



EDUCATIONAL PROGRAM OF RESIDENCY 7R01101 Cardiology (adults, children)

ONTÚSTIK QAZAQSTAN

MEDISINA

AKADEMIASY

«Оңтүстік Қазақстан медицина академиясы» АҚ

Cathedra of Therapy and Cardiology

Educational program 7R01101 Cardiology (adults, children)

SOUTH KAZAKHSTAN

MEDICAL

ACADEMY

AO «Южно-Казахстанская медицинская академия»

51/11

2 page. from 18

The educational program of the residency 7R01101 Cardiology (adults, children
was developed by the Department of Therapy and Cardiology
Head of the Department Asanova G.K.
Protocol № 80 from " 01 2025 y.
Agreed with the employer:
Deputy Chairman of the Board Cor Medical A lairs HEART CENTER
NAO "Heart Center", Master of Medicine Alipova G.S.
Discussed at the meeting of the AC
therapeutic profile
Chairman of the AK, Associate Professor ALO Kauyzbai J.A.
Protocol № 1/4 from " <u>d1" or</u> 2025 y.
Approved by the Clinical Council
Chairman, ProfessorB.K.Nurmashev
Protocol № 8 from "25" 01 2025 y. Hug
Approved by the Academic Council
Protocol № 13 from " at " as 2025 y.

### Passport of the educational program

1. The mission of the educational program:

Training of competitive personnel, achieving learning outcomes to ensure the health system and society need highly qualified cardiologists.

2. The purpose of the educational program:

Training of a qualified cardiologist who has a system of universal, professional competencies, capable and ready for independent professional activity in primary health care, emergency, as well as specialized, including the use of high-tech medical services

### 3. Justification of the OP:

Cardiology is a medical science that deals with the prevention, detection, and treatment of heart diseases and the circulatory system in general. A cardiologist is a doctor who specializes in this field and is also engaged in restoring the functioning of the heart, which is disrupted by diseases of other internal organs. The specialist's task is to timely detect and eliminate risk factors for cardiovascular pathologies, prevent their occurrence, select the necessary treatment and monitor the condition of patients, and rehabilitate cardiological and cardiac surgical patients.

The need of medical organizations for cardiologists in order to improve the quality of cardiological care is the rationale for the discovery and the need to train cardiologists, primarily at the regional level, taking into account the main strategies and programs for the development of the healthcare system at the international, national and regional levels.

- 4. The professional standard on the basis of which the educational program is developed:
- Order of the Minister of Health of the Republic of Kazakhstan dated 07.04.2022 No. KR DSM-63 "On approval of state mandatory standards for levels of education in the field of healthcare";
- Professional standard "Cardiology (adults, children)" (Order of the Minister of Health of the Republic of Kazakhstan dated January 25, 2024 No. 46 "On approval of professional standards in the field of healthcare".
- On Amendments and additions to the Order of the Minister of Health of the Republic of Kazakhstan "On approval of the list of medical specialties of residency programs" dated May 25, 2021 No. KR DSM 43 and "On approval of standard training programs in medical and pharmaceutical specialties" dated January 9, 2023 No. 4. (Order of the Minister of Health of the Republic of Kazakhstan dated 10 November 2023, No. 164).
- 5. The field of professional activity. Healthcare
- Objects of professional activity. Medical organizations providing inpatient and outpatient care, healthcare systems of the Republic of Kazakhstan

SOUTH KAZAKHSTAN ACADEMY

АО «Южно-Казахстанская медицинская академия»

Cathedra of Therapy and Cardiology Educational program 7R01101 Cardiology (adults, children)

