


JSC «SOUTH KAZAKHSTAN MEDICAL ACADEMY»







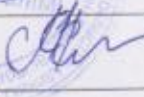


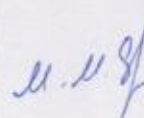
SOUTH KAZAKHSTAN
**MEDICAL
ACADEMY**


EDUCATIONAL PROGRAM OF RESIDENCY
7R01115
« RADIATION ONCOLOGY »

Shymkent, 2024 y.

ONTÜSTIK-KAZAQSTAN MEDISINA AKADEMIASY «Оңтүстік Қазақстан медицина академиясы» АҚ		SOUTH KAZAKHSTAN MEDICAL ACADEMY АО «Южно-Казахстанская медицинская академия»
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Educational program 7R01115 Radiation oncology		

The educational residency program 7R01115 Radiation oncology was developed on the basis of the 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».

Position	Full name	Signature
Developed by		
PTS of the Department of Surgery, Oncology and Traumatology		
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Resident of the Educational program Radiation oncology	Salmetov M.B.	
Minutes of the department meeting № <u>6</u> from « <u>24</u> » <u>01</u> » 202 <u>4</u>		
Discussed at the meeting of the Committee of Educational Programs of the Residency in Chairman of the Educational Programs Committee № <u>5</u> from « <u>26</u> » « <u>01</u> » 202 <u>4</u> y.	Kauyzbay Zh.A.	
Approved by the Clinical Council. Chairman of the Clinical Council № <u>8</u> from « <u>29</u> » « <u>01</u> » 202 <u>4</u> y.	Kauyzbay Zh.A.	
Approved by the First Vice-Rector First Vice-Rector « <u>30</u> » « <u>01</u> » 202 <u>4</u> y.	Esirkepov M.M.	
Approved by the Academic Council № <u>14</u> from « <u>31</u> » « <u>01</u> » 202 <u>4</u> y.		

ONTÜSTIK-QAZAQSTAN MEDISINA AKADEMIASY «Оңтүстік Қазақстан медицина академиясы» АҚ		 SOUTH KAZAKHSTAN MEDICAL ACADEMY АО «Южно-Казахстанская медицинская академия»
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Passport of the educational program

1. The mission of the educational program: to be recognized as a leader in the field of training highly specialized, competitive oncologists.

2. The purpose of the educational program is to train highly qualified, competitive oncologists who are able to meet the needs of society in providing medical care to cancer patients, apply and develop advanced innovative technologies in medicine, science and practice.

3. Justification of the OP

Ensuring the integration of practice and theory; in - depth study of theoretical issues of radiation oncology; improving practical skills according to modern principles of early, differential and syndromic diagnosis, interpretation of the results of the examination from the perspective of evidence-based medicine, treatment and prevention of oncological diseases in the field of radiation oncology; independent implementation of qualified emergency medical care in the radiation oncology clinic.

Malignant neoplasms are diseases that lead to high mortality, which is why the mortality rate from cancer in the country does not decrease.. In the Republic of Kazakhstan, as in most developed countries of the world, the incidence of malignant neoplasms and mortality from them are steadily increasing. In our country, oncological diseases occupy the 7th place in the structure of all diseases, mortality after diseases of the circulatory system is

2nd place. Today, over 205 thousand patients with oncological diseases are under dynamic observation. More than 37 thousand new cases are detected annually. The incidence among women is slightly higher than among men (57 and 43%, respectively). This is due to the fact that breast cancer is in the first place in the structure of morbidity. Among the sick, 56% are people of working age. Therefore, the fight against malignant tumors is considered as one of the most important tasks of healthcare and medicine.

4. The educational program is developed on the basis of:

- 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";
- The professional standard "Oncology" (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).

The need of medical organizations for adult oncologists is the justification for the discovery and the need to train oncologists, primarily at the regional level, taking into account the main strategies and programs for the development of the health system at the international, national and regional levels in order to increase the level of medical care for cancer patients.

