

JSC "SOUTH KAZAKHSTAN MEDICAL ACADEMY"



**SOUTH KAZAKHSTAN
MEDICAL
ACADEMY**

EDUCATIONAL RESIDENCY PROGRAM

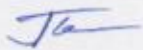



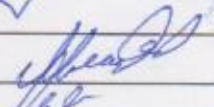
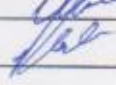

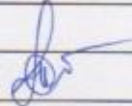
7R01109


" NEPHROLOGY FOR ADULTS, CHILDREN"

Educational residency program

7R01109 «Nephrology for adults, children»

updated according to the requirements of the Order of the Minister of Health of the Republic of Kazakhstan "On approval of the state compulsory standards of higher and postgraduate education" from July 4, 2022, the Ministry of Health of the Republic of Kazakhstan № 63 and Order of the Minister of Science

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Protocol No. <u>1</u> of " <u>31</u> " " <u>08</u> " 2022		
Discussed at the meeting of the Residency CEP		
Chairman of the CEP	Kauyzbai Zh.A.	
Protocol No. <u>50</u> from " <u>04</u> " " <u>08</u> " 2022		
Approved by the Clinical Council		
Chairman of the Clinical Council	Kauyzbai Zh.A.	
Protocol No. <u>50</u> of " <u>05</u> " " <u>08</u> " 2022		
Approved by the Academic Council		
Protocol No. <u>12</u> from " <u>08</u> " " <u>08</u> " 2022		

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Passport of the educational program

1. The mission of the educational program to training competitive personnel, achieving learning outcomes to provide the health care system and society with highly qualified nephrologists.

Duration of study: 2 years.

Qualification awarded upon completion of study – doctor-nephrologist adults, children.

2. The purpose of the educational program

Training of capable and ready qualified nephrologists with a comprehensive, professional competence system, for independent professional activity in ambulatory-clinic and specialized care conditions, including using high-tech medical services.

3. Justification of the educational program

Nephrology is a medical science that deals with the prevention, detection, treatment of nephrological diseases and the urinary system in general. Nephrologist is a doctor specializing in this field, whose main focus is organization and implementation of activities aimed at early diagnosis, prevention of progression and development of complications, treatment and reduction of morbidity, disability and mortality from diseases of the urinary system, increasing the duration and improving the quality of life of patients with chronic kidney disease, including prolongation pre-dialysis stage; provision of medical care to patients with pathology of the urinary organs, maintaining continuity at all stages of treatment in accordance with the CP; engaged in recording and dynamic monitoring of patients with AKI, CKD stages 3-5, including patients who have undergone kidney transplantation, multiple organ failure, receiving RRT and other types of efferent therapy; provision of information, advisory, organizational and methodological assistance to the population and healthcare subjects on kidney disease issues.

At the national level, issues of nephrology in the healthcare system are reflected in the main regulatory documents: On approval of the Standard for organizing the provision of nephrological care in the Republic of Kazakhstan. Order of the Minister of Health of the Republic of Kazakhstan dated October 14, 2022 No. KR DSM-114. Registered with the Ministry of Justice of the Republic of Kazakhstan on October 17, 2022 No. 30187. The need of medical organizations for nephrologists in order to improve the quality of nephrological care is the rationale for the opening and need for training nephrologists, primarily at the regional level, taking into account the main strategies and programs for the development of the system health care at international, national and regional levels.


4. Professional standard, on the basis of which the educational program was developed ▪ Professional standard “Nephrology (adults, children)” (project) ▪

Standard for the organization of medical care in hematology in the Republic of Kazakhstan Order of the Acting Minister of Health of the Republic of Kazakhstan dated December 20, 2021 No. KR DSM-130. Registered with the Ministry of Justice of the Republic of Kazakhstan on December 22, 2021 No. 25880

5. Field of professional activity. Healthcare

6. Objects of professional activity.

- Health management organizations;
- healthcare organizations;
- educational organizations;

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- organization of science;
- social protection organizations

Types of professional activity

- therapeutic, preventive and diagnostic
- organizational and managerial
- scientific research