51/11 4 page, from 18

### General information

1	Registration number	7R09100113
2	The code and classification of the field of education	7R01 Healthcare (medicine)
3	The code and classification of training areas	7R011 Healthcare
4	Group of educational programs	R011 Cardiology (adults, children)
5	Code, name of the educational program	7R01101 Cardiology (adults, children)
6	Туре Ор	Updated educational program
7	ISCED level	7
8	The level of the NRK	7
9	ORC Level	7
10	Distinctive features of the OP	compiled according to the professional standard
	Partner University (SOP)	
	Partner University (SOP)	
11	List of competencies	CC1 Patient supervision: formulate a clinical diagnosis, prescribe a treatment plan, and evaluate its effectiveness based on evidence-based practice in highly specialized cardiology care.  CC 2 Communication and collaboration: interact effectively with the cardiological patient, his environment, and healthcare professionals in order to achieve the best results for the patient  CC 3 professionalism: assess risks and use the most effective methods to ensure a high level of safety and quality of highly specialized cardiological care.  CC 4 Public health: to act within the legal and organizational framework of the healthcare system of the Republic of Kazakhstan in their specialty, to provide basic cardiological care in emergency situations, to work as part of interprofessional teams to implement national health promotion policies  CC 5 research: formulate adequate research questions, critically evaluate professional literature, effectively use international databases in their daily activities, participate in the work of the research team  CC 6 обучение и развитие: обучаться самостоятельно и обучать других членов профессиональной команды,

## ONTUSTIK GAZAGSTAN OSE SKMA

AKADEMIASY «Оңтүстік Қазақстан медицина академиясы» АҚ SOUTH KAZAKHSTAN MEDICAL

ACADEMY AO «Южно-Казахстанская медицинская академия»

Cathedra of Therapy and Cardiology

51/11

Educational program 7R01101 Cardiology (adults, children)

		активно участвовать в дискуссиях, конференциях и других формах непрерывного профессионального развития.
12	Learning outcomes:	LO1 formulatea clinical diagnosis, prescribe a treatment plan, and evaluate its effectiveness based on evidence-based practice in highly specialized cardiac care.  LO2 communicate effectively with the cardiac patient, their environment, healthcare professionals in order to achieve the best results for the patient  LO3 assess risks and use the most effective methods to ensure a high level of safety and quality in highly specialized cardiac care.  LO4 act within the legal and organizational framework of the healthcare system of the Republic of Kazakhstan in their specialty, provide basic cardiological care in emergencies, work as part of interprofessional teams to implement the policy of promoting the health of the nation  LO5 formulate adequate research questions, critically evaluate professional literature, effectively use international databases in their daily activities, participate in the work of the research team  LO6 learn independently and train other members of the professional team, actively participate in discussions, conferences and other forms of continuous professional development.
13	The form of study	is full-time
14	The language of instruction	Kazakh and Russian
15	Volume of loans	210
16	The duration of the training:	2 year
17	Degree awarded, qualification	Cardiologist for adults and children
18	Availability of an appendix to the license for the direction of training	KZ36LAA00011387
19	Availability of OP accreditation	Have
	Name of the accreditation body	IAAR
	The validity period of the accreditation	№ KZ73LAA00011788. 10.06.2022y09.06.2027y
20	Information about the disciplines	Application 1.2

#### SKMA SOUTH KAZAKHSTAN ONTUSTIK QAZAQSTAN MEDISINA MEDICAL AKADEMIASY ACADEMY АО «Южно-Казахстанская медицинская академия» «Оңтүстік Қазақстан медицина академиясы» АҚ Cathedra of Therapy and Cardiology 51/11 6 page. from 18

Educational program 7R01101 Cardiology (adults, children)

Application 1.1 The matrix of correlation of learning outcomes according to the educational program as a whole with the competencies being formed

	PO1	PO2	PO3	PO4	PO5	PO6
КК1	+	+	+			
КК2	N	+		+		
КК3			+		+	
KK4				+		
KK5					+	
КК6					- 10	+

Application 1.2

Matrix of achievability of competencies/learning outcomes

N2	Name of the discipline	A brief description of the discipline		Compo	Num ber of credit s.	Form ed RO
	VELOCIA DE LA COMPANIO	Cycle of Profiling discipline				
1	The cardiology is out-patient and polyclinic	out-patient and polyclinic (diagnosis, treatment,		UC	32	LO1 LO2 LO5
2	Electrophysiology of the heart	Analysis, registration of the electrogram of the heart, the use of diagnostic stimulation to assess the electrophysiological parameters of the heart (electrophysiological transesophageal examination of the heart). Evaluation of the function of the sinus and atrioventricular nodes, the His-Purkinje system, the	PD	UC	20	LOS LOS

ONTUSTIK QAZAQSTAN CÓBO-SKMA AKADEMIASY

«Оңтүстік Қазақстан медицина академиясы» АҚ

SOUTH KAZAKHSTAN MEDICAL

ACADEMY AO «Южно-Казахстанская медицинская академия»

