



SOUTH KAZAKHSTAN
MEDICAL
ACADEMY

EDUCATIONAL PROGRAM OF RESIDENCY
7R01109 Nephrology (adults, children)

Shymkent 2025 y.

ONTÜSTIK QAZAQSTAN MEDISINA AKADEMIASY «Оңтүстік Қазақстан медицина академиясы» АҚ		SOUTH KAZAKHSTAN MEDICAL ACADEMY АО «Южно-Казахстанская медицинская академия»
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The educational program of the residency 7R01109 Nephrology (adults, children) was developed by the Department of Therapy and Cardiology

Head of the Department  Asanova G.K.

Protocol № 89 from " 18 " 04 2025 y.

Agreed with the employer:

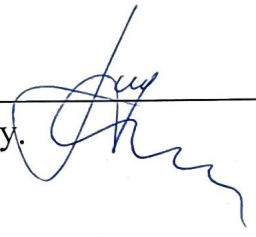
Nephrologist of the Regional Clinical Hospital  Lee V.R.

Discussed at the meeting of the AC
therapeutic profile

Chairman of the AK, Associate Professor  Kauyzbai J.A.

Protocol № 4 from " 21 " 04 2025 y.

Approved by the Clinical Council

Chairman, Professor  B.K. Nurmashev

Protocol № 8 from " 25 " 04 2025 y.

Approved by the Academic Council

Protocol № 13 from " 02 " 05 2025 y.

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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 nephrologists.

2. The purpose of the educational program:

Training of a qualified nephrologist with a system of universal, professional competencies, capable and ready for independent professional activity in the conditions of outpatient and specialized care, including the use of high-tech medical services.

3. Justification of the OP:

Nephrology is a medical science that deals with the prevention, detection, and treatment of nephrological diseases and the urinary system in general. A nephrologist is a doctor specializing in this field, whose main focus is the organization and implementation of measures 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 (hereinafter – CKD), in particular including prolongation of the predialysis stage; providing medical care to patients with urinary tract pathology in compliance with continuity at all stages of treatment in accordance with the CP; taking into account and dynamically monitoring patients with AKI, CKD stages 3-5, including patients who have undergone kidney transplantation, multiple organ failure, receiving HRT and other types of efferent therapy; providing information, advisory and organizational support methodological assistance to the population and healthcare entities on kidney diseases.

The need of medical organizations for nephrologists is the justification for the discovery and the need to train nephrologists, 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 in order to increase the level of rational use of medicines.

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 7R01109 «Nephrology (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

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	7R01100270
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	R009 Nephrology for (adults, children)
5	Code, name of the educational program	7R01109 Nephrology (adults, children)
6	Type Op	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 Communication and collaboration: The ability to effectively interact with a patient with kidney disease, their environment, and medical professionals to achieve better patient outcomes. CC 2. Training and development: He is capable of independent learning and training of other members of the professional team, active participation in discussions, conferences and other forms of continuous professional development in the field of nephrology. CC 3. Safety and quality: be able to assess risks and use the most effective methods to ensure a high level of safety and quality of care for patients with kidney diseases. CC 4. Public health: within the framework of the organizational and legal sphere of the healthcare system of the Republic of Kazakhstan, be able to operate in the specialty "Nephrology (adult, children)", provide basic assistance in emergency situations, work as part of interprofessional teams for the implementation of national health policy CC 5. Scientific and research activities: able to adequately formulate research tasks, critically evaluate professional literature on nephrology, effectively use international databases in their daily activities, participate in the work of

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		research groups. CC 6. Patient examination: able to formulate a clinical diagnosis based on evidence-based practice at all levels of medical care for patients with kidney diseases, prescribe a treatment plan and evaluate its effectiveness.
12	Learning outcomes:	LO1 able to formulate a clinical diagnosis, prescribe a treatment plan, and evaluate its effectiveness based on evidence-based practice at all levels of care for patients with kidney disease. Diagnostics, treatment, organization of preventive and rehabilitation measures in patients with kidney diseases with or without renal dysfunction, including transplanted kidneys. LO2 able to effectively interact with the patient with kidney disease, his environment, health professionals in order to achieve the best results for the patient. LO3 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 LO4 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 LO5 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. Conducting medical examinations of patients with kidney diseases. Participation in the management of medical records, medical and statistical information. LO6 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.
13	The form of study	is full-time
14	The language of instruction	<i>Kazakh and Russian</i>
15	Volume of loans	210
16	The duration of the training:	2 year
17	Degree awarded, qualification	Nephrologist for adults and children
18	Availability of an appendix to the license for the direction of training	KZ36LAA00011387
19	Availability of OP accreditation	Have

