classes of antiarrhythmic drugs, indications	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18

		for their use, side effects. Treatment standards. Electropulse therapy. Surgical methods of arrhythmias treatment. Primary and secondary prevention. Prognosis and working ability		
P-5	Management of a patient with impaired cardiac conduction	Disorders of atrioventricular conduction, AV-blockade of varying degrees (Mobitz 1 and 2). Federico's syndrome. ECG diagnosis of blockade of the legs of the His bundle. Tactics of patient management, additional laboratory and instrumental methods of examination. Drug treatment and pacing. Artificial rhythm drivers. Primary and secondary prevention. Prognosis and working ability	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
P-6	Management of a patient with cardialgia and chest pain	Differential diagnosis of angina and cardialgia in the case of heart disease, respiratory, digestive, musculoskeletal systems, etc. Drawing up a survey plan, additional laboratory and instrumental methods of examination. Tactics of patients depending on the genesis of cardialgia.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
P-7	Management of a patient with stable angina, painless myocardial ischemia, unstable angina, myocardial infarction	Typical and atypical angina, diagnostic criteria. Assistance at the pre-hospital and hospital stages. Drawing up of the plan of inspection, additional laboratory and instrumental methods of inspection (ECG with physical activity, daily Holter monitoring, stress-Echo-KG, coronary angiography). Tactics of management of patients depending on a functional class. Existing treatment standards. Endovascular and surgical treatments. Primary and secondary prevention. Prognosis and working ability Risk of sudden coronary death. Drawing up a survey plan, additional laboratory and instrumental methods of examination. Tactics of patient management. Primary and secondary prevention. Prognosis and working ability Types of unstable angina, myocardial infarction: examination plan, additional laboratory and instrumental methods of examination, treatment standards, primary and secondary prevention, prognosis and performance	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
P-8	Management of a patient with cardiomegaly, heart murmurs, acrocyanosis	Differential diagnosis of cardiomegaly in heart defects, myocarditis, cardiomyopathies, coronary heart disease. Differential diagnosis of functional and organic, systolic and diastolic noises. Drawing up of the plan of inspection, additional instrumental methods of	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	

		inspection (roentgenoscopy of lungs and heart, ECG, Echo-KG, coronary angiography). Tactics of patient management. Non-drug, drug and surgical treatment Primary and secondary prevention. Prognosis and working ability		
P-9	Management of a patient with heart failure	Right ventricular, left ventricular and biventricular heart failure. Differential diagnosis depending on the underlying cause. Drawing up of the plan of inspection, additional instrumental methods of inspection (roentgenoscopy of lungs and heart, ECG, Echo-KG, coronary angiography). Tactics of patients depending on the genesis, functional class and stage of heart failure. Non-drug, drug and surgical treatment. Treatment standards. Primary and secondary prevention. Prognosis and working ability	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
P-10	Management of a patient with arthralgias / myalgias, joint syndrome, arthrosis	Differential diagnosis of arthralgias, arthritis. Drawing up of the plan of inspection, additional laboratory and instrumental methods of inspection (rheumatic tests, autoimmune markers, radiography, arthroscopy, Echo-KG, MRI). Tactics of management of patients depending on the main reason. Existing treatment standards. Efficacy and disadvantages of NSAIDs. Indications and contraindications for the use of steroids. Primary and secondary prevention. Prognosis and working ability	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
P-11	Management of a patient with hemorrhagic vasculitis, with systemic connective tissue diseases	Differential diagnosis of systemic vasculitis. Drawing up of the plan of inspection, additional laboratory and instrumental methods of inspection (rheumatic tests, autoimmune markers, radiography, arthroscopy, Echo-KG, NMR). Tactics of management of patients depending on the main reason. Treatment standards. Efficacy and disadvantages of NSAIDs. Indications and contraindications for the use of steroids. Primary and secondary prevention. Prognosis and working ability	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
P-12	Management of a patient with gastric dyspepsia, dysphagia, heartburn, abdominal pain, chronic diarrheal syndrome, constipation	Definition, organic and functional dyspepsia, main causes and differential diagnosis. Symptoms of red flags. Drawing up a plan of examination, additional laboratory and instrumental methods of examination (upper endoscopy, ultrasound, general and biochemical analyzes). Special methods of examination (breath tests, pH-metry, video capsule endoscopy, X-ray	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	

		<p>methods). Tactics of management of patients depending on the main reason. Treatment standards. Primary and secondary prevention. Prognosis and working ability Differential diagnosis of diarrheal syndrome and constipation. Secretory, exudative, dysmotor and functional diarrhea. The role of intolerance to food components, enzymopathies and immune factors. Malabsorption and maldigestion syndromes. Drawing up an examination plan, the role of radiological, instrumental and functional methods of examination (passage through the small intestine, irigoscopy, colonoscopy, video capsule endoscopy, respiratory tests, fecal analysis, fecal elastase). Tactics of management of patients depending on the reason, differentiated therapy. Treatment standards. Primary and secondary prevention. Prognosis and working ability</p>		
<p>P-13</p>	<p>Management of a patient with jaundice ascites, portal hypertension, hepatic encephalopathy, hepatomegaly and hepatolienal syndrome</p>	<p>Differential diagnosis of hepatic, hepatic and hepatic jaundice. Drawing up a survey plan, the role of instrumental and laboratory methods of examination. Tactics of management of patients depending on the reason, differentiated therapy. Existing treatment standards. Primary and secondary prevention. Prognosis and working ability Differential diagnosis of conditions leading to portal hypertension and ascites. Drawing up a survey plan, the role of instrumental and laboratory methods of examination. Tactics of patient management. Treatment standards. Indications for endoscopic and surgical treatment. Primary and secondary prevention. Prognosis and efficiency. Differential diagnosis of hepatolienal syndrome. Drawing up a survey plan. Tactics of patient management. Hepatoprotectors and antiviral therapy. Treatment standards. Indications for surgical treatment. Primary and secondary prevention. Prognosis and working ability Differential diagnosis of conditions leading to hepatic encephalopathy, its stage. Drawing up a survey plan, the role of instrumental and laboratory methods of examination. Tactics of patient management. Treatment standards. Efferent methods of treatment. Primary and secondary prevention. Prognosis and working ability prevention. Prognosis and</p>	<p>Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18</p>	

		working ability	
P-14	Management of a patient with bronchoobstructive syndrome and chronic cough	Differential diagnosis of conditions accompanied by bronchoobstructive syndrome: bronchial asthma and COPD. Drawing up an examination plan, the role of instrumental and laboratory methods of examination (peak fluorimetry, spirometry, radiography, bronchography, CT, bronchoscopy). Tactics of management of patients depending on the reason, differentiated therapy. Indications for transfer of the patient to the intensive care unit. Drug and non-drug treatment. Treatment standards. Primary and secondary	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-15	Management of a patient with infiltrative darkening in the lungs, with community-acquired pneumonia, pleural effusion	Differential diagnosis of conditions accompanied by the presence of pulmonary infiltrate. Drawing up a plan of examination, the role of radiological, instrumental and laboratory methods of examination (radiography, bronchography, CT, bronchoscopy, biopsy, sputum cultures). Tactics of management of patients depending on the reason, differentiated therapy. Indications for consultations by other specialists (phthisiologist, oncologist, etc.). Drug and non-drug treatment. Primary and secondary prevention. Prognosis and working ability	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-16	Management of a patient with hemoptysis and lung abscess, asphyxia, respiratory failure	Differential diagnosis of conditions accompanied by hemoptysis (bronchiectasis, tumors, tuberculosis, pneumonia, mitral stenosis, pulmonary infarction, etc.). Existing diagnostic algorithms. Drawing up an examination plan, the role of radiological, instrumental and laboratory methods of examination (radiography, bronchography, CT, bronchoscopy, ultrasound, echocardiography, coagulogram, general and biochemical tests). Tactics of management of patients depending on the reason, differentiated therapy. Indications for consultations by other specialists (phthisiologist, oncologist, surgeon, etc.). Drug and non-drug treatment.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-17	Management of a patient with a fever of uncertain genesis	Differential diagnosis of conditions accompanied by the presence of prolonged fever. Existing diagnostic algorithms. Drawing up a plan of examination, the role of radiological, instrumental and laboratory methods of examination (radiography, bronchography, CT,	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18

		bronchoscopy, ultrasound, general and biochemical tests, blood cultures, urine, bile, sputum). Tactics of management of patients depending on the reason, differentiated therapy. Indications for consultations with other specialists. Drug and non-drug treatment		
P-18	Management of a patient with urinary and nephrotic syndromes, with edematous syndrome	. Definition and characteristics of the components of urinary and nephrotic syndrome. Differential diagnosis of hematuria, leukocyturia, proteinuria. Drawing up a survey plan, the role of radiological, instrumental and laboratory methods of examination. Tactics of management of patients depending on the reason, differentiated therapy. Drug and non-drug treatment. Existing treatment standards. Primary and secondary prevention. Prognosis and working ability Differential diagnosis of edema of various origins. Drawing up a survey plan, the role of instrumental and laboratory methods of examination. Tactics of management of patients depending on the reason, differentiated therapy. Drug and non-drug treatment. Advantages and disadvantages of diuretic therapy. Treatment standards. Primary and secondary prevention. Prognosis and working ability	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
P-19	Management of a patient with chronic kidney disease	Definition and classification. Etiological factors. The concept of "chronic kidney disease". Classification. Pathogenesis of lesions of organs and systems, their clinical manifestations. Clinic and changes in laboratory parameters depending on the stage. Differential treatment at different stages. Renal replacement therapy: hemodialysis, kidney transplantation. Indications and contraindications to hemodialysis, complications. Primary and secondary prevention. Prognosis and working ability.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
P-20	Management of a patient with anemia	Definition, classification, criteria for diagnosis and differential diagnosis of iron deficiency and B12-deficiency, hemolytic, hypoplastic, posthemorrhagic anemia. The main causes of iron deficiency. Drawing up an examination plan, the role of laboratory methods of examination in iron deficiency and B12-deficient anemia. Tactics of patient management, medical and non-medical treatment. Indications for blood transfusion. Existing treatment standards. Primary and secondary	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	