Cathedra of Therapy and Cardiology

Educational program 7R01101 Cardiology (adults, children)

		characterization of the electrical properties of the myocardium of the atria and ventricles, their influence on the development of arrhythmias. Functional methods for studying the cardiovascular system (ECG, 24-hour blood pressure monitoring, bicycle ergometry, treadmill test, stress test). Scientific research and knowledge of evidence-based medicine.				
3	Non-invasive cardiovascular imaging	Ultrasound methods for studying the cardiovascular system (transthoracic echocardiography, transesophageal echocardiography, stress echocardiography). Basic principles of performing radioisotope research methods (myocardial perfusion scintigraphy, radionuclide ventriculography, radionuclide angiography during exercise), interpretation of the results. Basic principles of independent performance and interpretation of the results of magnetic resonance imaging of the heart from the perspective of emergency medicine.	PD	UC	32	LO2 LO5 LO6
4	Interventional cardiology	Organization of interventional cardiology service in Kazakhstan. Clinic, diagnosis, indications and contraindications for planned and emergency interventional cardiac care ( coronary angiography, stenting, radiofrequency ablation, implantation of a pacemaker and cardioverter-defibrillator, cardiac resynchronization therapy, denervation of the renal arteries, etc.) Volumes, standards for the provision of interventional interventions, prevention of complications.	PD	UC	14	LO2 LO3
5	Intensive cardiology	Work in the intensive care unit, intensive care unit. Principles of cardiopulmonary resuscitation. Optimal use of laboratory and instrumental research methods in emergency cardiology practice in adults and children. In practical activities, be guided by regulatory	PD	UC	22	LO5 LO6

MEDISINA
AKADEMIASY

ONTUSTIK QAZAQSTAN

MEDISINA
AKADEMIASY

«Оңтүстік Қазақстан медицина академиясы» АҚ

SKMA MEDICAL ACADEMY

ACADEMY АО «Южно-Казахстанская медицинская академия»

Cathedra of Therapy and Cardiology

51/11

Cathedra of Therapy and Cardiology					
<b>Educational program</b>	7R01101 Cardiology	(adults, children)			

		legal acts, use modern algorithms for actions on syndromes in emergency situations in cardiological resuscitation.				
6	Cardiology in the hospital	The study of private cardiology: ischemic heart disease, acute coronary syndrome, primary and symptomatic arterial hypertension, pulmonary hypertension, cardiac arrhythmias and conduction disorders, acute and chronic heart failure, myocarditis, cardiomyopathies, congenital and acquired heart defects, endocarditis, pericarditis, aortic diseases and blood vessels, heart tumors. Differential diagnosis of cardialgia, cardiomegaly, heart murmurs, edematous-ascitic syndrome, tachybradyarrhythmia, syncope, shortness of breath, cyanosis. Principles of consultative medicine, analysis of articles in the choice of research methods and treatment tactics.	PD	UC	80	LO1 LO2 LO5
	Total:				200	-
		Cycle of Profiling discipline				
7	Rehabilitation of	A component of choice  Assessment of the clinical condition of	PD	EC	8	LO2
	cardiac and cardiac surgical patients	the patient; optimization of pharmacological treatment. Physical rehabilitation - a stepwise and controlled increase in physical activity, adapted to the individual capabilities of a person; diagnostics and further work with the reduction of risk factors for the development of coronary artery disease; lifestyle change. The use of modern programs for the rehabilitation of cardiological patients, including after surgical interventions.				LO3
8	Sports Cardiology	Medico-biological selection and admission to practicing a particular sport in accordance with the genetic and phenotypic capabilities of the individual. Ensuring the growth of	PD	EC		LO3 LO6

# МЕДІЗІЛА АКАДЕМІАЅҮ «Оңтүстік Қазақстан медицина академиясы» АҚ

MEDICAL ACADEMY AO «Южно

**ACADEMY** АО «Южно-Казахстанская медицинская академия»

Cathedra of Therapy and Cardiology Educational program 7R01101 Cardiology (adults, children) 51/11 9 page. from 18

	performance) using physiologically justified effects on the body, together with a sports doctor. The use of various tests to assess the effectiveness of ongoing medical procedures on the athlete's body.	
Total:		8
Final certification:		2
Total:		210