Information about educational program

No	Characteristics of the EP	Data
1	Registrational number	7R01100270
2	Code and classification of the field of education	7R01 Healthcare (medicine)
3	Code and classification of training areas	7R011 Healthcare
4	Group of educational programs	R009 Nephrology (adults, children)
5	Names of educational program	7R01109 Nephrology (adults, children)
6	Type of EP	Updated EP
7	Level of MSKO	7
8	Level of NRK	7
9	Level of ORK	7
10	Distinctive features of the EP	No
	Partner University (COII)	No
	Partner University (ДҚОП)	No
11	List of competencies	<p>1. Communication and Collaboration: able to effectively interact with the patient with kidney disease, his environment, health professionals in order to achieve the best results for the patient</p> <p>2. Training and development: 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 nephrology.</p> <p>3. Safety and Quality: able to assess risks and use the most effective methods to ensure a high level of safety and quality of medical care for patients with kidney diseases</p> <p>4. Public health: able to act within the legal and organizational framework of the health system of the Republic of Kazakhstan in the specialty "Nephrology, including children's", 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>5. Researches: he is able to formulate adequate research questions, critically evaluate the professional literature on nephrology, effectively use international databases in his daily activities, and participate in the work of the research team.</p> <p>6. Patient Supervision: able to formulate a clinical diagnosis, prescribe a treatment plan, and evaluate its effectiveness based on</p>


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		evidence-based practice at all levels of care for patients with kidney disease.
12	Learning outcomes	<p>LO 1: 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</p> <p>LO 2: able to effectively interact with the patient, his environment, healthcare professionals in order to achieve the best results for the patient</p> <p>LO 3: able to assess risks and use the most effective methods to ensure a high level of safety and quality of medical care</p> <p>LO 4: 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, work as part of interprofessional teams to implement the policy of strengthening the health of the nation</p> <p>LO 5: he is able to formulate adequate research questions, critically evaluate professional literature, and effectively use international databases in team activities.</p> <p>LO 6: 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.</p>
13	Form of training	<p>Full – time</p> <p>If necessary with the use of digital technologies</p>
14	Language of training	Kazakh and Russian
15	Volume of loans	140
16	Assigned qualification	Doctor-nephrologist adults, children
17	Availability of an appendix to the license for the direction of training	KZ36LAA00011387
18	Existence of EP accreditation	+
	Name of accreditation body	IAAR
	Accreditation period	10.06.2022-09.06.2027Ys.
19	Information about the disciplines	Appendix 1.2

Appendix 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
C1	+	+	+			
C2		+		+		
C3			+		+	
C4				+		
C5					+	
C6						+

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Appendix 1.2

The matrix of achievability of competencies/learning outcomes

№	The name of the disciplin	Short description	Cycle	Component	Number of credits	Formed LO
1	Adult Nephrology	Organization of nephrology care in the Republic of Kazakhstan. Epidemiology of renal diseases and risk factors. The legal basis of the nephrological service. Evidence-based medicine and methodology of scientific research in nephrology. Principles and methods of clinical and economic analysis at the inpatient level and treatment of nephrological patients. Kidney diseases: diagnosis, differential diagnosis, treatment and prevention. Errors in nephrology.	PD	MC	43	LO1 LO 3 LO 5
2	Nephrology children's	Clinical symptoms, classification, treatment and rehabilitation of diseases of internal organs and borderline conditions in pediatric nephrology practice. Hereditary and congenital kidney diseases in pediatrics, issues of genetics, diagnostic algorithm. Clinical recommendations taking into account the	PD	MC	22	LO 1 LO 2 LO 3




		peculiarities of the course of nephrological pathology in children. Principles and methods of clinical and economic analysis at the inpatient stage of examination and treatment of children with kidney diseases.				
3	Interventional Nephrology	Collection data, examination of patients, prescribing treatment, conducting renal replacement therapy in patients with diseases and (or) impaired renal function, including recipients of a transplanted kidney, monitoring its effectiveness and safety. Determination of indications for planned and emergency interventional nephrological care. Volumes and standards of interventional intervention.	PD	MC	12	LO 2 LO 3 LO 5
4	Clinical Nephromorphology	Percutaneous kidney biopsy, phenomena, disorders. Methods of kidney and transplant biopsy. Requirements for biopsy material. Modern morphological methods of kidney examination:	PD	MC	13	LO 1 LO 5 LO 6