		prevention. Forecast and efficiency	
P-21	Management of a patient with leukemoid reaction and leukemia, with polycythemia, lymphadenopathy	Definition, main causes, classification. Differential diagnosis of leukemia and leukemoid reaction. Principles of differentiated treatment. Bone marrow transplantation. Supportive therapy. Primary and secondary prevention. Prognosis and working ability	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-22	Management of a patient with severe pneumonia, acute COVID-19 respiratory distress syndrome,	Standards of diagnosis and treatment. Treatment tactics depending on the severity and prevalence. The role of radiological, instrumental and laboratory methods of additional examination. Indications for pleural puncture. Indications for transfer to the intensive care unit, artificial lung ventilation. Further management of patients.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-23	Management of a patient with a complicated hypertensive crisis, cardiac asthma and pulmonary edema	Standards of diagnosis and emergency treatment at the pre-hospital and hospital stage. Tactics of treatment depending on the lesion of target organs. Further management of patients	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-24	Management of a patient with acute coronary syndrome, myocardial infarction, cardiogenic shock	Standards of urgent diagnosis and emergency treatment at the prehospital and hospital stage. Treatment tactics depending on the rise of the ST segment. Further management of patients	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-25	Management of a patient with pulmonary embolism. Tactics of treatment of sudden cardiac death	Standards of urgent diagnosis and emergency treatment at the prehospital and hospital stage. Tactics of treatment depending on the level of embolization. Further management of patients.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
P-26	Management of a patient with paroxysmal disorders of rhythm and conduction	Standards of urgent diagnosis and emergency treatment at the prehospital and hospital stage. Tactics of treatment depending on the type of arrhythmia or blockade. Electropulse therapy and electrical stimulation. Further management of patients.	Kn – 1-15 PAb – 1-18 CPo-1-16 ARP – 1-18
P-27	Management of a patient with the threat of respiratory arrest (asthmatic condition), pneumothorax	Standards of diagnosis and treatment. Treatment tactics depending on the stage. The role of radiological, instrumental and laboratory methods of additional examination. Indications for transfer to the intensive care unit, artificial lung ventilation. Further management of patients	Kn – P 1-15 Ab – P-18 Co-1-1PP6 AR – 1-18P
P-28	Management of a patient with acute hepatic or renal insufficiency	Standards of diagnosis and treatment. Treatment tactics depending on the cause and stage. The role of instrumental and laboratory methods of additional examination. Indications for pleural puncture. Indications for transfer to the intensive care unit, efferent therapy.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18



		Further management of patients.		
P-29	Management of a patient with acute abdominal pain and gastrointestinal bleeding	Standards of diagnosis and management of patients. Tactics of management of patients depending on the reason. The role of instrumental and laboratory methods of additional examination. Indications for urgent surgical treatment. Indications for transfer to the surgical department or intensive care unit. Further management of patients.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
P-30	Management of a patient with acute arthritis and acute back pain	Standards of diagnosis and treatment. Tactics of treatment depending on the nature of localization and joint damage. The role of instrumental and laboratory methods of additional examination. Further management of patients.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
P-31	Management of a patient with severe anemia and agranulocytosis, with purpura, acute thrombosis.	Standards of diagnosis and management of patients. Tactics of management of patients depending on the reason. The role of endoscopic, instrumental and laboratory methods of additional examination. Conservative treatment. Indications for blood transfusion. Indications for thrombolytic therapy. Further management of patients.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
P-32	Management of patients with shocks	Existing standards of urgent diagnosis and emergency treatment at the pre-hospital and hospital stage. Tactics of treatment of shocks depending on the reason of occurrence. Further tactics of patient management.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
P-33	Management of patients with coma. Credit lesson	. Existing standards for diagnosis and management of patients with coma. Classification of com. Tactics of management of patients depending on the reason of com. The role of instrumental and laboratory methods of additional examination. Emergency care and conservative treatment. Further tactics of patient management.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
IS -1 (independent study)	Preparation for a practical lesson on the topic "World pandemic COVID-19. Diagnosis of SARS-CoV-2. Clinical manifestations, prevention and treatment. Management of a patient with arterial hypertension "-	Preparation for a practical lesson on the topic " World pandemic COVID-19. Diagnosis of SARS-CoV-2. Clinical manifestations, prevention and treatment. Management of a patient with arterial hypertension ". - Improving the method of registration and interpretation of ECG, blood pressure measurement and interpretation of the results on the topic. - Improving the interpretation of the results of laboratory research methods (blood creatinine, glomerular filtration rate, blood electrolytes).	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
IS-2	Preparation for a	Preparation for a practical lesson on	Kn – 1-15	

	practical lesson on "Management of patients with symptomatic hypertension"	"Management of patients with symptomatic hypertension". - Improving the method of ECG recording, Doppler echocardiography, blood pressure measurement and interpretation of the results on the topic. - Improving the interpretation of the results of laboratory research methods (blood creatinine, glomerular filtration rate, blood electrolytes).	Ab – 1-18 Co-1-16 AR – 1-18
IS-3	Preparation for a practical lesson on "Management of a patient with hypotension and fainting" -	Preparation for a practical lesson on "Management of a patient with hypotension and fainting". - Improving the technique of ECG interpretation on the topic. - Improving the method of measuring blood pressure and interpretation of the results. - Improving the interpretation of the results of laboratory research methods (general blood test, blood glucose, ALT, AST, creatinine, GFR, total bilirubin with fractions, electrolytes, coagulogram, arterial and venous blood gases and acid-base status of blood).	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
IS -4	Preparation for a practical lesson on "Management a patient with a heart rhythm disorder" -	Preparation for a practical lesson on "Management a patient with a heart rhythm disorder". - Improving the technique of ECG interpretation on the topic. - Improving the interpretation of coagulogram results.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
IS -5	Preparation for a practical lesson on "Management of a patient with cardiac conduction disorders"	Preparation for a practical lesson on "Management of a patient with cardiac conduction disorders". - Improving the interpretation of the ECG in case of cardiac conduction disorders on the topic.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
IS -6	Preparation for a practical lesson on "Management of a patient with cardialgia and chest pain"	Preparation for a practical lesson on "Management of a patient with cardialgia and chest pain". - Improving the interpretation of the ECG and test results with dosed exercise on the topic. - Improving the interpretation of the results of X-ray examination of the chest on the topic. - Improving the interpretation of the results of laboratory methods of examination (biochemical markers of myocardial necrosis, coagulogram, D-dimer, blood lipid spectrum).	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
IS -7	Preparation for a practical lesson on "Management of a patient with stable angina, painless myocardial ischemia, unstable angina,	Preparation for a practical lesson on "Management of a patient with stable angina, painless myocardial ischemia, myocardial ischemia. - Improving the interpretation of the ECG, the results of the test with dosed exercise, ECHO-CG on the topic. - Improving the interpretation of the	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18

	myocardial infarction"	results of laboratory methods of examination (biochemical markers of myocardial necrosis, coagulogram, D-dimer, blood lipid spectrum).		
IS -8	Preparation for a practical lesson on "Management of a patient with cardiomegaly, heart murmurs, acrocyanosis" -	Preparation for a practical lesson on "Management of a patient with cardiomegaly, heart murmurs, acrocyanosis". - Improving the interpretation of ECG results, Doppler echocardiography on the topic. - Improving the interpretation of X-ray examination of the chest on the topic. - Improving the interpretation of the results of laboratory research methods (arterial and venous blood gases).	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
IS -9	Preparation for a practical lesson on "Management of a patient with heart failure"	Preparation for a practical lesson on "Management of a patient with heart failure". - Improving the interpretation of Doppler echocardiography on the topic. - Improving the interpretation of the results of laboratory research methods (analysis of ascites fluid, coagulogram, blood creatinine, glomerular filtration rate, blood electrolytes, the concentration of natriuretic peptide in the blood).	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
IS -10	Preparation for a practical lesson on "Management of a patient with arthralgias / myalgias, joint syndrome, arthrosis" -	Preparation for a practical lesson on "Management of a patient with arthralgias / myalgias, joint syndrome, arthrosis". - Improving the interpretation of the results of X-ray examination of the spine, chest and sacroiliac joints, radiological examination of the joints on the topic. - Improving the interpretation of the results of laboratory research methods (indicators of immune status, synovial fluid analysis, general blood test, acute blood parameters, uric acid, RF, anti-CCP, ANA, ds-DNA, HLA-B27, SCL-70, Jo-1 , KFC)	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
IS -11	Preparation for a practical lesson on "Management of a patient with hemorrhagic vasculitis, with systemic connective tissue diseases"	Preparation for a practical lesson on "Management of a patient with hemorrhagic vasculitis, with systemic connective tissue diseases." - Improving the interpretation of the results of X-ray examination of the spine, chest and sacroiliac joints, radiological examination of the joints on the topic. - Improving the interpretation of the results of laboratory research methods (indicators of immune status, synovial fluid analysis, general blood test, acute phase blood counts, uric acid, RF, anti-CCP, ANA, ds-DNA, SCL-70, pANCA, cANCA, Hbs Ag)	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
IS -12	Preparation for a practical lesson on	- Preparation for a practical lesson on "Management of a patient with gastric	Kn – 1-15 Ab – 1-18	