### Professional standard: " Cardiology (adults, children)"

Profession card "7.2 Cardiologist"	Mandatory labor functions:	Ensuring the diagnosis of diseases of the cardiovascular system in outpatient and inpatient settings in adults in accordance with current diagnostic and treatment protocols of the Republic of Kazakhstan and international recommendations     Providing treatment for diseases of the cardiovascular system in patients (adults, children).     Conducting medical examinations in patients with cardiac diseases.     Provision of primary and secondary prevention of diseases of the cardiovascular system in patients (adults, children).     Participation in the management of medical documentation, medical and statistical information
	Additional labor functions:	1. Continuous professional development
Labor function 1: Ensuring the diagnosis of diseases of the cardiovascular system in outpatient and inpatient settings in adults in accordance with current diagnostic and treatment protocols of the Republic of Kazakhstan and international recommendations	Skill 1:  Identification of signs of diseases of the cardiovascular system during questioning and examination of patients, identification of leading cardiac syndromes and making a preliminary diagnosis	Skills:  1. Analyze the information obtained during the collection of complaints and medical history of life and illness and integrate the information obtained with the results of the examination.  2. Assess cardiovascular risk using approved scales and risk assessment tools.  3. Identify and monitor the clinical parameters of the patient's condition, paying special attention to the cardiovascular system in both healthy and patients (adults, children) with various diseases.  4. Highlight important clinical information.  5. Substantiate and record the identified cardiac syndromes and formulate a preliminary diagnosis.  6. To draw up a comprehensive examination plan for a patient (adults, children) with cardiovascular pathology, taking into account current clinical protocols and

меdisina Академіаsу ина академиясы» АК «Оңтүстік Қазақстан медицина академиясы» АҚ

SOUTH KAZAKHSTAN ACADEMY

АО «Южно-Казахстанская медицинская академия»

Cathedra of Therapy and Cardiology Educational program 7R01101 Cardiology (adults, children)

	guidelines. Knowledge:  1. Knowledge of the anatomical and functional state of the heart and blood vessels in normal and in diseases of the cardiovascular system.  2. Knowledge of the etiology and pathogenesis of diseases of the cardiovascular system.  3. Knowledge of the clinical picture, features of the course of complications in cardiovascular pathology.  4. Knowledge of possible changes from the cardiovascular system in common diseases.  5. Knowledge of physical methods of studying the cardiovascular system.  6. Knowledge of the syndromes of diseases of the cardiovascular system.  7. Knowledge of modern classifications of cardiovascular diseases and ICD-10.
Skill 2: Planning of examination of the patient with justification of carrying out appropriate methods of laboratory and instrumental diagnostics.	Skills:  1. To determine indications for laboratory, non-invasive and invasive instrumental diagnostic methods used in cardiology.  2. To identify contraindications to laboratory, non-invasive and invasive instrumental diagnostic methods used in cardiology.  3. Interpret laboratory, non-invasive and invasive instrumental diagnostic methods used in cardiology. Knowledge:  1. Knowledge of laboratory and instrumental studies in accordance with the current clinical protocols of diagnosis and treatment of the Republic of Kazakhstan and (or) international recommendations.  2. Knowledge of indications or contraindications and the algorithm of laboratory and instrumental research methods for diseases of the cardiovascular system.  3. Knowledge of medical and legal issues related to consent, provision of information and restrictions.
Skill 3: Referral of patients with diseases of the cardiovascular system for consultation with specialists	Skills:  1. To determine indications for referral of patients with diseases and (or) symptoms from the cardiovascular system for consultation with specialist doctors in accordance with current clinical protocols for diagnosis and treatment of the Republic of Kazakhstan and (or) international recommendations.  2. To determine indications or contraindications for cardiac surgery and interventional interventions.  3. Analyze the conclusion of specialist doctors and arrange it in medical documentation, including electronic format.