5. The field of professional activity. Healthcare

6. Objects of professional activity. Medical organizations providing inpatient and outpatient care, healthcare systems of the Republic of Kazakhstan

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General information

1	Registration number	7R01111264
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	R015 Radiation oncology
5	Code, name of the educational program	7R01115 Radiation oncology , residency
6	Type Op	Updated OP
7	ISCED level	7
8	The level of the NRK	7
9	ORC Level	7
10	Distinctive features of the OP	no
	Partner University (SOP)	no
	Partner University (SOP)	no
11	List of competencies	<p>CC1 He is able to synthesize professional and scientific medical knowledge to provide qualified medical assistance.</p> <p>CC2 He is able to effectively interact with the patient, his environment, and healthcare professionals in order to achieve the best results for the patient.</p> <p>CC3 He is able to provide qualified medical care of the basic category of complexity and determine a strategy for providing qualified medical care to the population of the second category of complexity.</p> <p>CC4 He is able to coordinate activities in health care organizations, make decisions and be responsible for the result of providing qualified medical care.</p> <p>CC5 is able to study independently and train other members of a professional team, actively participate in discussions, conferences and other forms of continuous professional development.</p> <p>CC6 is able to operate within the legal and organizational framework of the healthcare system of the Republic of Kazakhstan.</p> <p>CC7 is capable of researching and evaluating the results of his professional activity, applying the principles of diagnosis of diseases based on scientific data, applying modern research methods in healthcare, taking into account bioethics and implementations into clinical practice</p>



12	Learning outcomes:	<p>LO1 He is able to psychologically prepare the patient for radiation therapy, effectively interact with his environment, health professionals in order to achieve the best results for the patient.</p> <p>LO2 He is able to act within the legal and organizational framework of the healthcare system of the Republic of Kazakhstan in the specialty " Radiation therapy (radiation oncology)", to provide basic assistance in emergency situations, to work as part of interprofessional teams to implement the policy of strengthening the health of the nation.</p> <p>LO3 Able to assess risks and use the most effective methods to ensure a high level of safety and quality of radiation therapy.</p> <p>LO4 Able to train independently and train other members of a professional team, actively participate in discussions, conferences, and other forms of continuous professional development in the field of radiation therapy.</p> <p>LO5 He is able to formulate adequate research questions, critically evaluate professional literature, effectively use international databases in his daily activities, and participate in the work of the research team.</p> <p>LO6 Able to diagnose a malignant tumor, determine the indications and contraindications for radiation therapy, plan radiation therapy, assess the need for combined and complex treatment of cancer patients.</p>
13	The form of study	is full-time
14	The language of instruction	<i>Kazakh and Russian</i>
15	Volume of loans	140
16	The duration of the training:	2 year
17	Degree awarded, qualification	Oncologist-radiation
18	Availability of an appendix to the license for the direction of training	KZ 22BFA00167288
19	Availability of OP accreditation	Have
	Name of the accreditation body	IAAR
	The validity period of the accreditation	№ AB4559 10.06.2022-09.06.2027
20	Information about the disciplines	Application 1.2

Application 1.1

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

	LO1	LO2	LO3	LO4	LO5	LO6
CC1	+	+	+			
CC2		+		+		
CC3			+		+	
CC4				+		
CC5					+	
CC6						+
CC7						

Application 1.2

Matrix of achievability of competencies/learning outcomes

№	Name of the discipline	A brief description of the discipline	Cycle	Component	Number of credits.	Formed RO
1	Oncology in the hospital	Organization and structure of the cancer service of the Republic of Kazakhstan. Precancerous diseases. Clinical classification of malignant neoplasms by stages and by the TNM system. Histological and pathomorphological classification. Cancer of the internal organs. Bone and soft tissue tumors. Lymphogranulomatosis. Precancerous diseases and breast cancer. Palliative and symptomatic care for patients with advanced forms of malignant neoplasms.	PD	MC	12	LO1 LO6
2	Medical physics	Physical fundamentals and technical support of radiation therapy. Ionizing radiation. Properties of ionizing radiation. Artificial sources of ionizing radiation. Natural radiation background. Radionuclides. Infrared, ultraviolet, X-ray, and gamma radiation. Electricity, its nature and dimension. Clinical dosimetry as a science. Tasks and methods of clinical dosimetry. Determination of the lethal dose.	PD	MC	12	LO4 LO5