	"Management of a patient with gastric dyspepsia, dysphagia, heartburn, abdominal pain, chronic diarrheal syndrome, constipation"	dyspepsia, heartburn, dysphagia pain, with chronic diarrheal syndrome, constipation. - Improving the interpretation of the results of endoscopic examination of the digestive tract (EFGDS, colonoscopy) on the topic. - Improving the interpretation of the results of the breath test with <sup>13</sup> C-urea. - Improving the interpretation of the results of respiratory tests (with <sup>13</sup> C-triglycerides, <sup>13</sup> C-starch, <sup>13</sup> C-lactose and hydrogen test with glucose and lactulose). - Improving the interpretation of the results of the study of the secretory function of the stomach (topographic express pH-metry). - Improving the interpretation of the results of daily pH monitoring of the esophagus. - Improving the interpretation of the results of biochemical blood tests (total blood protein and its fractions, serum transaminases, total bilirubin and its fractions, alkaline phosphatase, alpha-amylase, GGTP). - Improving the interpretation of the results of fecal elastase-1, fecal calprotectin. - Improving the interpretation of the results of the coprocytogram.	Co-1-16 AR - 1-18
IS -13	Preparation for a practical lesson on "Management of a patient with jaundice ascites, portal hypertension, hepatic encephalopathy, hepatomegaly and hepatolienal syndrome" -	Preparation for a practical lesson on "Management of a patient with jaundice, hypertension, hepatomegaly, ascites, portal and hepatolienal syndrome. " - Improving the interpretation of the results of biochemical blood tests (total bilirubin and its fractions, albumin, serum transaminases, total blood protein and its fractions, alkaline phosphatase, alpha-amylase, GGTP). - Improving the interpretation of the results of serological blood tests (serum markers of viral and autoimmune hepatitis, polymerase chain reaction - qualitative and quantitative analysis, virus genotyping). - Improving the interpretation of the results of multi-stage duodenal sounding, microscopic and biochemical examination of bile. - Improving the interpretation of the results of ultrasound examination of the liver, gallbladder and biliary tract on the topic. - Improving the interpretation of the results of endoscopic examination of the digestive tract (EFGDS) on the topic.	Kn - 1-15 Ab - 1-18 Co-1-16 AR - 1-18
IS -14	Preparation for a practical lesson on "Management of a patient with	- Preparation for a practical lesson on "Management of a patient with bronchoobstructive syndrome and chronic cough". - Improving the interpretation of	Kn - 1-15 Ab - 1-18 Co-1-16 AR - 1-18

	bronchoobstructive syndrome and chronic cough"	the results of X-ray examination of the thoracic cavity on the topic. - Improving the interpretation of the results of spirometry, the results of provocative tests with a bronchodilator on the topic.		
IS -15	Preparation for a practical lesson on "Management of a patient with infiltrative opacities in the lungs, with community-acquired pneumonia, pleural effusion"	- Preparation for a practical lesson on "Management of a patient with infiltrative opacities in the lungs, in-hospital, community-acquired pneumonia ». - Improving the interpretation of the results of sonography and X-ray examination of the thoracic cavity in two projections, computed tomography on the topic. - Improving the interpretation of the results of laboratory research methods (general and microbiological examination of sputum; biochemical, cytological, microbiological analysis of pleural fluid).	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
IS -16	Preparation for a practical lesson on "Management of a patient with hemoptysis and lung abscess, asphyxia, respiratory failure"	Preparation for a practical lesson on "Management of a patient with hemoptysis and lung abscess, asphyxia, respiratory failure." - Improving the interpretation of the results of X-ray examination of the thoracic cavity, computed tomography on the topic. - Improving the interpretation of the results of laboratory research methods (coagulogram, D-dimer, arterial and venous blood gases and indicators of acid-base status of blood). - Mastering the skills of interpretation of general blood tests, sputum analysis (bacteriological, microscopic, determination of sensitivity to antibiotics).	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
IS -17	Preparation for a practical lesson on "Keeping a patient with a fever of unknown origin"	Preparation for a practical lesson on "Keeping a patient with a fever of unknown origin." - Improving the interpretation of X-ray examination of the chest, ultrasound examination of the abdominal cavity on the topic. - Improving the interpretation of the results of laboratory research methods (general blood test, general urine test, bacteriological culture, procalcitonin, ANA, ds-DNA).	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
IS -18	Preparation for a practical lesson on "Management of a patient with urinary and nephrotic syndromes, with edema syndrome"	Preparation for a practical lesson on "Management of a patient with urinary and nephrotic syndromes, with edema syndrome". - Improving the interpretation of the results of radiological studies of the urinary system on the topic. - Improving the interpretation of the results of laboratory research methods (general blood test; general urine test, urine test by OZ Nechiporenko and SS Zymnitsky, microbiological study of urine, daily	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	

		proteinuria; total bilirubin and its fractions, total protein with protein fractions, blood transaminases, creatinine, urea, blood uric acid, cholesterol, glomerular filtration rate). - Improving the interpretation of Doppler echocardiography on the topic.		
IS -19	Preparation for a practical lesson on "Management of a patient with chronic kidney disease"	Preparation for a practical lesson on "Management of a patient with chronic kidney disease". - Improving the interpretation of the results of laboratory research methods (general blood test, general urine test, electrolytes, urea, creatinine, glomerular filtration rate).	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
IS -20	Preparation for a practical lesson on "Management a patient with anemia"	Preparation for a practical lesson on "Management a patient with anemia". - Repetition of the method of determining blood type. - Repetition of the method of transfusion of blood components and blood substitutes. - Improving the interpretation of general blood tests, bone marrow punctate and trepan biopsy. - Improving the interpretation of the results of the study of iron metabolism (serum iron, total serum iron binding capacity, saturation of iron transferrin, ferritin level).	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
IS -21	Preparation for a practical lesson on "Management of a patient with leukemic reaction and leukemia, with polycythemia, lymphadenopathy"	Preparation for a practical lesson on "Management of a patient with leukemoid reaction and leukemia, with polycythemia, lymphadenopia." - Improving the interpretation of the general analysis of blood, bone marrow punctate, the results of cytochemical studies. - Improving the interpretation of the results of cytological examination of the lymph node biopsy. - Mastering the skills of interpreting the results of X-ray examination of bones on the topic.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
IS -22	Preparation for a practical lesson on "Management of a patient with severe pneumonia, acute respiratory distress syndrome, covid"	Preparation for a practical lesson on "Management of a patient with severe pneumonia, acute respiratory distress syndrome, covid". - Improving the interpretation of the results of X-ray examination of the thoracic cavity, CT on the topic. - Improving the interpretation of the results of laboratory research methods (general analysis of blood, bilirubin and its fractions, transaminases, D-dimer, procalcitonin, CRP, creatinine, urea, arterial and venous blood gases and indicators of acid-base blood status, coagulogram).	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
IS -23	Preparation for a practical lesson on "Management of a	Preparation for a practical lesson on "Management of a patient with complicated hypertensive crisis, cardiac	Kn – 1-15 Ab – 1-18 Co-1-16	

	patient with complicated hypertensive crisis, cardiac asthma and pulmonary edema"	asthma and pulmonary edema". - Improving the method of measuring blood pressure and interpretation of the results. - Improving the interpretation of ECG results, Doppler echocardiography on the topic. - Improving the interpretation of the results of the analysis of biochemical parameters of the blood (markers of myocardial necrosis ).	AR – 1-18
IS -24	Preparation for a practical lesson on "Management of a patient with acute coronary syndrome, myocardial infarction, cardiogenic shock"	Preparation for a practical lesson on "Management of a patient with acute coronary syndrome, myocardial infarction, cardiogenic shock." - Improving the methodology of registration and interpretation of ECG, Echo-CG on the topic. - Improving the interpretation of the results of laboratory research methods (biochemical markers of myocardial necrosis).	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
IS -25	Preparation for a practical lesson on "Management of a patient with pulmonary embolism. Tactics of treatment of sudden cardiac death	"- Preparation for a practical lesson on" Management of a patient with pulmonary embolism. Tactics of treatment for sudden cardiac death. - Improving the interpretation of the results of Echo-CG and X-ray examination of the thoracic cavity on the topic. - Improving the interpretation of the results of laboratory research methods (coagulogram, arterial and venous blood gases and indicators of acid-base status of blood). - Improving the algorithm for mechanical ventilation and indirect heart massage in case of circulatory and respiratory arrest.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
IS -26	Preparation for a practical lesson on "Management of a patient with paroxysmal rhythm and conduction disorders"	- Preparation for a practical lesson on "Management of a patient with paroxysmal rhythm and conduction disorders". - Improving the technique of ECG interpretation on the topic. - Improving the interpretation of coagulogram results.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
IS -27	Preparation for a practical lesson on "Management of a patient with a threat of respiratory arrest (asthmatic condition), pneumothorax"	- Preparation for a practical lesson on "Management of a patient with a threat of respiratory arrest (asthmatic condition), pneumothorax". - Improving the interpretation of the results of X-ray examination of the thoracic cavity on the topic. - Improving the interpretation of the results of laboratory research methods (arterial and venous blood gases and indicators of acid-base status of blood).	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18
IS -28	Preparation for a practical lesson on "Management of a patient with acute liver or kidney failure" -	Preparation for a practical lesson on "Management of a patient with acute liver or kidney failure". - Improving the interpretation of the results of laboratory research methods (general blood test,	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18