ONTÚSTIK QAZAQSTAN MEDISINA AKADEMIASY

AKADEMIASY «Оңтүстік Қазақстан медицина академиясы» АҚ

SKMA MEDICAL ACADEMY AO «Южно-Казахо

АСАDEMY АО «Южно-Казахстанская медицинская академия»

Cathedra of Therapy and Cardiology

51/11

Educational program 7R01101 Cardiology (adults, children) 11 page. from 18

	Knowledge:  1. Knowledge of the clinical picture of conditions requiring referral to specialist doctors in patients with diseases of the cardiovascular system.  2. Knowledge of indications or contraindications for interventional and surgical methods of diagnosis and treatment of diseases of the cardiovascular system.  3. Knowledge of disease syndromes of noncardiological diseases.
Skill 4: Ensuring the safety and monitoring of diagnostic studies	Skills:  1. Prepare the patient for diagnostic examination.  2. To determine the tactics of patient management before and after diagnostic tests.  3. To identify the clinical symptoms of complications during diagnostic studies.  4. Have the skills to help with the development of complications during diagnostic tests.  Knowledge:  1. Knowledge of the symptoms and syndromes of complications, side effects, and adverse reactions, including serious and unforeseen ones, possible during diagnostic procedures in patients with diseases of the cardiovascular system.  2. Knowledge of algorithms for emergency care in case of complications.  3. Knowledge of the indications for transferring the patient to the intensive care unit and intensive care unit, if necessary.
Skill 5: Interpretation of laboratory and instrumental diagnostic results	Skills:  1. Interpret the results of laboratory tests used in cardiology.  2. To interpret the results of non-invasive and invasive instrumental diagnostic methods used in cardiology.  3. Analyze the conclusion of diagnostic methods and arrange them in medical documentation, including electronic format.  Knowledge:  1. Knowledge of laboratory parameters in normal and pathological conditions.  2. Knowledge of laboratory syndromes.  3. Knowledge of indicators of instrumental research methods in normal and pathological conditions.  4. Knowledge of the syndromes detected by instrumental research methods.
Skill 6: Differential diagnosis, clinical diagnosis in	Skills:  1. To make a differential diagnosis based on the leading cardiological symptoms and syndromes.  2. To make a differential diagnosis based on the leading

MEDISINA AKADEMIASY

АКАДЕМІАЅУ «Оңтүстік Қазақстан медицина академиясы» АҚ

ACADEMY АО «Южно-Казахстанская медицинская академия»

Cathedra of Therapy and Cardiology Educational program 7R01101 Cardiology (adults, children) 51/11

	accordance with current classifications and ICD-10	noncardiological symptoms and syndromes.  3. Substantiate the clinical diagnosis and make it in accordance with the current classifications and ICD-10. Knowledge:  1. Knowledge of the diagnostic criteria for diseases with similar symptoms and their distinguishing features.  2. Knowledge of diagnostic criteria for syndromes and diseases of the cardiovascular system.  3. Knowledge of modern classifications of cardiovascular diseases and ICD-10.
	Skill 7: Providing advice to relevant specialists in the presence of newly identified signs of other (non-cardiological) diseases or conditions	Skills:  1. To make a differential diagnosis of the leading syndromes in the clinic of internal diseases, surgery and gynecology.  2. To determine indications for providing an advisory opinion of doctors of relevant specialties.  3. To substantiate and formalize in the medical documentation the advisory opinion of doctors of the relevant specialties.  Knowledge:  1. Knowledge of the symptoms of related (noncardiological) diseases.  2. Knowledge of the symptoms of emergency conditions caused by non-cardiological diseases.  3. Knowledge of the indications for scheduled and emergency consultations of relevant specialists and (or) hospitalization of patients in a specialized hospital.
Labor function 2: Providing treatment for diseases of the cardiovascular system in patients (children).	Skill 1: Definition of non- drug treatment methods	Skills:  1. To develop a non-drug treatment plan for patients (adults, children), taking into account the established diagnosis, age, clinical picture and in accordance with the current clinical protocols for diagnosis and treatment of the Republic of Kazakhstan and (or) international recommendations.  2. Evaluate the effectiveness and safety of non-drug treatment to reduce risk factors for the development of the disease.  3. Prescribe a diet based on the established diagnosis, age, clinical picture and in accordance with the current clinical protocols for diagnosis and treatment of the Republic of Kazakhstan and (or) international recommendations. Knowledge:  1. Principles and methods of non-drug therapy of diseases of the cardiovascular system, indications and contraindications, possible complications and side effects.
	Skill 2: Individual selection of a reasonable	Skills:  1. To develop a medical treatment plan for patients (adults, children), taking into account the established

