

Federal State Autonomous Educational Institution of Higher Education
«Peoples' Friendship University of Russia»

Medical Institute

Recommended MCSD

SYLLABUS
(STUDY GUIDE)

Subject

Outpatient Cardiology

Recommended for the direction of training (specialty)

31.05.01 General Medicine

Program (profile, specialization)

General Medicine

1. Aims and Objectives of Discipline: Aims: to form in student's rational approaches to pharmacological treatment of the most common cardiological diseases at the outpatient level.
Objectives of the discipline:

1. Consider the procedure for organizing the observation of patients from a cardiologist, the procedure for referring to a cardiologist.
2. To consider the clinical and pharmacological characteristics of drugs used to treat cardiac patients in day-to-day practice at the outpatient level.
3. To consider the principles of rational pharmacotherapy of the main nosological units in outpatient cardiology.
4. To develop skills of rational combination of medicines taking into account accompanying diseases and conditions.

2. Place of this Discipline in the Structure of EP of HE:

Discipline *Outpatient Cardiology* refers to elective disciplines of *variative* part of Block 1 of the curriculum.

Table № 1 presents preceding and following disciplines aimed at forming competence discipline in accordance with the matrix competences EP HE.

Table 1
Preceding and Following Disciplines, to Form the Competences

№	Code and name of competence	Preceding disciplines	Forthcoming disciplines (groups of disciplines)
General cultural competences (GCC)			
1.			
General Professional Competencies			
1.	GPC-1. Being able to implement moral and legal norms, ethical and deontological principals in professional activity GPC-4. Being able to use medical devices provided for by the procedure for medical care, and conduct patient examinations in order to determine a diagnosis GPC-5. Being able to assess morpho-functional, physiological conditions and pathological processes in the human body to solve professional tasks GPC-7. Being able to prescribe treatment and monitor its efficacy and safety	«Bioethics», «Legal studies», «Propaedeutics of Internal Diseases», «Faculty Therapy», «Evidence-Based Medicine», «Pharmacology»	«Polyclinic Therapy», «Hospital Therapy, Endocrinology», « Clinical Pharmacology»
Professional competences (type of professional activity - medical)			
	PC-2. Being able to examine a patient in order to determine a diagnosis	«Propaedeutics of Internal Diseases», «Faculty Therapy», «Evidence-Based	Polyclinic Therapy», «Hospital Therapy Endocrinology», «Clinical Pharmacology»

	PC-3. Being able to prescribe treatment and monitor its efficacy and safety PC-5. Being able to carry out preventive measures and measures to promote a healthy lifestyle and sanitary and hygiene education among population and monitor their effectiveness	Medicine», «Pharmacology»	
Professional-specialized competence of specialization_____			
	<i>no</i>		

3. Requirements for the Results of the Discipline:

The process of studying the discipline is aimed at the formation of the following competences:

Table 3. Formation of competencies

Category	Code and Name	Indicator Code and Name
<i>General Professional Competences</i>		
<i>Professional competences</i>		
PC-3.	Being able to prescribe treatment and monitor its efficacy and safety	PC-3.1. Being able to develop a treatment plan for a disease or condition taking into account the diagnosis, age and clinical picture in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the standards of medical care. PC-3.2. Being able to prescribe medicinal drugs, medical devices and medical nutrition taking into account the diagnosis, age and clinical picture of the disease and in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the standards of medical care. PC-3.4. Being able to assess the efficacy and safety of the use of drugs, medical devices, medical nutrition and other treatment methods. PC-3.6. Being able to organize personalized treatment for a patient, including pregnant women, elderly and senile patients; assess the efficacy and safety of treatment.
PC-5.	Being able to carry out preventive measures and measures to promote a healthy lifestyle and sanitary and hygiene education among population and monitor their effectiveness	PC-5.4. Being able to carry out follow-up care of patients with diagnosed chronic noncommunicable diseases. PC-5.5. Being able to prescribe preventive measures to patients taking into account risk factors in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the standards of medical care. PC-5.11. Being able to assess the effectiveness of

		preventive patient care.
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As a result of study of discipline a student must:

Know:

- the procedure for organizing the observation of patients from a cardiologist, the order of referral to a cardiologist.
- clinical and pharmacological characteristics of drugs used to treat cardiac patients in day-to-day practice at the outpatient level.
- principles of rational pharmacotherapy of the main nosological units in outpatient cardiology.