		general analysis of urine, bilirubin and its fractions, total protein and its fractions, transaminases, electrolytes, urea, creatinine, glomerular filtration rate, etc.).		
IS -29	Preparation for a practical lesson on "Management of a patient with acute abdominal pain and gastrointestinal bleeding"	Preparation for a practical lesson on "Management of a patient with acute abdominal pain and gastrointestinal bleeding". - Improving the interpretation of the results of endoscopic examination of the digestive tract (EFGDS, colonoscopy) on the topic. - Improving the interpretation of the results of biochemical blood tests (total blood protein and its fractions, serum transaminases, total bilirubin and its fractions, alkaline phosphatase, alpha-amylase, GGTP). - Improving the method of determining blood type and transfusion of blood components and blood substitutes.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
IS -30	Preparation for a practical lesson on "Management of a patient with acute arthritis and acute back pain"	- Preparation for a practical lesson on "Management of a patient with acute arthritis and acute back pain." - Improving the interpretation of the results of X-ray examination of the spine, chest and sacroiliac joints on the topic. - Improving the interpretation of the results of laboratory research methods (indicators of immune status, HLA-B27, Jo-1, CPK).	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
IS -31	Preparation for a practical lesson on "Management of a patient with severe anemia and agranulocytosis, with purpura, acute thrombosis"	- Preparation for a practical lesson on "Management of a patient with severe anemia and agranulocytosis, with purpura, acute thrombosis." - Repetition of the method of determining blood type. - Repetition of the method of transfusion of blood components and blood substitutes. - Improving the interpretation of general blood tests, bone marrow punctate and trepan biopsy. - Improving the interpretation of iron metabolism in serum. - Improving the interpretation of the results of the coagulogram, pANCA, sANCA, CRP, D-dimer).	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
IS -32	Preparation for a practical lesson on "Management of patients with shocks"	- Preparation for a practical lesson on "Management of patients with shock". - Improving the method of registration and interpretation of ECG and echocardiography on the topic.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
IS -33	Preparation for a practical lesson on "Management of patients with coma"	- Preparation for a practical lesson on "Management of patients with coma". - Improving the interpretation of the results of laboratory research methods (general blood test, blood glucose, glycated hemoglobin, ALT, AST, creatinine, GFR, total bilirubin with fractions, albumin, urea, LDH, electrolytes, coagulogram,	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	



		blood ketone bodies TSH, T3, T4, ACTH, cortisol, aldosterone, arterial and venous blood gases and indicators of acid-base status of the blood).		
IS -34	Management of patients with writing of cards of patients on subjects of employment	Management of patients with writing of cards of patients on subjects of employment	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
IS -35	Development of algorithms for emergency care	- Development of algorithms for emergency care	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	
IS -36	Preparation and report at clinical conferences of the department. Writing abstracts, articles in the chosen field with the participation of a supervisor. Preparation and report of the abstract / scientific report at the practical lesson.	- Preparation and report at clinical conferences of the department. - Writing abstracts, articles in the chosen field with the participation of the supervisor. - Preparation and report of the abstract / scientific report at the practical lesson.	Kn – 1-15 Ab – 1-18 Co-1-16 AR – 1-18	

Types of classes according to the curriculum are: a) lectures, b) practical classes, c) independent work of students.

Thematic plans of lectures, practical classes and independent work reveal the problematic issues of the relevant sections of internal medicine. In the lecture course didactic means are used as much as possible (multimedia presentations, slides, educational videos, demonstration of thematic patients). Lecture and practical stages of students' learning are composed mainly in such a way that lectures precede the relevant practical classes.

Practical classes are held on the clinical bases of the department. Methods of organizing practical classes in internal medicine requires:

- to make the student a participant in the process of providing medical care to patients from the moment of their hospitalization, examination, diagnosis, treatment to discharge from the hospital;

- to master professional practical skills; skills of teamwork of students, doctors, other participants in the process of providing medical care;

- to form in the student, as a future specialist, an understanding of responsibility for the level of their training, its improvement during training and professional activities.

To implement the relevant module specified in the first lesson, it is necessary to provide the student with a detailed plan of work in the clinic and provide conditions for its implementation. This plan should include:

- research that the student must master (or get acquainted with);

- algorithms (protocols) of examinations, diagnosis, treatment, prevention in accordance with the standards of evidence-based medicine;

- supervision of patients, which should be carried out by the student during the study of the discipline;

- reports of the patient's medical history in the study group, at clinical rounds, practical conferences.

Patient management includes:

- 1) clarification of the patient's complaints, medical history and life, conducting a survey of organs and systems;

- 2) conducting a physical examination of the patient and determining the main symptoms / syndromes of the disease;

- 3) analysis of the results of laboratory and instrumental research;

- 4) diagnosis;
- 5) appointment of treatment;
- 6) definition of primary and secondary prevention measures;
- 7) report on the results of examination of the patient by a team of students in the study group, analysis under the guidance of the teacher of the correctness of diagnosis, differential diagnosis, scheduled examination, treatment tactics, assessment of prognosis and performance, prevention.

It is recommended to conduct practical classes with the inclusion of:

- 1) control of the initial level of knowledge with the help of test questions, compiled in the format of a question with 5 answer options, of which 1 - correct and checking workbooks;
- 2) management of 1-2 patients with diseases and conditions corresponding to the subject of the lesson, followed by discussion of the correctness of diagnosis, differential diagnosis and treatment with the use of evidence-based medicine and in accordance with National and European guidelines and protocols;
- 3) consideration of the results of additional research methods (laboratory and instrumental) used in the diagnosis and differential diagnosis, consideration of which is provided by the topic of practical training;
- 4) control of the final level of knowledge on test tasks.

In practical classes, students are recommended to keep protocols (patient card), in which it is necessary to enter brief information about the patients examined during the practical lesson, diagnosis, examination plan and prescribed treatment.

Independent and individual work of students is an integral part of educational activities and is included in the ECTS (European Community Course Credit Transfer System) credits of each module and discipline as a whole. It includes:

- preparation for practical classes;
- implementation and defense of ISRS (International Classification for Primary Care) (report of the abstract in a practical lesson; report at clinical conferences of departments; writing theses, articles; review of scientific literature on topics);
- preparation and writing of medical history;
- mastering practical skills;
- preparation for final control;
- writing a workbook on the topic of the lesson.

Teachers of the department provide an opportunity to carry out independent work. During practical classes and final control, control and evaluation of its implementation are carried out.

The Department of Internal Medicine has the right to make changes to the curriculum within 15.0%.

Assimilation of the topic (current control) is controlled in practical classes, assimilation of content modules (intermediate control) - in practical final classes. It is recommended to use the following tools to assess the level of preparation of students: test tasks, solving situational problems, conducting laboratory tests and evaluating their results, analysis and evaluation of instrumental research and parameters characterizing the functions of the human body, control of practical skills and medical manipulations.

The final control is made at the last practical lesson to the teacher of the department according to the schedule approved at the educational and methodical meeting of the department. Assessment of student success in the discipline is a rating and is set on a multi-point scale, taking into account the assessment of the mastery of individual modules.

For those students who want to improve the grade in the discipline, upon completion of the discipline, the curriculum provides a deadline for re-assembly.

The organization of the educational process should ensure the participation of students in the management of at least 2/3 of inpatients. If it is not possible to provide supervision of patients with diseases on the topic of the lesson, students fill in the study history of diseases with diseases of the relevant topic. The need to write such a history is determined

by the assistant / associate professor (responsible for teaching and methodological work) on the basis of a weekly review of information on the availability of relevant patients in the departments.

Daily patient examination reports are provided to the associate professor / assistant for supervision. Associate professors / assistants ensure that each student receives the necessary competence in the following areas: questioning the patient, clinical examination, oral report, making diagnostic decisions and determining treatment tactics (critical thinking), filling out documentation.

### 8. Verification of learning outcomes

#### Current control

is carried out during training sessions and aims to check the assimilation of educational material by students.

The current control during classes should be based on test control, current survey, examination of the patient, filling out the patient's card and independent work, after which the student is given a comprehensive assessment. Forms of assessment of current educational activities should be standardized and include control of theoretical and practical training. The final grade for the current educational activity is set on a 4-point (national) scale.