«Оңтүстік Қазақстан медицина академиясы» АҚ

Cathedra of Therapy and Cardiology

SOUTH КАЗАКНЯТАН

MEDICAL

ACADEMY

AO «Южно-Казахстанская медицинская академия»

51/11

Educational program 7R01101 Cardiology (adults, children)

pharmacological treatment, selection of a specific drug or combination of drugs, route of administration depending on the disease, patient's age, genetic characteristics, ethnicity, emergency condition, and other diagnosis, age, clinical picture and in accordance with the current clinical protocols for diagnosis and treatment of the Republic of Kazakhstan and (or) international recommendations.

13 page. from 18

- Evaluate the effectiveness and safety of drug treatment.
- 3. To adjust the treatment depending on the individual characteristics of the patients (adults, children). Knowledge:
- 1. Knowledge of methods of medical treatment of patients with cardiovascular pathology.
- 2. Knowledge of possible complications and side effects of drug therapy in patients with cardiovascular pathology.
- Knowledge of the sequence of drug use, non-drug therapy, and surgical intervention for patients with diseases and/or conditions of the cardiovascular system.
- Knowledge of pharmacokinetics, pharmacodynamics, pharmacogenetics, indications, contraindications, interactions, side effects and toxicity of cardiovascular drugs.
- Knowledge of the principles of individual choice of a drug or combination of drugs depending on age, patient profile, concomitant diseases, genetic background and ethnicity.
- Knowledge of the cardiovascular side effects of noncardiovascular drugs.
- Knowledge of the interpretation of diagnostic tests for evaluating the effectiveness and safety of drugs (laboratory tests, ECG, hemodynamic monitoring, echocardiography).
- Knowledge of the principles of evidence-based medicine as the basis of pharmacotherapy of cardiovascular pathology.

### Skill 3:

Recognition of side effects of pharmacological treatment and identify measures to eliminate them, indications and contraindications for use.

### Skills:

- Analyze the pharmacological action and interaction of drugs.
- 2. To monitor the effectiveness of the use of medicines and medical devices for patients (adults, children) with diseases of the cardiovascular system.
- 3. To monitor the safety of the use of medicines and medical devices for patients (adults, children) with diseases of the cardiovascular system.

### Knowledge:

- Knowledge of the mechanisms of action of drugs and medical devices used in cardiology, indications and contraindications for use.
- Knowledge of the mechanisms of action of drugs and medical devices used in the treatment of noncardiological diseases, indications and

ONTÚSTIK QAZAQSTAN CÓBO SKMA AKADEMIASY

«Оңтүстік Қазақстан медицина академиясы» АҚ

SOUTH KAZAKHSTAN MEDICAL

ACADEMY

АО «Южно-Казахстанская медицинская академия»

Cathedra of Therapy and Cardiology	51/11
Educational program 7R01101 Cardiology (adults, children)	14 page. from 18

		contraindications for use.  3. Knowledge of possible complications and side effects, including serious and unforeseen ones in patients (adults, children) with diseases of the cardiovascular system.
monitor the effectiveness safety of nor and pharmac treatment an	Evaluate and monitor the effectiveness and safety of non-drug and pharmacological treatment and make timely adjustments if	Skills:  1. Calculate the volume and rate of drug administration, including using an infusomat.  2. Prescribe and monitor the treatment of patients (adults, children) with diseases of the cardiovascular system.  3. To prevent and eliminate complications, side effects, including serious and unforeseen ones, resulting from the use of medicines and (or) medical devices, non-drug therapy, and surgical interventions.  Knowledge:  1. Knowledge of the criteria of efficacy and safety of non-drug and pharmacological treatment.  2. Knowledge of ways to prevent and eliminate complications and side effects, including serious and unforeseen ones, that occur during the examination or treatment of patients with diseases of the cardiovascular system.  3. Knowledge of registration of medical documentation (yellow cards) together with a clinical pharmacologist.
indication intervention interve	Skill 5: Determination of indications for interventional and surgical treatment methods and referral to appropriate specialists for their implementation, assessment of the postoperative period with monitoring of necessary indicators	Skills:  1. To determine indications and contraindications for interventional and surgical interventions, to develop a plan for the preparation of patients with diseases of the cardiovascular system for interventions.  2. To implement the postoperative management plan developed by surgeons for patients with diseases of the cardiovascular system.  3. To prevent and/or treat postoperative complications. Knowledge:  1. Knowledge of indications for interventional and surgical interventions in cardiovascular diseases.  2. Knowledge of contraindications for interventional and surgical interventions in cardiovascular diseases.  3. Knowledge of preoperative preparation and postoperative management of patients with diseases of the cardiovascular system.
	Skill 6: Determination of indications for palliative treatment of patients with diseases of the cardiovascular	Skills:  1. To treat pain and other painful symptoms while providing palliative care.  2. To participate in the provision of palliative care in cooperation with specialist doctors and other medical professionals.  3. To determine indications for referral of patients with