Be handy at:

- collect an anamnesis of a cardiac outpatient patient;
- analyze the results of clinical and laboratory data of a cardiac outpatient patient;
- appoint an additional examination and treatment for an outpatient cardiac patient.

Manage:

- the skills of prescribing rational pharmacotherapy to cardiac patients on an outpatient level;
- Skills of rational combination of medicines considering concomitant diseases and conditions;
- skills of correction of treatment, appointed by previous specialists;
- quality control skills in the provision of cardiac care at the outpatient level.

4. Volume of discipline and types of study

General credit value of the discipline is 2 Credit Unit (CU).

Type of study load	Total hours	Semesters
		XII
Class hours (total)	48	48
Include:	-	-
<i>Lectures</i>	-	-
<i>Practical training (PT)</i>	48	48
<i>Seminars (S)</i>	-	-
<i>Laboratory training (LT)</i>	-	-
Independent work (total)	24	24
Total labor input	Hours	
	72	72
	Credit Units	
	2	2

4. The scope of the discipline and types of academic work

The total labor intensity of the discipline is 2 credits.

5. Content of the Discipline

5.1. Content of the Disciplines Sections

№	Name of the section of discipline	Content of the section (topic)
1.	Characteristics of the main cardiovascular agents.	1. ACE inhibitors. General characteristics and place in therapy. Classification of ACE inhibitors. Features of use of some preparations. Complications and limitations to use. 2. Sartans. Sakibuthril / valsartan. 3. Beta-blockers. Characteristics of the group. Cautions and complications of beta-blocker therapy.

		<p>4. Nitrates. Characteristics of nitrates. Place nitrates in therapy. Complications and cautions when using. Nicorandil.</p> <p>5. Calcium channel blockers (BCC). Dihydropyridine BCC. Complications with dihydropyridines. Pulse-thinning BPC.</p> <p>6. Alpha-1-adrenoblockers</p> <p>7. Diuretics. Loop diuretics. Thiazides and similar diuretics. Antagonists of aldosterone. Potassium-sparing diuretics. Inhibitors of carbonic anhydrase.</p> <p>8. Antihypertensive drugs of central action.</p> <p>9. Cardiac glycosides. Mechanism of action and effects. Place in modern therapy. Complications and contraindications for use</p> <p>10. Antiarrhythmic drugs (AAP). AARP IA class. AARP IB class. AAS class IC. AARP class II. AARP class III. AARP class IV. Other AARPs.</p> <p>11. Antithrombotic agents. Antiaggregants, anticoagulants.</p> <p>12. Lipid-lowering drugs. Statins. Fibrates. Ezetimibe. A nicotinic acid. Final interview on the section.</p>
2.	Rational pharmacotherapy of cardiovascular diseases in outpatient practice.	<p>1. Arterial hypertension (AH). General issues. Rational pharmacotherapy. AH in pregnancy and lactation. Resistant hypertension. Pulmonary hypertension. Pharmacotherapy of hypertensive crises.</p> <p>2. Ischemic heart disease (CHD). Angina pectoris. General issues. Rational pharmacotherapy of angina pectoris. Variable angina pectoris (Prinzmetal angina). Microvascular angina pectoris (syndrome X).</p> <p>3. Chronic heart failure (CHF). General issues. Rational pharmacotherapy.</p> <p>4. Heart rhythm disturbances. Sinus tachycardia. Isolated sinus tachycardia. Extravital extrasystole. Ventricular extrasystole. Reciprocal AV-node tachycardia. Atrial fibrillation. Atrial flutter. Ventricular tachycardia. WPW-syndrome. Final interview on the section.</p>
3.	Some features of outpatient management of cardiac patients	<p>1. Indications for consultation of a cardiologist and necessary studies before consultation.</p> <p>2. AH, angina of tension, CHF.</p> <p>3. Atrial fibrillation. Atrial flutter.</p> <p>4. Other rhythm disturbances.</p> <p>5. Postponed myocardial infarction, coronary angioplasty, aorto-coronary bypass. Final interview on the section. Final interview on discipline.</p>

5.2. Sections of Disciplines and Types of Classes

No	Name of the section of discipline	Lectures	Practical training	Seminars	Laboratory training	Independent Student Work	Total hours
1.	Characteristics of the main cardiovascular agents.	0	18	0	0	8	26

2.	Rational pharmacotherapy of cardiovascular diseases in outpatient practice.	0	18	0	0	8	26
3.	Some features of outpatient management of cardiac patients	0	12	0	0	8	20
	Total		48			24	72

6. Laboratory training – not provided

№ п/п	№ discipline section	Subject of a practical training (seminars)	Workload (hours)
1.			
...			