Learning outcome code	Code of the type of classes	Method of verification of learning outcomes	Enrollment criteria
Kn – 1-15 Ab – 1-19 Co–1-16 AR – 1-15	Prac- 1-33 Indep Study - 1-36	test control, solving situational problems, questioning and clinical examination of the patient, analysis and evaluation of the results of instrumental research and parameters that characterize the functions of the human body, determining the treatment tactics of the patient, filling the patient's card, demonstration of practical skills, report on the performed independent study	<p>1. Knowledge of theoretical material has significant errors, no homework, initial test control of knowledge is written less than 60.0%, unsatisfactory examination of the patient (unsatisfactory assessment of practical skills), the main test on the topic is written on unsatisfactory assessment, the student makes mistakes, that can lead to the death of the patient - <b>unsatisfactory</b>;</p> <p>2. Knowledge of theoretical material has errors, which, however, can not cause the death of the patient, the initial test control is written at 60.0-74.0%, a satisfactory grade for practical skills, a test on the topic written on a satisfactory grade, the student makes mistakes that lead to a prolongation of the diagnostic search, but do not threaten the patient's life - <b>satisfactory</b>;</p> <p>3. Knowledge of theoretical material without errors, corresponds to the program, the initial test control is written on 75,0-89,0%, the grade "good" for the performed practical skills, the test on the studied topic is written on the grade "good", the student does not make mistakes - <b>good</b>.</p> <p>4. Knowledge of theoretical material without errors, corresponds to the program, from basic disciplines excellent knowledge which the student can use in therapy, the initial test control is written on 90,0% and more, an estimation "excellent" for the executed practical skills, control work on the studied</p>

			subject written on the grade "excellent", the student does not make mistakes, is able to examine the patient, interpret the results of examinations and prescribe modern, individual, with a dosage of treatment - <b>excellent.</b>
<b>Final control</b>			
General evaluation system	Participation in the work during the semester (credit) on a 200-point scale		
Rating scales	traditional 4-point scale, multi-point (200-point) scale, ECTS rating scale		
Conditions of admission to the final control	The student attended all practical classes and received at least 120 points for current performance		
Type of final control	Methods of final control	Enrollment criteria	
Credit	All topics submitted for current control must be included. Grades from the 4-point scale are converted into points on a multi-point (200-point) scale in accordance with the Regulation "Criteria, rules and procedures for evaluating the results of students' learning activities	Maximal number of points - 200. Minimal number of points - 120	
Other types of control	6th year students take the Licensing Exam "Step-2" and an objective structured practical (clinical) exam (OSCE I)		
<b>9. Course policy</b>			
<p>The course is compulsory for students majoring in "222 Medicine". The student is obliged to fully master the knowledge, skills, practical skills and competencies in the discipline. The presence and activity of the student during the practical classes must be taken into account. The applicant of higher education has the right to an individual schedule of attending lectures. Debt settlement as a result of semester control is carried out under the control of the dean's office of the faculty in accordance with the schedule approved by the dean of the faculty. For high efficiency of the educational process the student is obliged to follow the following rules:</p> <ul style="list-style-type: none"> <li>- attend practical classes according to the schedule</li> <li>- obligatory in a dressing gown and removable shoes, with an identifier;</li> <li>- must have a mask, gloves, stethoscope and tonometer;</li> <li>- do not be late for class;</li> <li>- follow the rules of internal regulations of the university;</li> <li>- do not talk during classes;</li> <li>- turn off your mobile phone;</li> <li>- do not miss classes without good reason;</li> <li>- timely and diligently perform tasks;</li> <li>- do not write off and do not use plagiarism;</li> <li>- be polite and friendly to classmates and teachers;</li> <li>- be punctual and obligatory.</li> </ul>			
<b>10. References</b>			
<ol style="list-style-type: none"> <li>1. Adebajo A., Dunkley L. ABC of Rheumatology. 2018. 226 p.</li> <li>2. Alan D., Jessica J., Joan T., Sharon Andrea. Rapid Review of Rheumatology and Musculoskeletal Disorders. 2014. 172 p.</li> </ol>			

3. Baker T., Nikolic G. Practical Cardiology An Approach to the Management of Problems in Cardiology. 2016. 405 p.
4. Bender J., Russell K., Rosenfeld L., Chaudry S. Oxford American Handbook of Cardiology (Oxford American Handbooks in Medicine) 2010. 706.
5. Braunwald's Heart Disease: A Textbook of Cardiovascular Medicine. 2018. 5174 p.
6. Clunie G., Wilkinson N., Nikiphorou E., Jadon D.. Oxford Handbook of Rheumatology. 2018. 832 p.
7. Feehally J. Comprehensive Clinical Nephrology. 2019. 1570 p.
8. Firestein G. S., Budd R. C., Gabriel S. E. Kelley and Firestein's Textbook of Rheumatology. 2017. 2441 p.
9. Mayo Clinic Cardiology : Board Review Questions and Answers. 2007. 328 p.
10. Navadia Chirag. Cardiology: Expert Consult - Online and Print (Cardiology (Mosby)), Third Edition. 2009. 1970 p.
11. Schrier R. W. Manual of Nephrology. 2014. 453 p.
12. Hayes P. 2016: Guidelines for preventive activities in general practice, 9th edition
13. The Royal Australian College of General Practitioners, 173 p.  
Hoffman R., Edward J., Benz Jr. et al 2017 7th edition. Hematology. Basic principles and practice. ELSEVIER, 2650 p..
14. Lynn S. Bickley. I 2016: Bates' Guide to Physical Examination and History Taking, 10th Edition. 1010p.
15. Murtagh J., Rosenblatt J., Coleman J., Murtagh C. General Practice, 2019:7th edition, McGraw-Hill Education (Australia) Pty Ltd, 6541 p.
16. Wearne S. 2016: Clinical cases for general practice exams / Susan Wearne. Edition: 3rd ed. 374 p.

#### **Information resources**

1. <https://www.aasld.org/>
2. <https://www.diabetes.org>
3. <http://www.eagen.org/>
4. <http://www.ers-education.org/guidelines.aspx>
5. <http://www.esmo.org/Guidelines/Haematological-Malignancies>
6. <https://ehaweb.org/organization/committees/swg-unit/scientific-working-groups/structure-and-guidelines/>
7. <http://www.gastro.org/guidelines>
8. [www.ginasthma.org](http://www.ginasthma.org)

#### **11. Equipment, logistics and software of the discipline / course**

- 1) synopsis or extended plan of lectures
- 2) plans for practical classes
- 3) tasks for independent work
- 4) guidelines / recommendations for students and teachers
- 5) algorithms for treatment and emergency care (according to the standards of evidence-based medicine)
- 6) algorithms for performing skills practices, medical manipulations, videos
- 7) results of laboratory and instrumental research methods
- 8) models, phantoms, etc.
- 9) simulators, electronic directories, computers with appropriate information support
- 10) questions, tasks, tasks or cases for current and final control.

#### **Equipment:**

1. Enzyme-linked immunosorbent assay (BioTek, USA)
2. ABPM-04 (daily blood pressure monitoring) (Meditech ltd., Hungary)
3. Daily monitor of blood pressure and electrocardiographic signals SDM 23 (LLC "X-Techno", Kyiv, Ukraine)

4. Sonost 2000 (diagnosis of osteoporosis by densitometric method) ("Osteosys", South Korea)
5. Pulse oximeter "NANOX exo". (MedLab, Germany)
6. Recorder of the daily electrocardiogram according to Holter B16600-12 (Heaco ltd.)
7. Electrocardiograph ELI 230 (Mortara, Milwaukee, USA)
8. Electrocardiograph "BIOMED" BE 300 (Shenzhen Comen Medical Instruments Co., Ltd., China)
9. Scanner ultrasonic diagnostic UGEO H60 (Samsung Medison Co., ltd.)
10. Patient monitor G3D (General Meditech, Inc.) (3 pcs.)
11. Syringe pump SN 50 F66 (SINO Medical-Device Technology Co., ltd.) (2 pcs.)
12. Video gastroscope EG27-i10 (Pentax)
13. Video colonoscope EC34-i10L (Pentax)
14. HOREV-2516 (washing and disinfection machine for 2 flexible endoscopes) (Kharkov, Ukraine)
15. Centrifuge laboratory SM-6MT with a rotor 6M 02 (ELMI ltd.)
16. Combined system "HELIK-scan-M" (LLC "AMA", Russia)
17. Power Heart AED G3 pro (automated external defibrillation) (Cardiac Science Corp., Bothell, USA)

### 12. Additional information

The student scientific circle of the department is present and each teacher prepares the student for participation in the scientific conference.  
 Practical classes are held on the clinical bases of the Department of Internal Medicine № 1.  
 link to the web page of the department:  
<https://new.meduniv.lviv.ua/kafedry/kafedra-vnutrishnoyi-medytsyny->

### 13. Appendices

#### List 1 (syndromes and symptoms)

- 1) anemic syndrome
- 2) anuria and oliguria
- 3) hypertension
- 4) arterial hypotension
- 5) chest pain
- 6) abdominal pain
- 7) pain in the extremities and back
- 8) vomiting
- 9) bronchoobstructive syndrome
- 10) effusion into the pleural cavity
- 11) fever 1
- 2) hemorrhagic syndrome
- 13) exanthema, enanthema
- 14) hepatomegaly and hepatolienal syndrome
- 15) headache
- 16) dysuria
- 17) dyspepsia
- 18) dysphagia
- 19) diarrhea
- 20) jaundice
- 21) shortness of breath
- 22) asphyxia
- 23) constipation
- 24) dizziness,
- 25) cardiomegaly
- 26) cough
- 27) hemoptysis
- 28) lymphadenopathy