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	Name of the accreditation body	IAAR
	The validity period of the accreditation	№ KZ73LAA00011788. 10.06.2022y.-09.06.2027y
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

	PO1	PO2	PO3	PO4	PO5	PO6
KK1	+	+	+			
KK2		+		+		
KK3			+		+	
KK4				+		
KK5					+	
KK6						+

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
Cycle of Profiling discipline Compulsory component						
1	Dialysis therapy	Management of patients before, during and after the hemodialysis procedure with the correction of therapeutic measures. Evaluation of laboratory parameters of the composition of the dialysis solution and biological fluids. Adequate correction of hemodialysis regimens. Management of hemodialysis. Skills of conducting membrane plasmapheresis. Ultrafiltration skills. Management of peritoneal dialysis. Correction of pathological conditions in dialysis patients. Drug treatment of ESRD complications.	PD	UC	17	LO2 LO3
2	Interventional Nephrology	Collection of clinical data, conducting patient examinations, prescribing treatment, conducting renal replacement therapy in patients with diseases and (or) impaired renal function, including recipients of a transplanted kidney, monitoring its	PD	UC	12	LO3 LO5 LO6

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		effectiveness and safety. Determination of indications for planned and emergency interventional nephrological care. Volumes and standards of interventional interventions.				
3	Clinical nephromorphology	Percutaneous kidney biopsy, indications, contraindications. Use of information systems in the healthcare sector, including the use of artificial intelligence .Methods of kidney and transplant biopsy. Requirements for the biopsy material. Modern morphological methods of kidney research: studies of kidney biopsy. Morphological changes in various kidney diseases. Clinical significance of morphological changes in various variants of glomerular diseases. Morphological types of glomerulonephritis. Morphological characteristics of chronic renal failure. Pathology of the transplanted kidney.	PD	UC	13	LO1 LO5 LO6
4	Nephrology adult	Organization of assistance in nephrology in the Republic of Kazakhstan. Epidemiology of kidney diseases and risk factors. Legal basis of the nephrological service. Evidence-based medicine and research methodology in nephrology. Principles and methods of clinical and economic analysis at the inpatient stage of examination and treatment of nephrological patients. Kidney diseases: diagnosis, differential diagnosis, treatment and prevention. Errors in nephrology.	PD	UC	43	LO2 LO3 LO4
5	Nephrology children's	Clinical symptoms, classification, treatment and rehabilitation of diseases of internal organs and borderline conditions in pediatric nephrological practice. Problems of differential diagnosis in nephrology and clinical recommendations, taking into account the peculiarities of the course in children. Principles and methods of clinical and economic analysis at the inpatient stage of	PD	UC	22	LO1 LO2 LO3

		examination and treatment of children with nephrological pathology. After completing the course, the student will be able to diagnose, treat, organize preventive and rehabilitation measures in patients with kidney diseases with or without impaired renal function, including transplanted kidneys.				
6	Kidney pathology in pregnant women	Advisory assistance to pregnant women in outpatient and inpatient care. Carrying out diagnostic manipulations and specialized assistance in emergency cases and in a planned manner. Provision of consulting services to pregnant doctors in the conditions of a consultation in cases of complex diagnosis and treatment of nephrological diseases in pregnant women. Prescribing treatment according to clinical recommendations and monitoring its effectiveness.	PD	UC	8	LO1 LO3 LO4
7	Transplantology and Immunology	Evaluation of indications and contraindications for kidney transplantation. Organization of the examination of the "Donor-recipient" couple. Ability to select an adequate immunosuppression regimen for a patient after kidney transplantation. Monitoring of the adequacy of immunosuppression to the patient after kidney transplantation. Ability to timely correct immunosuppression to the patient after kidney transplantation. Diagnosis and treatment of -kidney transplant rejection. Skills in the diagnosis and treatment of pathological processes in the graft. Rehabilitation of patients after kidney transplantation.	PD	UC	13	LO3 LO4 LO5
8	Ultrasound diagnostics	Standards for the scope of examination of ultrasound diagnostics in nephrology. Ultrasound methods of examination of the kidneys and urinary system, indications. Classification, the basics of obtaining information and methods of implementation (implementation) of	PD	UC	6	LO5 LO6