Cathedra of Therapy and Cardiology

51/11

Educational program 7R01101 Cardiology (adults, children)

	system and its implementation	diseases of the cardiovascular system for medical care in hospitals or in a day hospital for palliative care.  Knowledge:  1. Knowledge of principles and methods of anesthesia in cardiology.  2. Knowledge of indications for referral of patients with diseases of the cardiovascular system for palliative care.  3. Knowledge of the procedure for palliative care.
	Skill 7: Provision of emergency and emergency medical care to patients with diseases of the cardiovascular system	Skills:  1. Recognition of life-threatening conditions, including clinical death (arrest of vital functions of the human body (blood circulation and/or respiration), requiring emergency medical care.  2. Recognize urgent conditions in cardiology that pose a threat to life and require emergency medical care.  3. Provide emergency medical care to patients in urgent conditions, including in emergency situations.  4. Provide emergency medical care in conditions that pose a threat to life, including clinical death (stopping vital functions of the human body (blood circulation and (or) respiration).  5. Perform basic cardiopulmonary resuscitation.  6. Use medicines and medical devices when providing emergency medical care.  Knowledge:  1. Emergency conditions in cardiology: diagnostic criteria; principles of treatment and prevention.  2. Principles and methods of providing emergency medical care to patients in urgent conditions caused by diseases of the cardiovascular system, including in emergency situations.  3. Rules of basic cardiopulmonary resuscitation
Labor function 4: Providing primary and secondary prevention of diseases of the cardiovascular system in patients (adults, children).	Skill 1: Identification of cardiovascular risk factors in the examined patients for primary and secondary prevention, definition of an action plan for their control and provision of control	Skills:  1. Use recommended risk scales for the development of cardiovascular complications and mortality for primary prevention.  2. To introduce into the work of screening rooms and general practitioners existing tools for the identification and formation of risk groups for the development of diseases of the circulatory system.  3. To organize and carry out sanitary and educational work on the formation of a healthy lifestyle, prevention of diseases of the cardiovascular system.  4. To advise patients on the formation of healthy lifestyle skills, prevention of diseases of the cardiovascular system.  5. Develop and implement programs for the formation of a healthy lifestyle, including programs to reduce alcohol

SOUTH KAZAKHSTAN ONTUSTIK QAZAQSTAN MEDISINA SKMA MEDICAL AKADEMIASY **ACADEMY** АО «Южно-Казахстанская медицинская академия» «Оңтүстік Қазақстан медицина академиясы» АҚ 51/11 Cathedra of Therapy and Cardiology 16 page. from 18

Educational program 7R01101 Cardiology (adults, children)

and tobacco consumption, prevent and combat non-
medical use of narcotic drugs and psychotropic
substances.

6. To organize, monitor and evaluate the effectiveness of preventive measures in patients (adults, children) with diseases of the cardiovascular system.