- 29) edematous syndrome
- 30) polyuria
- 31) portal hypertension
- 32) disorders of heart rhythm and conduction
- 33) disorders of consciousness
- 34) itchy skin
- 35) urinary syndrome
- 36) dehydration syndrome
- 37) indigestion syndrome
- 38) stridor
- 39) joint syndrome
- 40) weight loss
- 41) cyanosis
- 42) gastrointestinal bleeding

**List 2 (diseases)**

**List 2 (diseases)**

**I. Diseases of the blood and blood-forming organs, disorders involving the immune mechanism:**

- 1) anemia
- 2) hemolytic disease
- 3) hemophilia
- 4) leukemia
- 5) lymphoma
- 6) congenital (Bruton's disease, Viscot-Aldridge syndrome) and acquired immunodeficiency states
- 7) idiopathic thrombocytopenic purpura
- 8) chronic radiation injuries

**IV. Diseases of the cardiovascular system:**

- 1) aortic aneurysms
- 2) atherosclerosis
- 3) varicose veins of the lower extremities
- 4) congenital heart disease
- 5) secondary hypertension
- 6) acute occlusion of the main and peripheral arteries;
- 7) endocarditis
- 8) essential and secondary arterial hypertension
- 9) coronary heart disease
- 10) carditis
- 11) cardiomyopathy
- 12) pulmonary heart
- 13) acquired heart defects
- 14) obliterating endarteritis
- 15) pericarditis
- 16) violation of heart rhythm and conduction
- 17) heart failure
- 18) injuries of the heart and blood vessels
- 19) pulmonary embolism
- 20) phlebitis, thrombophlebitis

**V. Respiratory and mediastinal diseases:**

- 1) asphyxia
- 2) bronchial asthma
- 3) bronchitis
- 4) bronchiectasis
- 5) bronchopulmonary dysplasia
- 6) congenital malformations of the respiratory system

- 7) respiratory failure
- 8) infectious and destructive lung diseases
- 9) pulmonary insufficiency
- 10) mediastinitis
- 11) cystic fibrosis
- 12) neoplasms of the lungs and mediastinum
- 13) pleurisy
- 14) pneumoconiosis
- 15) pneumonia
- 16) pneumothorax
- 17) respiratory distress syndrome
- 18) a foreign body in the respiratory tract
- 19) chest injuries (superficial, open)
- 20) chronic obstructive pulmonary disease

#### **VI. Digestive diseases:**

- 1) peptic ulcer disease
- 2) gastroesophageal reflux disease, esophagitis
- 3) gastritis, duodenitis
- 4) acute and chronic hepatitis
- 5) acute intestinal obstruction
- 6) acute and chronic appendicitis
- 7) acute and chronic pancreatitis
- 8) benign diseases of the esophagus
- 9) enteritis, colitis
- 10) neoplasms of the esophagus, stomach, colon, liver and pancreas
- 11) peptic ulcers of the stomach and duodenum
- 12) peritonitis
- 13) perforation of the hollow organ
- 14) liver failure
- 15) malabsorption syndrome
- 16) stenosis of the pylorus of the stomach
- 17) functional gastrointestinal disorders
- 18) diseases of the operated stomach
- 19) cholecystitis, cholangitis, gallstone disease, choledocholithiasis
- 20) cirrhosis of the liver
- 21) gastrointestinal bleeding

#### **VII. Diseases of the genitourinary system:**

- 1) renal amyloidosis
- 2) congenital malformations of the urinary system
- 3) glomerulonephritis
- 4) dysmetabolic nephropathy
- 5) nephrotic syndrome
- 6) neoplasms of the kidney, urinary tract and prostate
- 7) pyelonephritis
- 8) urolithiasis
- 9) tubulointerstitial nephritis
- 10) urethritis
- 11) chronic kidney disease
- 12) cystitis

#### **IX. Diseases of the musculoskeletal system and connective tissue:**

- 1) ankylosing spondylitis
- 2) congenital and acquired malformations of the musculoskeletal system
- 3) acute rheumatic fever
- 4) dermatomyositis and polymyositis



- 5) neoplasms of the musculoskeletal system
  - 6) osteoarthritis
  - 7) osteomyelitis
  - 8) gout
  - 9) reactive arthritis
  - 10) rheumatoid arthritis
  - 11) systemic scleroderma
  - 12) systemic lupus erythematosus
  - 13) systemic vasculitis (nodular polyarteritis, hemorrhagic vasculitis, hypersensitive vasculitis)
  - 14) damage to large joints (hip, knee, ankle, elbow)
  - 15) chronic rheumatic disease
  - 16) juvenile rheumatoid arthritis
- X. Diseases of the endocrine system, eating disorders and metabolic disorders:**
- 17) obesity

**List 3 (emergencies):**

- 1) hypertensive crisis
- 2) acute respiratory failure
- 3) acute urinary retention
- 4) acute kidney damage
- 5) acute liver failure
- 6) acute heart failure
- 7) acute coronary syndrome
- 8) acute bleeding
- 9) cardiac arrest
- 10) collapse
- 11) disturbance of consciousness and coma
- 12) renal colic
- 13) biliary colic
- 14) acute anaphylactic reactions
- 15) acute cardiac arrhythmias,
- 16) shocks

**List 4 (laboratory and instrumental research):**

- 1) analysis of pleural fluid
- 2) analysis of ascitic fluid
- 3) analysis of synovial fluid
- 4) urine analysis according to Zymnytsky
- 5) analysis of urine by Nechiporenko
- 6) activity of alpha-amylase in blood and urine, fecal elastase-1
- 7) blood proteins and their fractions, C-reactive protein
- 8) blood glucose, glycosylated hemoglobin,
- 9) oral glucose tolerance test
- 10) lipids and lipoproteins of blood and their fractions
- 11) blood hormones
- 12) serum ferritin, iron and copper
- 13) creatinine, urea, blood and urine, glomerular filtration rate
- 14) blood electrolytes
- 15) blood aminotransferases
- 16) total blood bilirubin and its fractions
- 17) coagulogram
- 18) blood uric acid
- 19) alkaline blood phosphatase
- 20) histomorphological examination of lymph node biopsy
- 21) histomorphological examination of the biopsy of parenchymal organs
- 22) histomorphological examination of the biopsy of mucous membranes
- 23) histomorphological examination of muscle and skin biopsy

- 24) study of the function of external respiration
- 25) standard ECG (in 12 leads)
- 26) endoscopic examination of the bronchi
- 27) endoscopic examination of the digestive tract
- 28) echocardiography and Doppler
- 29) general analysis of feces
- 30) general blood test
- 31) general analysis of urine
- 32) general analysis of cerebrospinal fluid
- 33) general analysis of sternal punctate
- 34) general analysis of sputum
- 35) general immunological profile of blood
- 36) serological reactions in infectious diseases
- 37) rapid tests for viral diseases
- 38) amplification methods for infectious diseases (PCR, LLR)
- 39) serological reactions in autoimmune diseases
- 40) microbiological study of biological fluids and secretions
- 41) methods of instrumental visualization of the thyroid gland
- 42) X-ray contrast angiography
- 43) methods of instrumental visualization of abdominal organs
- 44) methods of instrumental visualization of the thoracic cavity
- 45) methods of instrumental visualization of the genitourinary system
- 46) methods of instrumental visualization of the skull, spine, spinal cord, bones and joints
- 47) multi-moment fractional study of bile and pH-metry of the stomach and esophagus

**List 5 (medical manipulations):**

- 1) perform indirect heart massage
- 2) perform artificial respiration
- 3) perform defibrillation using a manual automatic defibrillator-cardioverter
- 4) to register a standard ECG in 12 leads
- 5) to temporarily stop external bleeding
- 6) apply bandages, including in the field
- 7) install a nasogastric and orogastric tube
- 8) to carry out transport immobilization
- 9) to carry out administration of medicinal substances (intravenous jet and drip, intraosseous)
- 10) provide peripheral venous access
- 11) measure blood pressure
- 12) to restore airway patency
- 13) perform catheterization of the bladder with a soft probe
- 14) carry out finger examination of a rectum
- 15) carry out a clinical examination of the mammary glands
- 16) perform a pleural puncture
- 17) determine blood groups, rhesus affiliation
- 18) transfuse blood components and blood substitutes
- 19) taking smears for bacterioscopic, bacteriological and cytological examinations

**LIST OF QUESTIONS FOR TRAINING STUDENTS OF VIKURS FROM THE DISCIPLINE "INTERNAL MEDICINE"**

1. Management of a patient with hypertension: existing algorithms and standards of diagnosis and treatment.
2. Management of a patient with hypotension and fainting: existing algorithms for diagnosis and treatment.
3. Management of a patient with cardialgia: existing algorithms for diagnosis and treatment.
4. Management of a patient with cardiac arrhythmia: existing algorithms and standards of diagnosis and treatment.