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	methods. Clinical protocols, recommendations of the Republic of Kazakhstan and International medical communities in the field of nephrology.				
Total:				134	

Cycle of Profiling discipline
A component of choice

9	Methods of renal replacement therapy	Organization of specialized nephrological care on methods of renal replacement therapy in the Republic of Kazakhstan. Modern methods of renal replacement therapy for end-stage chronic kidney disease and acute renal dysfunction. Standards for the use of methods of renal replacement therapy in end-stage chronic kidney disease and acute renal injury.	PD	EC	4	LO2 LO3 LO4
10	Principles, methods, and monitoring of immunosuppressive therapy for kidney disease	Basic principles of immunosuppressive therapy for patients with nephrological diseases, according to clinical recommendations based on the principles of evidence-based medicine. Determination of indications, contraindications and the scope of immunosuppressive therapy. Individualized selection of immunosuppressive therapy in the context of emergency and planned management of the patient. Organization of dispensary monitoring of patients with nephrological diseases receiving immunosuppressive therapy.	PD	EC		LO2 LO3 LO4
11	Follow-up tactics and methods of rehabilitation of patients after kidney transplantation	Organization of dispensary follow-up and rehabilitation care for patients after kidney transplantation, taking into account the clinical recommendations of the nephrological report of Kazakhstan. Carrying out preventive medical examinations, medical examinations and the implementation of dispensary monitoring of patients who have undergone kidney transplantation. The use of natural therapeutic factors, medicinal, non-drug therapy and other methods in patients in need of medical	PD	EC		LO1 LO2 LO3

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		rehabilitation and spa treatment.				
	Total:				138	
	Final certification:				2	
	Total:				140	

Professional standard: "Nephrology (adult, children's)"

Profession card "7.2 Nephrologist":	Mandatory labor functions:	: 1. Diagnosis, treatment, organization of preventive and rehabilitative measures in patients with kidney diseases with or without impaired kidney function, including transplanted kidneys. 2. Conducting medical examinations in relation to patients with kidney diseases. 3. Participation in the management of medical documentation, medical and statistical information
	Additional labor functions:	1. Continuous professional development
Labor function 1: Diagnosis, treatment, and organization of preventive and rehabilitative measures in patients with kidney diseases with or without impaired renal function, including transplanted kidneys.	Skill 1: Diagnosis and treatment of patients (adults, children) with kidney diseases with or without impaired renal function.	Skills: 1. Skills in developing a patient examination plan, conducting patient examinations, in order to identify diseases and (or) disorders of kidney function and make a diagnosis. 2. Skills in collecting complaints and medical history from patients (their legal representatives) with diseases and (or) impaired renal function. 3. Skills of examination, palpation, percussion, and auscultation of patients with diseases and (or) impaired renal function. 4. Skills in interpreting and analyzing information received from patients with diseases and (or) impaired renal function. 5. Skills in planning the volume of laboratory tests, including the identification of markers of autoimmune diseases, cancer markers. 6. Skills in interpreting and analyzing the results of laboratory tests of patients with diseases and (or) impaired renal function. 7. Skills in interpreting urine tests and daily proteinuria. albumin or creatinine ratio. 8. Skills in using instrumental diagnostic methods in patients with diseases and (or) impaired renal function. 9. Skills in interpreting disorders of CBS and electrolyte composition of blood and urine. 10. Skills in interpreting detailed biochemical blood parameters. 11. Skills in substantiating and planning the volume of instrumental studies in patients with diseases and (or) impaired renal function: ultrasound (hereinafter referred to as ultrasound), ultrasound of renal vessels, radioisotope renography (hereinafter referred to as RHG), CT nephroscintigraphy, MRI, excretory urography, cystoscopy and cystography, interpretation of tissue typing tests using the HLA system (echelay) of the recipient donor.