		examination of a kidney biopsy. Morphological changes in various kidney diseases. The clinical significance of morphological changes in various variants of glomerular diseases. Morphological varieties of glomerulonephritis. Morphological characteristics of permanent renal insufficiency. Pathology of the transplanted kidney.				
5	Dialysis therapy	Management of patients before, during and after the hemodialysis procedure with correction of therapeutic measures. Evaluation of laboratory indicators of the composition of the dialysis solution and biological fluids. Adequate correction of hemodialysis modes. Management of hemodialysis. Membrane plasmapheresis skills. Ultrafiltration skills. Management of peritoneal dialysis. Correction of pathological conditions in dialysis patients. Drug treatment of	PD	MC	17	LO 2 LO 3




		complications of ESRD.				
6	Transplantology and Immunology	Assessment of indications and contraindications for kidney transplantation. Organization of examination of the pair "Donor-recipient". Ability to select an adequate immunosuppression regimen for a patient after kidney transplantation. Monitoring the adequacy of immunosuppression in a patient after kidney transplantation. The ability to timely correct immunosuppression in a patient after kidney transplantation. Diagnosis and treatment of renal transplant rejection. Skills in diagnosing and treating pathological processes in a transplant. Rehabilitation of patients after kidney transplantation.	PD	MC	13	LO 3 LO 4 LO 5
7	Kidney pathology in pregnant women	Advisory assistance to pregnant women in outpatient and inpatient care. Carrying out diagnostic manipulations and specialized	PD	MC	8	LO 1 LO 3 LO 4

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		assistance in emergency cases and on a planned basis. Provision of consulting services to pregnant doctors in a consultation in cases of severe diseases and treatment of nephrological diseases in pregnant women. Prescribing treatment in accordance with the recommendations and monitoring its effectiveness.				
8	Ultrasound diagnostics	Standards for the volume of ultrasound diagnostics in nephrology. Ultrasound methods of examination of the kidneys and urinary system, charges. Classification, the basics of obtaining information and methods of implementation (implementation). Clinical protocols, recommendations of the Republic of Kazakhstan and International public communities in the field of nephrology.	PD	MC	6	LO 5 LO 6
TOTAL					134	
Cycle of major disciplines Selectable Component						
1	Principles, methods and monitoring of immunosuppressive therapy for kidney	Basic principles of immunosuppressive therapy for patients with nephrological	PD	OC	4	LO 2 LO 3 LO 4




	disease	diseases, according to clinical guidelines based on the principles of evidence-based medicine. Definition of indications, contraindications and scope of immunosuppressive therapy. Individualized selection of immunosuppressive therapy in conditions of emergency and planned tactics of patient management. Organization of dispensary observation of patients with nephrological diseases receiving immunosuppressive therapy.				
2	Methods of renal replacement therapy	Organization of specialized nephrological care according to the methods of renal replacement therapy in the Republic of Kazakhstan. Modern methods of renal replacement therapy in end-stage chronic kidney disease and in acute renal dysfunction. Standards for the use of renal replacement therapy in end-stage chronic kidney disease and acute kidney injury.	PD	OC	4	LO 2 LO3 LO 4
3	Tactics of	Organization of	PD	OC	4	LO 1

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observation and methods of rehabilitation of patients after kidney transplantation	dispensary observation and rehabilitation care for patients after kidney transplantation, taking into account the clinical recommendations of the nephrological community of Kazakhstan. Carrying out preventive medical examinations, medical examinations and dispensary observation of patients who underwent kidney transplantation. The use of natural healing factors, drug, non-drug therapy and other methods in patients in need of medical rehabilitation and spa treatment.				LO 2 LO 3
Total				138	
Final certification				2	
TOTAL				140	

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

LO	Methods used Teaching and learning	
LO1: Patient care :formulate a clinical diagnosis, prescribe a treatment plan, and evaluate its effectiveness based on evidence-based practice in highly specialized medical care.	Analysis of the material, feedback from the resident	Modeling situations and maintaining medical records
LO2: Communication and collaboration: able to effectively interact with the	A reflective diary	Maintaining medical records