5. Management of a patient with cardiac conduction disorders: existing algorithms and standards of diagnosis and treatment.
6. Management of a patient with stable angina: existing algorithms and standards of diagnosis and treatment.
7. Management of a patient with painless myocardial ischemia: existing algorithms and standards of diagnosis and treatment.
8. Management of a patient with unstable angina: existing algorithms and standards of diagnosis and treatment.
9. Management of a patient with shortness of breath: existing algorithms and standards of diagnosis and treatment
10. Management of a patient with cardiomegaly: existing algorithms and standards of diagnosis and treatment.
11. Management of a patient with cyanosis: existing algorithms and standards of diagnosis and treatment.
12. Management of a patient with heart failure: existing algorithms and standards of diagnosis and treatment.
13. Management of a patient with heart murmurs: existing algorithms and standards of diagnosis and treatment.
14. Management of a patient with pain in the extremities and back: existing algorithms and standards of diagnosis and treatment.
15. Management of a patient with arthralgias / myalgias: existing algorithms and standards of diagnosis and treatment.
16. Management of a patient with joint syndrome: existing algorithms and standards of diagnosis and treatment.
17. Management of a patient with hemorrhagic syndrome: existing algorithms and standards of diagnosis and treatment.
18. Management of a patient with orthosis: existing algorithms and standards of diagnosis and treatment.
19. Management of a patient with gastric dyspepsia: existing algorithms and standards of diagnosis and treatment.
20. Management of a patient with dysphagia: existing algorithms and standards of diagnosis and treatment.
21. Management of a patient with heartburn: existing algorithms and standards of diagnosis and treatment.
22. Management of a patient with abdominal pain: existing algorithms and standards of diagnosis and treatment.
23. Management of a patient with chronic diarrheal syndrome: existing algorithms and standards of diagnosis and treatment.
24. Management of a patient with constipation: existing algorithms and standards of diagnosis and treatment.
25. Management of a patient with jaundice: existing algorithms and standards of diagnosis and treatment. Management of a patient with ascites: existing algorithms and standards of diagnosis and treatment.
26. Management of a patient with hepatomegaly and hepatolienal syndrome: existing algorithms and standards of diagnosis and treatment.
27. Management of a patient with portal hypertension: existing algorithms and standards of diagnosis and treatment.
28. Management of a patient with hepatic encephalopathy: existing algorithms and standards of diagnosis and treatment.
29. Management of a patient with bronchoobstructive syndrome: existing algorithms and standards of diagnosis and treatment.
30. Management of a patient with chronic cough: existing algorithms and standards of diagnosis and treatment.

31. Management of a patient with infiltrative darkening in the lungs: existing algorithms and standards of diagnosis and treatment.
32. Management of a patient with fever of uncertain genesis: existing algorithms and standards of diagnosis and treatment.
33. Management of a patient with hemoptysis: existing algorithms and standards of diagnosis and treatment.
34. Management of a patient with asthma and asphyxia: existing algorithms and standards of diagnosis and treatment.
35. Management of a patient with pleural effusion: existing algorithms and standards of diagnosis and treatment.
36. Management of a patient with respiratory failure: existing algorithms and standards of diagnosis and treatment.
37. Management of a patient with community-acquired pneumonia: existing algorithms and standards of diagnosis and treatment.
38. Management of a patient with nosocomial pneumonia: existing algorithms and standards of diagnosis and treatment.
39. Management of a patient with lung abscess: existing algorithms and standards of diagnosis and treatment.
40. Management of a patient with urinary syndrome: existing algorithms and standards of diagnosis and treatment.
41. Management of a patient with edema syndrome: existing algorithms and standards of diagnosis and treatment.
42. Management of a patient with chronic renal failure: existing algorithms and standards of diagnosis and treatment.
43. Management of a patient with nephrotic syndrome: existing algorithms and standards of diagnosis and treatment.
44. Management of a patient with anemia: existing algorithms and standards of diagnosis and treatment.
45. Management of a patient with leukemoid reaction and leukemia: existing algorithms and standards of diagnosis and treatment.
46. Management of a patient with polycythemia: existing algorithms and standards of diagnosis and treatment.
47. Management of a patient with purpura: existing algorithms and standards of diagnosis and treatment.
48. Management of a patient with lymphadenopathy: existing algorithms and condition
49. Treatment of diseases of internal organs according to the current protocols approved by the Ministry of Health of Ukraine.
50. Curation of a patient with a complicated hypertensive crisis. Existing standards of diagnosis and emergency treatment at the pre-hospital and hospital stage.
51. Curation of a patient with cardiac asthma and pulmonary edema. Existing standards of diagnosis and emergency treatment at the pre-hospital and hospital stage.
52. Curation of a patient with acute coronary syndrome. Existing standards of diagnosis and emergency treatment at the pre-hospital and hospital stage.
53. Curation of a patient with myocardial infarction. Existing standards of urgent diagnostics and emergency treatment at the pre-hospital and hospital stage.
54. Curation of a patient with cardiogenic shock. Existing standards of urgent diagnostics and emergency treatment at the pre-hospital and hospital stage.
55. Curation of a patient with pulmonary embolism. Existing standards of urgent diagnostics and emergency treatment at the pre-hospital and hospital stage.
56. Tactics of treatment for sudden cardiac death. Existing standards of urgent diagnostics and emergency treatment at the pre-hospital and hospital stage.
57. Curation of a patient with paroxysmal arrhythmias and conduction. Existing standards of urgent diagnostics and emergency treatment at the pre-hospital and hospital stage.

58. Curation of a patient with acute reactive arthritis. Existing standards of urgent diagnostics and emergency treatment at the pre-hospital and hospital stage.
59. Curation of a patient with thrombocytopenic purpura. Existing standards of urgent diagnostics and emergency treatment at the pre-hospital and hospital stage.
60. Curation of a patient with acute back pain. Existing standards of diagnosis and treatment.
61. Curation of a patient with severe community-acquired and nosocomial pneumonia. Existing standards of diagnosis and emergency treatment.
62. Curation of a patient with total pleural effusion and pneumothorax. Existing standards of diagnosis and treatment.
63. Curation of a patient with asthmatic status. Existing standards of diagnosis and treatment.
64. Curation of a patient with anaphylactic shock and Quincke's edema. Existing standards of diagnosis and treatment.
65. Curation of a patient with acute liver failure. Existing standards of diagnosis and treatment.
66. Curation of a patient with acute abdominal pain. Existing standards of diagnosis and management of patients.
67. Curation of a patient with gastrointestinal bleeding. Existing standards of diagnosis and management of patients.
68. Curation of a patient with severe anemia. Existing standards of diagnosis and management of patients.
69. Curation of a patient with agranulocytosis. Existing standards of diagnosis and management of patients.
70. Curation of a patient with purpura. Existing standards of diagnosis and treatment.
71. Curation of a patient with acute thrombosis. Existing standards of diagnosis and management of patients.
72. Curation of a patient with acute renal failure. Existing standards of diagnosis and management of patients.

#### LIST OF PRACTICAL SKILLS AND SKILLS FROM THE DISCIPLINE "INTERNAL MEDICINE"

1. Conduct surveys and physical examinations of patients with major cardiac syndromes. Be able to evaluate the results of the examination of the cardiovascular system.
2. Make the plan of inspection of patients with heart diseases, to substantiate application of the basic invasive and noninvasive diagnostic methods applied in cardiology, to define indications and contraindications for their carrying out, possible complications.
3. Identify different variants of the course and complications of heart disease.
4. Carry out differential diagnosis, substantiate and formulate the diagnosis of major cardiac syndromes on the basis of analysis of laboratory and instrumental examination data.
5. Prescribe treatment, determine the prognosis, conduct primary and secondary prevention of heart disease.
6. Record and interpret the ECG in 12 leads. Know the method of ECG recording.
7. Measure and interpret blood pressure in the upper and lower extremities
8. Be able to interpret the conclusion of the Echo-CG.
9. Be able to interpret Holter monitoring.
10. Be able to interpret the results of drug tests and tests with exercise
11. Be able to interpret the results of a comprehensive biochemical study of patients with cardiovascular disease. 1
2. Be able to interpret the indicators of the troponin test.
13. Be able to interpret the results of lipidogram and coagulogram.
14. Diagnose and provide assistance in case of fainting. 1
5. Diagnose and provide assistance in hypertensive crisis. 1
6. Diagnose and provide care for hypotension.
17. Diagnose and provide care for paroxysmal heart rhythm disorders
18. Diagnose and care for Morgan-Edems-Stokes syndrome.
19. Carry out pulmonary and cardiac resuscitation.