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		12. Skills in analyzing the results of visualization and functional methods of examination of patients with diseases and (or) impaired renal function. 13. Skills in interpreting the results of morphological examination of a kidney biopsy, for the selection and correction of immunosuppressive therapy. 14. Skills in identifying clinical symptoms and syndromes in patients with diseases and (or) impaired renal function with differential diagnosis. 15. Skills in making a preliminary diagnosis and a final clinical diagnosis. 16. Skills in formulating a clinical diagnosis according to clinical classifications and requirements of ICD 10. 17. Skills in calculating the glomerular filtration rate of the kidneys in adults and children, to determine the stage of kidney damage (Skills in using the GFR calculator according to Cockcroft Gault, MDRD (emdiardi), CKD-EPI (sikaidi-epiai), and the Schwartz formula in children. 18. The skills of measuring blood pressure in the upper and lower extremities. 19. Skills in interpreting the results of SMAD, to diagnose difficult-to-control, secondary arterial hypertension. 20. Perform microscopy of urinary sediment for the differential diagnosis of glomerular and nonglomerular hematuria. 21. Perform ultrasound of the kidneys and bladder for adults and children, under the supervision of an ultrasound specialist. 22. Skills in interpreting kidney ULTRASOUND in patients with diseases and (or) impaired kidney function, and recipients of a transplanted donor kidney. 23. Skills in diagnosing kidney disease in pregnant women or women in labor 24. Diagnostic skills of genetic or hereditary kidney diseases, tubulopathy in children. 25. Skills in justifying the need to refer patients with kidney diseases and (or) impaired renal function for consultation with specialist doctors of various profiles. 26. Skills in diagnosing acute and late graft rejection crises with the definition of the scope of diagnostic and therapeutic measures, relief of these conditions. 27. To prevent or eliminate complications, side effects, and undesirable reactions that occur in patients as a result of diagnostic manipulations. 28. To determine indications for planned and emergency hospitalization of patients with diseases and/or impaired renal function. 29. Skills in determining indications for the choice of HRT (Hemodialysis and PD). 30. Skills in determining indications and contraindications for
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	donor kidney transplantation. 31. Blood type and Rh factor determination skills. 32. Analysis skills the results of tissue typing according to HLA (echelei) (the main histocompatibility complex) in classes I and II. 33. Skills in determining indications for transfusion of blood components. 34. Skills of transfusion of blood components and implementation of all requirements Knowledge: 1. Knowledge of the features of kidney diseases during pregnancy and in the postpartum period. 2. Knowledge of the pathogenesis and methods of correction of renal anemia. 3. Knowledge of kidney formations in adults and children. 4. Knowledge of nephrological aspects of kidney transplantation in adults and children. 5. Knowledge of the basics of kidney anatomy and physiology in adults and children. 6. Knowledge of the basics of pathological anatomy and pathological physiology of the kidney in adults and children. 7. Knowledge of etiology and pathogenesis, pathomorphology, clinical picture, classification, differential diagnosis, features of the course and outcomes of nephrological diseases and their complications, taking into account age characteristics, prognosis of the disease. 8. Knowledge of the basics of water-electrolyte metabolism, acid-base balance, possible types of their disorders and principles of therapy in patients with diseases and (or) impaired renal function. indicators of homeostasis, taking into account age characteristics. 9. Knowledge of functional and clinical research methods in nephrology. 10. Knowledge of the features of the course of autoimmune diseases with kidney damage. 11. Knowledge of the features of medical history collection in adults and children with diseases and (or) impaired kidney function, including recipients of a transplanted kidney. 12. Knowledge of the algorithm of examination of adults and children with diseases and (or) impaired renal function. 13. Knowledge of medical indications and medical contraindications to the use of instrumental diagnostic methods in patients with diseases and (or) impaired renal function in adults and children. 14. Knowledge of the features of dysmetabolic nephropathies in adults and children. 15. Knowledge of medical indications and contraindications to kidney biopsy in patients with diseases and (or) impaired renal
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function in adults and children.

16. Knowledge of the basics of neonatal and geriatric nephrology.

17. Knowledge of the effects of genetic and systemic diseases on the kidneys.

18. Knowledge of the immunological mechanisms of kidney damage.

19. Knowledge of infectious kidney diseases

20. Knowledge of the features of kidney diseases during pregnancy and in the postpartum period.

21. Knowledge of kidney tumors.

22. Knowledge of nephrological aspects of kidney transplantation

23. Knowledge of the principles of evidence-based medicine in nephrology.

24. Knowledge of clinical protocols, modern methods of treatment of patients with diseases and (or) impaired renal function in adults and children.