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		Specific and individual radio sensitivity. Fundamentals of physical methods.				
3	Radiation diagnostics in radiation therapy and oncology	Radiation diagnostics and semiotics of oncological diseases, early (preclinical) diagnosis of neoplasms, cancer screening, diagnosis and differential diagnosis of detected oncological changes, the use of positron emission tomography (PET) followed by CT or MRI to assess the prevalence of the tumor process at the level of the entire body.	PD	MC	12	LO4 LO6
4	Intensive care in radiotherapy and oncology	Reactions and complications during radiation therapy. First aid for early complications associated with radiation therapy (acute respiratory distress, acute vascular insufficiency-collapse). First aid for electrical injuries. First aid for radiation burns of the esophagus; perforation of hollow organs; obstruction; mediastinal compression syndrome; tumor stenosis of the larynx; external and internal bleeding.	PD	MC	15	LO2 LO3
5	Functional diagnostics in radiotherapy and oncology	Introduction to the work of the functional cabinet. Standards for the scope of examination of functional diagnostics of patients referred to radiation therapy. Referral of cancer patients to the department of functional Diagnostics. Indications and contraindications for conducting functional diagnostics. Interpretation of the results of the methods: ECG, ECHO-KG, spirometry.	PD	MC	7	LO3 LO5

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6	Pathomorphological diagnostics	Introduction to pathomorphological diagnostics. Histology and immunohistochemistry. Histological and pathomorphological classifications, by stage and TNM system. Pathomorphological diagnostics of oncological diseases of various localizations, lymphogranulomatosis and precancerous diseases. Interpretation of the results obtained. Prediction of the further development of the neoplasm. Evaluation of the response to treatment.	PD	MC	6	LO4 LO6
7	Radiation therapy in the hospital	Organization of radiotherapy services. Planning of radiation therapy and preparation of patients. Determination of tumor parameters and preparation of a dosimetric map. Conducting radiation, combined and complex treatment of malignant tumors. Indications and contraindications for the use of methods of treatment of oncological diseases of various localizations. Reactions and complications. Indications and contraindications to radiation therapy of non-tumor diseases.	PD	MC	70	LO1 LO3
					134	
8	Nutriciology in radiation therapy	Clinical and laboratory signs of nutritional disorders of the body. The role and place of diet therapy in the complex treatment of malignant diseases. Fundamentals of the organization of rational and individual balanced nutrition in malignant diseases. Correction of impaired metabolism during and after radiation therapy. Analysis of the effectiveness of therapeutic nutrition.	PD	OC	2	LO3 LO6
9	Occupational health and safety in the	Organization of labor protection in the Republic of Kazakhstan.	PD	OC	2	LO2 LO5

	Radiological Department	Official documents and safety instructions for working in the field of ionizing radiation. Dose limits for staff, patients, and the general public. Sanitary norms and rules of operation of premises for radiation therapy. Contraindications to working with ionizing radiation sources. Medical examinations of employees of radiological departments.				
10	Clinical pharmacology in radiation therapy	Clinical pharmacology in patients with radiation therapy. Approaches to the justification of the appointment, the choice of the dosage regimen, the evaluation of the effectiveness and safety of drugs. Stimulation of hematopoiesis. Mechanism of action, indications, contraindications, side effects. The choice of drugs, doses to a specific patient, taking into account the severity of the disease, concomitant pathology, age. Immunocorrection.	PD	OC	2	LO3 LO6
11	Organization of work of the radiological department	Accounting and reporting documentation in the department. The procedure for processing applications for equipment and consumables. Archiving of text and image data. Determining the workload of the staff. The regulatory framework for compulsory health insurance. Medical and economic standards and calculation of tariffs for medical services in the radiological department. Key performance indicators and analysis of the radiology department.	PD	OC	2	LO2 LO4
12	Interventional chemotherapy	Interventional chemotherapy in oncology. Endovascular administration of chemotherapy drugs with embolization of the feeding vessels of the tumor. Methods of endovascular administration of drugs and vascular embolization.	PD	OC	2	LO2 LO4 LO5

		Indications and contraindications of manipulation. Selection of drugs and embolizing substances for the procedure. Risks and complications.				
	Total:				138	
	Final certification				2	
	Total:				140	

The matrix of achievement of RO by various teaching methods and assessment methods