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patient, his environment, healthcare professionals in order to achieve the best results for the patient		
LO3: Professionalism: able to assess risks and use the most effective methods to ensure a high level of safety and quality of medical care	Supervision of clinical work	
LO4: 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, work as part of interprofessional teams to implement the policy of strengthening the health of the nation	Supervision of clinical work	Maintaining medical records
LO5: 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	"Journal Club"	Writing abstracts, articles Public appearances
LO6: Training and Development : learn independently and train other members of the professional team, actively participate in discussions, conferences and other forms of continuous professional development.	Observation	

The matrix of compliance with LO assessment methods

LO	Methods used Teaching and learning	
LO1: Patient care :formulate a clinical diagnosis, prescribe a treatment plan, and	<p>Testing Oral interview</p> <p>Essay (short and long)</p> <p>The short answer</p>	<p>Analysis of the material, feedback from the resident</p> <p>Modeling of situations</p> <p>Maintaining medical records</p>



evaluate its effectiveness based on evidence-based practice in highly specialized nephrologic care.		
LO2: Communication and collaboration: communicate effectively with the nephrological patient, their environment, healthcare professionals in order to achieve the best results for the patient	OSCE (with Skill Check stations) Mini Clinical Exam Long-term Case	A reflective diary
LO3: Professionalism: assess risks and use the most effective methods to ensure a high level of safety and quality in highly specialized nephrologic care.	Analysis of records in the medical history Analysis of doctor's activity records Analysis of prescriptions	Supervision of clinical work
LO4: Public health: act within the legal and organizational framework of the healthcare system of the Republic of Kazakhstan in their specialty, provide basic nephrological care in emergencies, work as part of interprofessional teams to implement the policy of promoting the health of the nation	Standardized patients Patient reviews Reviews from other students Score 3600	Standardized patients Video recordings (discussion, evaluation) Observation of clinical work Development of a draft drug form Maintaining medical records
LO5: 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	Abstract/presentation of the Publication	"Journal Club" Writing abstracts, articles Public appearances
LO6: Training and Development : learn independently and train other members of the professional team,	Portfolio Clinical records Self-assessment	Observation

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actively participate in discussions, conferences and other forms of continuous professional development.		
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Residents' workplan for the 7R01109 «Nephrology for adults, children» educational program for the 2024-2028 academic year.

Qualification: « doctor-nephrologist adults,children»

Duration of study - 2year

Cycle of disciplines	Discipline code	Name of disciplines/modules	Amount of credits	General hours	Classroom	RIC		1 year of study	2 year of study	The form of control	FE
						CPPH	RTIC				
PD		CYCLE OF PROFILING DISCIPLINES	138	4140							
		Mandatory component	134	4020							
P D	MC	R-NC Nephrology children's	22	660	132	462	66	22		Exam	
		R-DT Dialysis therapies	17	510	102	357	51		17	Exam	
		R-UD Ultrasound diagnostics	6	180	36	126	18		6	Exam	
		R-NA Nephrology adult	43	1290	258	903	129	27	16	Exam	
		R-IN Interventional Nephrology	12	360	72	252	36		12	Exam	
		R-CN Clinical nephromorphology	13	390	78	273	39	13		Exam	
		R-TI Transplantology and Immunology	13	390	78	273	39		13	Exam	
		R-KPPW Kidney pathology in pregnant women	8	240	48	168	24	8		Exam	
		Optional component	4	120	24	84	12		4		

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O C	R- PMMI TKD	Principles, methods, and monitoring of immunosuppressive therapy for kidney disease/								Exam	
	R- MRRT	Methods of renal replacement therapy/	4	120	24	84	12		4		
	R- FTMR PKT	Follow-up tactics and methods of rehabilitation of patients after kidney transplantation									
	TOTAL		138	4140	828	2898	414 *				
IC	INTERMEDIATE CERTIFICATION										
FE	FINAL EXAMINATION		2	60					2		60
TOTAL			140	4200	828	2898	414	70	70		60