25. Knowledge of clinical pharmacology issues: prescribing medicines for kidney diseases, basic immunosuppressive therapy and its correction for primary and secondary nephropathies, glomerular diseases, systemic and rheumatic diseases with kidney damage, kidney transplantation, pregnancy and lactation, as well as the elderly. the mechanism of action of drugs used in nephrology.

26. Knowledge of evidence-based medicine in clinical nephrology.

27. Knowledge of normal, topographic and pathological anatomy, histology of kidneys, normal and pathological physiology of kidneys.

28. Knowledge of the basic biochemical parameters of blood in children and adults.

29. Knowledge of the age-related features of the kidneys, genitourinary system in adults and children, and their functional features.

30. Knowledge of the main clinical symptoms and syndromes of kidney diseases in children and adults.

31. Knowledge of etiology, pathogenesis, classifications, clinical manifestations, diagnosis of diseases of internal organs in adults and children.

32. Knowledge of the standard survey and physical examination scheme for adults and children.

33. Knowledge of methods of examination of children and adults with kidney diseases for diagnosis.

34. Knowledge of laboratory data of the main biological organisms in normal and kidney diseases in adults and children.

35. Knowledge of functional and clinical research methods in nephrology.

		36. Knowledge of the indications for planned and emergency hospitalization with kidney diseases with or without impaired renal function in adults and children. 37. Knowledge of the basics of neonatal and geriatric nephrology. 38. Knowledge of the effects of genetic and systemic diseases on the kidneys in adults and children. 39. Knowledge of the immunological mechanisms of kidney damage in adults and children. 40. Knowledge of infectious kidney diseases in adults and children. 41. Knowledge of the basics of the international and domestic classification of diseases, clinical recommendations of the European and American Association of Nephrologists.
	Skill 2: Organization of preventive and rehabilitative measures in patients (adults, children) with or without impaired renal function	Skills: 1. Skills in applying preventive methods of early diagnosis and treatment of kidney diseases. 2. Skills in conducting sanitary and educational work among patients with diseases and (or) impaired renal function. 3. Skills in conducting medical examinations, medical examinations, and follow-up of patients with diseases and (or) impaired renal function in accordance with regulatory legal acts. 4. Skills in carrying out medical examinations of the population for the purpose of early detection of diseases and (or) renal dysfunction, the main risk factors for their development. 5. The skills of prescribing therapeutic nutrition, depending on the stage of CKD. 6. Skills in prescribing ketone amino acids during a low-protein diet in order to improve nitrogen metabolism. 7. Skills in carrying out necessary rehabilitation and preventive procedures and measures among patients with renal pathology. 8. Skills in organizing and conducting public health education and promoting a healthy lifestyle. 9. Skills of dispensary observation of patients with kidney diseases, including those of a transported kidney. 10. Skills in monitoring the concentration of major immunosuppressants in glomerular and transplanted patients. 11. Skills in the prevention of CKD, infectious and non-communicable complications in patients with diseases and (or) impaired kidney function, including recipients of a transplanted kidney. 12. Skills of dynamic monitoring of the condition of patients with diseases and (or) impaired renal function, including recipients of a transplanted kidney. 13. Skills in organizing and conducting screening studies for early detection of CKD and determining its stage for the initiation of nephroprotective therapy. 14. Skills in carrying out sanitary and anti-epidemic measures in