LO	Teaching and learning methods	
LO1 He is able to psychologically prepare the patient for radiation therapy, effectively interact with his environment, health professionals in order to achieve the best results for the patient.	A reflective diary	Maintaining medical records
LO2 He is able to act within the legal and organizational framework of the healthcare system of the Republic of Kazakhstan in the specialty " Radiation therapy (radiation oncology)", to provide basic assistance in emergency situations, to work as part of interprofessional teams to implement the policy of strengthening the health of the nation.	Supervision of clinical work	Maintaining medical records
LO3 Able to assess risks and use the most effective methods to ensure a high level of safety and quality of radiation therapy.	Supervision of clinical work	
LO4 Able to train independently and train other members of a professional team, actively participate in discussions, conferences, and other forms of continuous professional development in the field of radiation therapy.	Observation	
LO5 He is able to formulate adequate research questions, critically evaluate professional literature, effectively use international databases in his daily activities, and participate in the work of the research team.	"Magazine Club"	Writing theses, articles Public appearances
LO6 Able to diagnose a malignant tumor, determine the indications and contraindications for radiation therapy, plan radiation therapy, assess the need for combined and complex treatment of cancer patients.	Analysis of the material, feedback from the resident	Modeling situations and maintaining medical records

The matrix of compliance with RO assessment methods

LO	Assessment methods
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LO1 He is able to psychologically prepare the patient for radiation therapy, effectively interact with his environment, health professionals in order to achieve the best results for the patient.	OSCE (with skill check stations). A mini-clinical exam.	A long-lasting case
LO2 He is able to act within the legal and organizational framework of the healthcare system of the Republic of Kazakhstan in the specialty " Radiation therapy (radiation oncology)", to provide basic assistance in emergency situations, to work as part of interprofessional teams to implement the policy of strengthening the health of the nation.	Evaluation 360 ⁰	Patient reviews Feedback from other students Rating 360
LO3 Able to assess risks and use the most effective methods to ensure a high level of safety and quality of radiation therapy.	Analysis of records in the medical history Analysis of the records of the doctor's activities	Keeping diaries
LO4 Able to train independently and train other members of a professional team, actively participate in discussions, conferences, and other forms of continuous professional development in the field of radiation therapy.	Portfolio	Clinical records Self-assessment
LO5 He is able to formulate adequate research questions, critically evaluate professional literature, effectively use international databases in his daily activities, and participate in the work of the research team.	Summary/ presentation	Publications
LO6 Able to diagnose a malignant tumor, determine the indications and contraindications for radiation therapy, plan radiation therapy, assess the need for combined and complex treatment of cancer patients.	Testing Oral interview	Essay (short and long) The short answer



Work plan for the entire period of study

Cycle disciplines		Discipline code	Name of the discipline/ modules	Amount of credits	General hours	classroom	RIC		1 year of study	2 year of study	The form control	FE	
PD		CYCLE OF PROFILING DISCIPLINES		138	4140								
PD	MC	Mandatory component		134	4020								
		R-OH	Oncology in the hospital	12	360	72	234	54	12		Exam		
		R-MP	Medical physics	12	360	72	234	54	12		Exam		
		R-RDRTO	Radiation diagnostics in radiation therapy and oncology	12	360	72	234	54		12	Exam		
		R-ICRTO	Intensive care in radio therapy and oncology	15	450	90	292	68		15	Exam		
		R-FDRTO	Functional diagnostics in radio therapy and oncology	7	210	42	136	32	7		Exam		
		R-PD	Pathomorphological diagnostics	6	180	36	117	27	6		Exam		
		R-RTH	Radiation therapy in the hospital	70	2100	420	1365	315	31	39	Exam		
	MC	Optional component		4	120	24	78	18	2	2			
		R-NRT	Nutriciology in radiation therapy/										
		R-OHSRD	Occupational health and safety in the Radiological Department	2	60	12	39	9	2		Exam		
		R-CPRT	Clinical pharmacology in radiation therapy/										
		R-OWRD	Organization of work of the radiological department/	2	60	12	39	9		2	Exam		
		R-IntCh	Interventional chemotherapy										
TOTAL:				138	4140	828	2691	621*					
IC		INTERMEDIATE CERTIFICATION											
FE		FINAL EXAMINATION		2	60					2		60	
TOTAL:				140	4200	828	2691	621	70	70		60	