20. Conduct surveys and physical examinations of patients with major rheumatic syndromes. Be able to evaluate the results of the examination of the musculoskeletal system.
21. Justify the use of basic invasive and non-invasive diagnostic methods used in rheumatology, identify indications and contraindications for their implementation, possible complications.
22. Identify different variants of the course and complications of rheumatic diseases.
23. Make a plan of examination of patients with rheumatic diseases.
24. To make the differential diagnosis, to substantiate and formulate the diagnosis at the basic rheumatological syndromes on the basis of the analysis of data of laboratory and instrumental inspection.
25. Prescribe treatment, determine the prognosis, conduct primary and secondary prevention of rheumatic diseases.
26. Be able to interpret laboratory parameters in rheumatic diseases (rheumatic tests, autoimmune markers, etc.).
27. Be able to interpret X-ray examination of joints, spine.
28. Be able to interpret the data of echocardiographic examination and radiological examination of joints and spine.
29. Conduct surveys and physical examinations of patients with major gastrointestinal syndromes. Be able to evaluate the results of the examination of the gastrointestinal tract.
30. Be able to interpret the results of esophagogastroduodenoscopy, duodenal and gastric sounding.
31. Be able to interpret the results of pH metry.
32. Be able to interpret the results of X-ray examination of the digestive system.
33. Be able to interpret the results of scans and ultrasound of the liver, gallbladder, pancreas.
34. Be able to interpret the results of enzyme-linked immunosorbent assay for viral hepatitis.
35. Be able to interpret the indicators of biochemical liver tests.
36. Know the technique of bowel cleansing.
37. Be able to perform a puncture of the abdominal cavity
38. Be able to interpret the results of computed tomography and magnetic resonance imaging of internal organs.
39. To make the plan of inspection of patients with the basic gastroenterological syndromes.
40. To substantiate the use of invasive and non-invasive diagnostic methods used in gastroenterology, to determine the indications and contraindications for their implementation, possible complications.
41. To make a differential diagnosis, to substantiate and formulate the diagnosis at the basic gastroenterological syndromes on the basis of the analysis of results of laboratory and instrumental inspection.
42. Identify the main options for the course and complications of diseases of the digestive tract, hepatobiliary system and pancreas.
43. Prescribe treatment, determine the prognosis, carry out primary and secondary prevention of diseases of the digestive tract, hepatobiliary system and pancreas.
44. Conduct surveys and physical examinations of patients with major pulmonary syndromes. Be able to evaluate the results of respiratory examination.
45. Be able to interpret X-ray examination of the thoracic cavity.
46. Be able to interpret the indicators of the function of external respiration.
47. Be able to perform a puncture of the pleura.
48. To make the plan of inspection of patients with the basic pulmonological syndromes.
49. Justify the use of basic invasive and non-invasive diagnostic methods used in pulmonology, identify indications and contraindications for their implementation, possible complications.
50. On the basis of the analysis of data of laboratory and instrumental inspection to carry out differential diagnosis of the basic pulmonological syndromes, to substantiate and formulate the diagnosis at the basic diseases of respiratory organs.
51. Prescribe treatment, determine the prognosis and carry out primary and secondary prevention of major respiratory diseases.
52. Diagnose and provide care for respiratory failure.
53. Know the indications for pleural puncture.

54. Perform peak flowmetry.
55. Conduct surveys and focused physical examination of patients with major nephrological syndromes. Be able to evaluate the results of the examination of the urinary system
56. To be able to interpret indicators of biochemical research of a functional condition of kidneys
57. Be able to interpret the indicators of general analysis of urine, samples Zymnitsky, Nechiporenko, Reberg.
58. Know the basic invasive and non-invasive diagnostic methods used in nephrology, indications and contraindications for their implementation, possible complications.
59. Identify the main and atypical variants of the course and complications of diseases of the urinary system.
60. Make a plan of examination of patients with major nephrological syndromes. 61. On the basis of the analysis of data of laboratory and instrumental inspection to carry out differential diagnostics, to substantiate and formulate the diagnosis at diseases of urinary system.
62. Prescribe treatment, determine the prognosis, conduct primary and secondary prevention of diseases of the genitourinary system.
63. Diagnose and provide care for renal failure.
64. Conduct surveys and physical examinations of patients with major hematological syndromes.
65. To be able to interpret indicators of the general analysis of blood.
66. Be able to determine blood type and rhesus factor.
67. Justify the use of basic invasive and non-invasive diagnostic methods used in hematology, indications and contraindications for their implementation, possible complications.
68. Identify typical and atypical clinical picture of major diseases of the blood and blood-forming organs.
69. Make a plan of examination of patients with major hematological diseases. 70. On the basis of the analysis of data of laboratory and instrumental inspection to carry out the differential diagnosis, to substantiate and formulate the diagnosis at the basic diseases of blood and hematopoietic organs.
71. Prescribe treatment, determine the prognosis, carry out primary and secondary prevention of major diseases of the blood and blood-forming organs. 72. Diagnose and provide assistance with bleeding due to diseases of the blood and blood-forming organs.
73. Be able to perform subcutaneous intramuscular and intravenous injections. 74. Be able to transfuse blood components and blood substitutes.
75. Know the technique of bloodletting.
76. Demonstrate mastery of moral and deontological principles of a medical specialist and the principles of professional subordination.
77. To determine the level of examination and treatment of patients with urgent cardiac conditions in the hospital.
78. Apply in practice algorithms for examination and management of patients with urgent cardiac conditions in the hospital.
79. Carry out in practice the differential diagnosis of the main syndromes that occur in the clinic of emergency cardiac conditions.
80. Master the methods of treatment of urgent cardiac conditions, the effectiveness of which is proven by evidence-based medicine. Cardiac defibrillation technique.
81. Apply in practice the standards of diagnosis and treatment of cardiac patients in the clinic of emergency conditions.
82. Determine the level of examination and treatment of patients with urgent rheumatic conditions in the hospital.
83. Apply in practice the algorithms of examination and management of patients with urgent rheumatic conditions in the hospital.
84. Carry out in practice the differential diagnosis of the main syndromes that occur in the clinic of urgent rheumatic conditions.
85. Master the methods of treatment of urgent rheumatic conditions, the effectiveness of which is proven by evidence-based medicine.
86. Apply in practice the standards of diagnosis and treatment of rheumatic patients in the clinic of emergencies.

87. To determine the level of examination and treatment of patients with urgent pulmonological and allergological conditions in the hospital.
88. Apply in practice algorithms for examination and management of patients with urgent pulmonological and allergological conditions in the hospital.
89. Carry out in practice the differential diagnosis of the main syndromes found in the clinic of urgent pulmonological and allergological conditions.
90. Master the methods of treatment of urgent pulmonological and allergic conditions, the effectiveness of which is proven by evidence-based medicine
91. Be able to perform allergy tests before the introduction of drugs
92. Apply in practice the standards of diagnosis and treatment of patients in the clinic of pulmonology and allergy emergencies
93. To determine the level of examination and treatment of patients with urgent gastroenterological conditions in the hospital.
94. Apply in practice algorithms for examination and management of patients with urgent gastroenterological conditions in the hospital.
95. Carry out in practice the differential diagnosis of the main syndromes that occur in the clinic of urgent gastrointestinal conditions.
96. Master the methods of treatment of urgent gastroenterological conditions, the effectiveness of which is proven by evidence-based medicine
97. Apply in practice the standards of diagnosis and treatment of patients in the clinic of gastroenterological emergencies.
98. To determine the level of examination and treatment of patients with urgent hematological conditions in the hospital.
99. Apply in practice algorithms for examination and management of patients with urgent hematological conditions in the hospital.
100. Carry out in practice the differential diagnosis of the main syndromes that occur in the clinic of urgent hematological conditions.
101. Master the methods of treatment of urgent hematological conditions, the effectiveness of which is proven by evidence-based medicine.
102. Apply in practice the standards of diagnosis and treatment of patients in the clinic of hematological emergencies.
103. Determine the level of examination and treatment of patients with urgent nephrological conditions in the hospital. 1
104. Apply in practice algorithms for examination and management of patients with urgent nephrological conditions in the hospital.
105. Carry out in practice the differential diagnosis of the main syndromes that occur in the clinic of urgent nephrological conditions.
106. Master the methods of treatment of urgent nephrological conditions, the effectiveness of which is proven by evidence-based medicine.
107. Apply in practice the standards of diagnosis and treatment of patients in the clinic of nephrological emergencies.

## References

1. Adebajo A., Dunkley L. ABC of Rheumatology. 2018. 226 p.
2. Alan D., Jessica J., Joan T., Sharon Andrea. Rapid Review of Rheumatology and Musculoskeletal Disorders. 2014. 172 p.
3. Baker T., Nikolic G. Practical Cardiology An Approach to the Management of Problems in Cardiology. 2016. 405 p.
4. Bender J., Russell K., Rosenfeld L., Chaudry S. Oxford American Handbook of Cardiology (Oxford American Handbooks in Medicine) 2010. 706.
5. Braunwald's Heart Disease: A Textbook of Cardiovascular Medicine. 2018. 5174 p.
6. Clunie G., Wilkinson N., Nikiphorou E., Jadon D.. Oxford Handbook of Rheumatology. 2018. 832 p.
7. Feehally J. Comprehensive Clinical Nephrology. 2019. 1570 p.



8. Firestein G. S., Budd R. C., Gabriel S. E. Kelley and Firestein's Textbook of Rheumatology. 2017. 2441 p.
9. Mayo Clinic Cardiology : Board Review Questions and Answers. 2007. 328 p.
10. Navadia Chirag. Cardiology: Expert Consult - Online and Print (Cardiology (Mosby)), Third Edition. 2009. 1970 p.
11. Schrier R. W. Manual of Nephrology. 2014. 453 p.

**Information resources**

1. <https://www.aasld.org/>
2. <https://www.diabetes.org>
3. <http://www.eagen.org/>
4. <http://www.ers-education.org/guidelines.aspx>
5. <http://www.esmo.org/Guidelines/Haematological-Malignancies>
6. <https://ehaweb.org/organization/committees/swg-unit/scientific-working-groups/structure-and-guidelines/>
7. <http://www.gastro.org/guidelines>
8. [www.ginasthma.org](http://www.ginasthma.org)

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