Knowledge:

- 1. Knowledge of the epidemiology of cardiovascular diseases in the country and in the world: morbidity, prevalence, survival, and risk factors for cardiovascular morbidity and mortality.
- 2. Knowledge of local risk factors for the development of cardiovascular morbidity.
- 3. Knowledge of scales for assessing the risk of cardiovascular disease and mortality.
- 4. Knowledge of strategies for the treatment or prevention of major risk factors and lifestyle changes.
- 5. Knowledge of the concept of "patient compliance" and methods of improving compliance.
- 6. Knowledge of indications and contraindications to the use of methods for the prevention of diseases of the cardiovascular system in accordance with current procedures for the provision of medical care, (protocols for diagnosis and treatment of medical care, taking into account the standards of medical care.
- 7. Knowledge of methods of monitoring compliance with preventive measures.
- 8. Knowledge of the principles of dispensary monitoring of patients with diseases of the cardiovascular system in accordance with regulatory legal acts and other documents.
- 9. Knowledge of the procedure for follow-up of patients with identified chronic diseases and (or) conditions of the cardiovascular system.
- 10. Knowledge of the impact and possibility of lifestyle changes to prevent and improve cardiovascular diseases.

Skills:

- Plan your work and compile a report analyzing your own performance indicators.
- 2. Maintain medical records, including in electronic form, and monitor the quality of its management.
- 3. To analyze the medical and statistical indicators of the work of the specialized medical department.
- 4. Use patients' personal data and information in accordance with the law.
- 5. Use information systems in accordance with the established procedure. Knowledge:

Work function 5: Participation in the management of medical documentation, medical and statistical information

Skill 1: Management of medical documentation, analysis of medical and statistical information, in accordance with the requirements of regulatory legal acts in the field of

MEDISINA **AKADEMIASY** «Оңтүстік Қазақстан медицина академиясы» АҚ



MEDICAL

ACADEMY АО «Южно-Казахстанская медицинская академия»

Cathedra of Therapy and Cardiology

Educational program 7R01101 Cardiology (adults, children)

		1. Order of the Acting Minister of Health of the Republic of Kazakhstan dated October 30, 2020 No. KR DSM-175/2020 "On approval of Accounting Documentation forms in the field of healthcare, as well as instructions for completing them (registered with the Ministry of Justice of the Republic of Kazakhstan on November 4, 2020 No. 21579).  2. Order of the Minister of Health of the Republic of Kazakhstan dated December 22 2020 No. KR DSM-313/2020 "On approval of forms of accounting documentation in the field of healthcare" (registered with the Ministry of Justice of the Republic of Kazakhstan on December 23, 2020 No. 21879).  3. Order of the Minister of Health of the Republic of Kazakhstan dated December 10, 2020 No. KR DSM-244/2020 "On approval of the rules for maintaining primary medical records and submitting reports" (registered with the Ministry of Justice of the Republic of Kazakhstan on December 11, 2020 No. 21761).  4. Electronic accounting and documentation systems.  5. Confidentiality of patients' medical information.  6. Fundamentals of medical statistics.
Additional labor function 1: Continuous professional development	Skill 1: Striving for professional improvement	Skills:  1. Participate in professional training events: conferences, seminars, webinars, advanced training courses.  2. To participate in academic and scientific activities.  3. Participate in the work of professional associations, committees, and working groups to discuss health issues and share experiences with colleagues.  Knowledge:  1. Order of the Minister of Health of the Republic of Kazakhstan dated December 21, 2020 No. KR DSM-303/2020 "On Approval of the Rules for additional and non-formal education of healthcare Professionals, qualification requirements for organizations implementing educational programs for additional and non-formal education in the field of healthcare, as well as the rules for recognizing the learning outcomes obtained by healthcare professionals through additional and nonformal education (registered with the Ministry of Justice of the Republic of Kazakhstan on December 22, 2020, No. 21847).  2. Order of the Minister of Health of the Republic of Kazakhstan dated December 20, 2020 No. KR DSM-283/2020 "On approval of the rules for confirming the results of continuous professional development of healthcare workers" (registered with the Ministry of Justice of the Republic of Kazakhstan on December 22,

MEDISINA
AKADEMIASY
«Оңтүстік Қазақстан медицина академиясы» АК



SOUTH KAZAKHSTAN MEDICAL

ACADEMY АО «Южно-Казахстанская медицинская академия»

18 page, from 18

Cathedra of Therapy and Cardiology
Educational program 7R01101 Cardiology (adults, children)

		2020 No. 21843). 3. Opportunities for networking and communication with colleagues from their professional field. 4. Current trends, research and development in a specialized field.
Personal competence requirements:		

Head of the Educational and Methodical center

оку орталыны Doltayeva B. Z.