7. Practical Classes (Seminars)

№ п/п	Name of discipline section	Subject of a laboratory training	Workload (hours)
1.	Characteristic s of the main cardiovascular agents.	<p>1. ACE inhibitors. General characteristics and place in therapy. Classification of ACE inhibitors. Features of use of some preparations. Complications and limitations to use.</p> <p>2. Sartans. Sakibuthril / valsartan.</p> <p>3. Beta-blockers. Characteristics of the group. Cautions and complications of beta-blocker therapy.</p> <p>4. Nitrates. Characteristics of nitrates. Place nitrates in therapy. Complications and cautions when using. Nicorandil.</p> <p>5. Calcium channel blockers (BCC). Dihydropyridine BCC. Complications with dihydropyridines. Pulse-thinning BPC.</p> <p>6. Alpha-1-adrenoblockers</p> <p>7. Diuretics. Loop diuretics. Thiazides and similar diuretics. Antagonists of aldosterone. Potassium-sparing diuretics. Inhibitors of carbonic anhydrase.</p> <p>8. Antihypertensive drugs of central action.</p> <p>9. Cardiac glycosides. Mechanism of action and effects. Place in modern therapy. Complications and contraindications for use</p> <p>10. Antiarrhythmic drugs (AAP). AARP IA class. AARP IB class. AAS class IC. AARP class II. AARP class III. AARP class IV. Other AARPs.</p> <p>11. Antithrombotic agents. Antiaggregants, anticoagulants.</p> <p>12. Lipid-lowering drugs. Statins. Fibrates. Ezetimibe. A nicotinic acid. Final interview on the section.</p>	18
2.	Rational pharmacotherapy of cardiovascular	1. Arterial hypertension (AH). General issues. Rational pharmacotherapy. AH in pregnancy and lactation. Resistant hypertension. Pulmonary hypertension. Pharmacotherapy of hypertensive crises.	18

	r diseases in outpatient practice.	2. Ischemic heart disease (CHD). Angina pectoris. General issues. Rational pharmacotherapy of angina pectoris. Variable angina pectoris (Prinzmetal angina). Microvascular angina pectoris (syndrome X). 3. Chronic heart failure (CHF). General issues. Rational pharmacotherapy. 4. Heart rhythm disturbances. Sinus tachycardia. Isolated sinus tachycardia. Extravital extrasystole. Ventricular extrasystole. Reciprocal AV-node tachycardia. Atrial fibrillation. Atrial flutter. Ventricular tachycardia. WPW-syndrome. Final interview on the section.	
3.	Some features of outpatient management of cardiac patients	1. Indications for consultation of a cardiologist and necessary studies before consultation. 2. AH, angina of tension, CHF. 3. Atrial fibrillation. Atrial flutter. 4. Other rhythm disturbances.5. Postponed myocardial infarction, coronary angioplasty, aorto-coronary bypass. Final interview on the section. Final interview on discipline.	12

8. Material and Technical Support of the Discipline: an audience, a multimedia projector, a laptop. a set of questions on the control of the development of the discipline sections, a set of situational tasks, a set of test tasks.