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		the event of a focus of infection, sanitary clearance of work. 15. Skills of cooperation with specialist doctors in the prevention of diseases and (or) disorders of kidney function. 16. Skills in the treatment of renal anemia and its further correction. 17. Skills in organizing and conducting screening for diseases and (or) disorders of kidney function, including examining relatives of patients with established chronic kidney diseases and patients suffering from hypertension, advanced atherosclerosis, systemic connective tissue diseases, diabetes mellitus, gout, hereditary or genetic. 18. The ability to organize and conduct "Nephrologist Schools" for CKD patients in hospitals and polyclinic services, in order to train CKD patients, prepare for HRT, including kidney transplantation, primary and secondary prevention of complications of comorbid conditions. Knowledge: 1. Knowledge of preventive measures for patients taking into account risk factors in accordance with clinical recommendations (clinical protocols), in adults and children. 2. Knowledge of population health statistics, 3. Knowledge of criteria and indicators of healthcare in the field of nephrology. 4. Knowledge and promotion of healthy lifestyle, quitting smoking, alcohol, dietary supplements. 5. Knowledge of the basics of a healthy lifestyle, methods of its formation. 6. Knowledge of the forms and methods of sanitary and educational work among children (their parents and legal representatives), medical professionals on the prevention of diseases and (or) disorders of kidney function. 7. Knowledge of the procedure for conducting medical examinations, medical examinations, and follow-up of patients with diseases and (or) impaired renal function in accordance with regulatory legal acts. 8. Knowledge of the principles of medical examination of the population for the purpose of early detection of diseases and (or) renal dysfunction, the main risk factors for their development in adults and children. 9. Knowledge of the proper organization and conduct of screening for diseases and (or) disorders of kidney function, including examination of relatives of patients with established chronic kidney diseases and patients suffering from hypertension, advanced atherosclerosis, systemic connective tissue diseases, diabetes mellitus, gout, hereditary or genetic diseases, congenital anomalies of the kidneys and urinary tract.
	Skill 3: Provision of	Skills: 1. The skills of consulting doctors of other specialties on issues

	advisory services to doctors of other specialties in nephrological diseases	in the field of nephrology. - The skills of consulting specialists in pre-medical care and nursing on issues in the field of nephrology. - Skills of conducting explanatory work among PHC doctors according to the CKD algorithm. - Skills in presenting recommended tactics at medical consultations and clinical conferences. - Publication design skills. - The ability to report the materials of their own observations on professional information exchange platforms. Knowledge: - Knowledge of the rules of effective communication. - Knowledge of the rules of medical ethics, deontology and subordination. - Knowledge of the main results of modern research, recognized in the community of nephrology in the last five years. - Knowledge of the methodology of the main modern research, recognized in the community of nephrology in the last five years.
	Skill 4: Informing the patient and his representatives about the pathological conditions of the kidneys	Skills: - The skills of advising the patient or his legal representative on possible alternatives for the development of kidney disease. - The skills of informing the patient or his legal representative about the possibility of choosing methods and methods of prevention, examination, treatment. - Skills in obtaining informed consent for invasive and complex diagnostic procedures. - The skills of teaching the patient or his legal representative the rules that are necessary for the successful diagnosis and treatment of kidney diseases. - The ability to provide information in the media and online resources, in accordance with the requirements of medical ethics and patient rights Knowledge: - Knowledge of the rules of effective communication. - Knowledge of the rules of medical ethics, deontology and subordination. - Knowledge of the main results of modern research, recognized in the community of nephrology in the last five years. - Knowledge of specialized recommendations for patients depending on the nosology and methods of diagnosis and treatment.
Labor function 2: Conducting medical examinations in relation to patients with kidney diseases.	Skill 1: Disability examination	Skills: - Identify signs of temporary disability and signs of persistent dysfunction of the human body caused by nephrological diseases and the need for care when issuing sick leave for sick family members. - Formulate medical conclusions based on the results of the medical examination.

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		3. Refer patients with kidney diseases for medical and social examination. 4. Prepare the necessary medical documentation for patients with kidney diseases to undergo a medical and social examination. 5. Issue a disability certificate for patients with kidney disease or for caring for sick family members. Knowledge: 1. Order of the Minister of Health of the Republic of Kazakhstan dated November 18, 2020 No. KR DSM-198/2020 "On approval of the rules for the examination of temporary disability, as well as the issuance of a temporary disability certificate" (registered with the Ministry of Justice of the Republic of Kazakhstan on November 20, 2020 No. 21660). 2. Criteria for temporary and permanent disability in diseases kidneys. 3. Registration of medical documentation for the implementation of medical and social expertise. 4. Medical indications for referral of patients with persistent impairment of body functions caused by poisoning and its consequences for medical and social examination.
Labor function 3: Participation in the management of medical documentation, medical and statistical information	Skill 1: Maintaining medical records, analyzing medical and statistical information, in accordance with the requirements of regulatory legal acts in the field of	Skills: 1. 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 their 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: 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 non-formal 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, 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:	Empathy Communication skills Tolerance and respect Collaboration and teamwork Stress resistance Reflection and introspection Compliance with professional ethics Openness and willingness to learn Activity and initiative Striving for professional development	

Head of the Educational and Methodical center



Doltayeva B. Z.