

«APPROVED» by
Rector of JSC «SKMA»
J. Seitzhanova
« 02 » 2025 y.

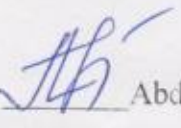


SOUTH KAZAKHSTAN
MEDICAL
ACADEMY

EDUCATIONAL PROGRAM OF RESIDENCY
7R01115
«RADIATION ONCOLOGY»

Shymkent, 2025 y.

The educational program of the residency 7R01124 "Radiation Oncology" was developed by the Department of Surgery, Oncology and Traumatology

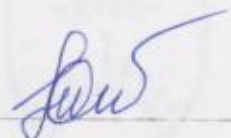
Head of the Department, MD, Acting Professor  Abdurakhmanov B.A.

Protocol no. 89 of " 18 " 01 2025

Agreed with the employer:

Director of the State Enterprise on PCV "City multidisciplinary hospital with an oncological center" near Almaty  Maulenov J.O.

Discussed at the meeting of the AC
Therapeutic profile

Chairman of the AK, Associate Professor 

Kauyzbai J.A.

Protocol no. 1 from " 21 " 04 2025

Approved by the Clinical Council

Chairman, Professor  Nurmashev B.K.

Protocol no. 8 of " 25 " 04 2025

Approved by the Academic Council

Protocol no. 13 from " 02 " 05 2025

ONTÜSTİK-QAZAQSTAN MEDISINA AKADEMIASY «Оңтүстік Қазақстан медицина академиясы» АҚ	 SKMA -1979-	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 training of a qualified radiologist who has professional abilities and independently provides specialized highly qualified care in the radiological department of an oncological dispensary or a hospital with an oncological profile.

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 No. 63 of 04.07.2022" on approval of State mandatory standards for the level of education in the field of health"; professional standard" radiation oncology "(order of the Minister of health of the Republic of Kazakhstan No. 46 of January 25, 2024"on approval of Professional Standards in the field of Health"). * On amendments and additions to the order of the Minister of health of the Republic of Kazakhstan dated May 25, 2021 No. 43 of the Ministry of health of the Republic of Kazakhstan" on approval of the list of medical specialties of residency programs "and No. 4 of January 9, 2023" on approval of standard training programs in medical and pharmaceutical specialties". (Order of the Minister of health of the Republic of Kazakhstan dated November 10, 2023 No. 164).

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	compiled according to the professional standard
11	List of competencies	CC1. Patient supervision: is able to formulate a clinical diagnosis, prescribe a treatment plan and evaluate its effectiveness based on evidence-based practice at all levels of medical care. CC 2. Communication and collaboration: He is able to effectively interact with the patient, his environment, and healthcare professionals in order to achieve the best results for the patient. CC 3. Safety and quality: He is able to assess risks and use the most effective methods to ensure a high level of safety and quality of medical care. CC 4. Public health: He is able to act within the legal and organizational framework of the healthcare system of the Republic of Kazakhstan in his specialty, provide basic assistance in emergency situations, and work as part of interprofessional teams to implement national health promotion policies. CC 5. Researches: 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 a research team. CC 6. Training and development: He 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

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12	Learning outcomes:	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. 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. LO3 Able to assess risks and use the most effective methods to ensure a high level of safety and quality of radiation therapy. 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. 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. 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.
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 36LAA00011387
19	Availability of OP accreditation	Have
	Name of the accreditation body	<i>IAAR</i>
	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						+

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. Specific and individual radio sensitivity. Fundamentals of physical methods.	PD	MC	12	LO4 LO5

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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
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	PD	MC	6	LO4 LO6



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		precancerous diseases. Interpretation of the results obtained. Prediction of the further development of the neoplasm. Evaluation of the response to treatment.				
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 Radiological Department	Organization of labor protection in the Republic of Kazakhstan. 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	PD	OC	2	LO2 LO5

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		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.	PD	OC	2	LO2 LO4 LO5

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

Head of the educational and methodological center



B.Z. Doltayeva