Table 8

No. p \ n	Name of special * rooms and rooms for independent work.	Equipment of special rooms and rooms for independent work.	List of licensed software. Details of the supporting document
1	Moscow, st. Miklouho-Maclay, 10, Training audience for lecture-type classes, seminars-type classes, group and individual consultations, monitoring and intermediate certification: aud. № 314	Set of specialized furniture; chalk board; technical facilities: projection screen, NEC NP-210 portable multimedia projector, Asus A52J laptop, Internet access	• Microsoft Windows 10 for educational institutions Version 1803
2	Moscow, st. Miklouho-Maclay, 10, block 2 Training room for seminars of type, group and individual consultations, monitoring and interim certification: Aud. № 430	A set of specialized furniture; magnetic marker board; technical facilities: projection screen, stationary multimedia projector, Asus A52J laptop, Internet access	• Microsoft Windows 10 for educational institutions Version 1803
3	Moscow, st. Miklouho-Maclay, 10, block 2 Training room for seminars of type, group and individual consultations, monitoring and interim certification: aud. № 431	A set of specialized furniture; magnetic marker board; technical facilities: projection screen, stationary multimedia projector, Asus A52J laptop, Internet access	• Microsoft Windows 10 for educational institutions Version 1803

4	Moscow region, Podolsk, ul. Kirova, d.38 - State Budgetary Institution of Healthcare of the Moscow Region Podolsk City Clinical Hospital: 1 audience for 25 seats, a conference hall for 500 seats	A set of specialized furniture; technical means: projection screen, stationary multimedia projector, laptop Asus A52J	
5	Moscow, st. Miklukho-Maklaya, 29, bld.2. Diagnostic Advisory Center No. 1 of the Moscow Health Department: 1 audience for 15 seats, a conference hall and 50 training seats.	Set of specialized furniture; technical means: projection screen, stationary multimedia projector, laptop Asus A52J	
6	Moscow region, Podolsk, ul. Kirova, d.27 - State budgetary institution of health care of the Moscow region Podolsk city polyclinic №1: 1 audience for 25 seats, a conference hall for 100 seats.	A set of specialized furniture; equipped with multimedia equipment	
7	Moscow, Beskudnikovskiy Boulevard, d. 59 - Polyclinic No. 155 (Consultative and Diagnostic Center No. 6, branch No. 2): 1 audience for 15 seats, a conference room for 50 training seats.	Set of specialized furniture; technical means: projection screen, stationary multimedia projector, laptop Asus A52J	

*Special rooms - classrooms for lecture classes, seminars, course design (coursework), group and individual counseling, monitoring and interim certification, as well as rooms for independent work.

9. Information Support of the Discipline: It takes a set of questions to control the development of discipline sections, a set of situational tasks, a set of test tasks.

a) software – *not required*

б) data base, information and reference systems and search systems:

1) escardio.ru (a collection in English of clinical recommendations on the rational treatment of cardiovascular diseases in Russia)

2) lib.rudn.ru (electronic library system of RURN-Uninirsity)

Electronic Library System (ELS) of the RUDN University and third-party ELS, to which university students have access on the basis of concluded contracts.

3) Scientific electronic library (<http://elibrary.ru/defaultx.asp>).

4) Telecommunications educational and information system of RUDN (<https://esystem.rudn.ru/>).

5) Universal library ONLINE (<http://biblioclub.ru>).

6) Library of electronic journals BENTHAM OPEN (<http://www.benthamscience.com/open/a-z.htm>).

7) Library e-journals Elsevier (<http://www.elsevier.com/about/open-access/open-archives>).

8) Medlib medical online library (<http://med-lib.ru/>).

9) Elzevir Electronic Magazine Library (<http://www.elsevier.com/about/open-access/open-archives>).

- 10) Scientific medical journal "Difficult Patient", the archive of the journal is freely available - (<http://t-pacient.ru>).
- 11) The journal "Zemsky doctor", the archive of the journal is freely available (<http://logospress.ru/zvrach>).
- 12) The website of the All-Russian Scientific Society of Cardiologists, contains freely available domestic recommendations for the prevention, diagnosis and treatment of cardiac diseases (<http://www.scardio.ru/>).

10. Educational and Methodological Support of the Discipline:

a) basic literature

- regulatory documents

- 1) Order of the Ministry of Health of the Russian Federation of 15.11.2012 N 918n (ed. of 21.02.2020) "On approval of the procedure for providing medical care to patients with cardiovascular diseases"
- 2) Arterial hypertension in adults. Clinical recommendations 2020. Russian Journal of Cardiology. 2020;25(3):3786. doi:10.15829/1560-4071-2020-3-3786
- 3) Order of the Government of the Russian Federation of 12.10.2019 N 2406-r (ed. of 23.11.2020) "On approval of the list of vital and essential medicines, as well as lists of medicines for medical use and the minimum range of medicines necessary for the provision of medical care" (with amendments and additions, intro. effective from 01.01.2021)
- 4) Order of the Ministry of Health of the Russian Federation of 29.03.2019 N 173n "On approval of the procedure for conducting dispensary monitoring of adults"
- 5) Order of the Ministry of Health of the Russian Federation of 13.03.2019 N 124n (ed. of 02.12.2020) "On approval of the procedure for conducting preventive medical examination and medical examination of certain groups of the adult population" (latest edition)

- educational literature

1. Sturov N. V., Syrov A.V., Kobylyanu G. N. Pharmacotherapy of cardiovascular diseases in outpatient practice: Textbook. - Moscow: RUDN, 2018. - 76 p.

b) additional literature

2. Actual issues of practical cardiology / Edited by Yu. M. Pozdnyakov. - Moscow: IPK, 2017. - 356 p.
3. Cardiology . National leadership / Edited by Yu. N. Belenkov, R. G. Oganov. M.: "GEOTAR media", 2008 – - 1232 p.
4. Internal diseases: Textbook / Edited by V. I. Makolkin-6th ed., reprint. and additional-M.: GEOTAR-Media, 2015 – - 768 p.

b) additional literature

1. Syrov, A.V. Practical issues of diagnosis and treatment of atrial fibrillation: monograph / A.V. Syrov. - Moscow: RUDN, 2020. - 120 p.: ill.
2. Guidelines for the diagnosis and treatment of diseases of the circulatory system in the context of the COVID-19 pandemic // Working group: Shlyakhto E. V., Konradi A. O., Arutyunov G. P., Arutyunov A. G., Bautin A. E., Boitsov S. A., Villevalde S. V., Grigorieva N. Yu., Duplyakov D. V., Zvartau N. E., Koziolova N. A., Lebedev D. S., Malchikova S. V., Medvedeva E. A., Mikhailov E. N., Moiseeva O. M., Orlova Ya. A., Pavlova T. V., Pevsner D. V., Petrova M. M., Rebrov A. P., Sitnikova M. Yu., Solovyova A. E., Tarlovskaya E. I., Trukshina M. A., Fedotov P. A., Fomin I. V., Khripun A.V., Chesnikova A. I., Shaposhnik I. I., Yavelov I. S., Yakovlev A. N.– <https://russjcardiol.elpub.ru> ISSN 1560-4071 (print) doi:10.15829/1560-4071-2020-3-3801
3. Syrov, A.V., Pozdnyakov, Yu. M. Key issues of outpatient cardiology in clinical examples. - M., 2020– - 158 p.
4. Guidelines for Central Cardiology // <https://www.urmc.rochester.edu/cardiology/patient-care/programs/outpatient-cardiology.aspx>

11. Guidelines for Students on the Development of Discipline (Module)

To successfully master the discipline, you should repeat the sections devoted to the pharmacology of cardiovascular drugs from the course of general pharmacology, semiotics of cardiovascular diseases from the course of Propaedeutics of internal diseases, the principles of diagnosis and treatment of the most common cardiovascular diseases from the course of faculty therapy.

When studying topics for self-mastery, one should use the recommended literature (available in TUIS PFUR lib.rudn.ru, the database of clinical recommendations scardio.ru).

Extracurricular independent work includes:

- study of the material according to the textbook, textbooks on paper and electronic media;
- preparation of an abstract message on a selected topic;
- preparation for the implementation of control works and test tasks.

If distance learning is necessary, the Microsoft Teams corporate platform based on Office 365 can be used.

12. Evaluation fund for conducting intermediate certification of students in the discipline

Materials for assessing the level of mastering the educational material of the discipline "Outpatient Cardiology" (evaluation materials), including a list of competencies indicating the stages of their formation, a description of indicators and criteria for evaluating competencies at various stages of their formation, a description of assessment scales, standard control tasks or other materials necessary for assessing knowledge, skills and (or) experience of activity that characterize the stages of competence formation in the process of mastering the educational program, methodological materials that determine the procedures for evaluating knowledge, skills and (or) experience of activity that characterize the stages of competence formation are fully developed and are available to students on the discipline page in the Telecommunications educational and information system of RUDN (<https://esystem.rudn.ru/>).

The program is compiled in accordance with the requirements of the FSES HE.

Developers:

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