

«APPROVED» by
Rector of JSK «SKMA»
Seitzhanova Zh. S.



2025y.



SOUTH KAZAKHSTAN
MEDICAL
ACADEMY

EDUCATIONAL PROGRAM OF RESIDENCY
7R09140
«PHYSICAL MEDICINE AND REHABILITATION (ADULT, CHILDREN)»

The educational program of the residency 7R09140 "Physical medicine and rehabilitation for adults, children" was developed by the Department of Neurology, Psychiatry, Rehabilitation and Neurosurgery

Head of the Department, Professor _____ Zharkinbekova N.A.
Protocol № 8 from "18" "03" "2025" y.

Agreed with the employer:

Chief freelance rehabilitation specialist of Shymkent

Head of the rehabilitation department

Medicare clinic, Shymkent _____



Tokmurzaeva R.S.

Discussed at the meeting of the Residency educational programs committee

Chairman of the educational programs committee _____ Kauyzbai Zh.A.

Protocol № 4 from "21" "04" "2025" y.

Approved at the Clinical Council

Chairman of the Clinical Council _____ Nurmashev B.K.

Protocol № 8 from "25" "04" "2025" y.

Approved by the Academic Council

Protocol № 13 from "02" "05" "2025" y.

Passport of the educational programme

1.Mission of the educational programme: To be a recognised leader in the field of competitive personnel training, to meet the needs of the resident physician in achieving learning outcomes, providing the health care system and society with highly qualified rehabilitation physicians.

2.Purpose of the educational programme: To train doctors with professional skills of a physical medicine and rehabilitation physician, who will independently provide specialized, highly qualified rehabilitation care to children and adults.

3.Rationale of the EP

The need of medical organisations for medical rehabilitation specialists is the justification for the opening and necessity of training rehabilitation doctors, primarily at the regional level, taking into account the main strategies and programmes for the development of the health care system at the international, national and regional level in order to increase the level of effective application of medical rehabilitation.

Professional standard on the basis of which the educational programme is developed programme Professional standard "Medical rehabilitation" (draft) Standard for organising the provision of medical rehabilitation to the population in the Republic of Kazakhstan. Order of the Minister of Health of the Republic of Kazakhstan dated July 04, 2022 No. KR DSM -63.

Area of professional activity. Health care

Objects of professional activity. Medical organisations providing inpatient and outpatient care, health care system of the Republic of Kazakhstan

Objectives of the educational programme:

- in-depth mastering of theoretical issues of physical medicine and rehabilitation;
- improvement of practical skills in modern principles of diagnostics, interpretation of examination results from the position of evidence-based medicine, methods of preoperative preparation and methods of surgery;
- independent implementation of qualified medical care in various conditions and diseases.

4. Professional standard, on the basis of which the educational programme is developed: NAP "On approval of the rules of medical rehabilitation" Order of the Minister of Health of the Republic of Kazakhstan from July 04, 2022 No. KR DSM -63.

5. Area of professional activity: Health care.

6. Objects of professional activity: Medical organisations providing inpatient and outpatient care, health care system of the Republic of Kazakhstan

General information

N ₂	Characteristics of EP	Data
1	Registration number	7R01100278
2	Code and classification of the field of education	7R01 Health (medicine)
3	Code and classification of training directions	7R011 Health Care
4	Group of educational programmes	Updated EP
5	Code, name of educational programme	R040 Adult, paediatric physical medicine and rehabilitation
6	Type of educational programme	7R01140 Physical medicine and rehabilitation adult, paediatric
7	MCKO level	7

8	HPK level	7
9	OPK level	7
10	Distinctive features of the EP	According to professional standard
	Partner HEI (SOP)	
	Partner HEI (ДДОН)	
11	List of competences	QC1. Patient management: Prescribes a treatment plan and evaluates its effectiveness based on evidence-based practice at the level of physical medicine and rehabilitation care for patients with diseases of various systems and the human body as a whole. QC2. Communication and Collaboration: Communicates effectively with the patient in need of rehabilitation care, the patient's environment, and health care professionals to achieve the best outcomes for the patient QC3. Professionalism: Assesses risks and uses the most effective methods to ensure a high level of safety and quality at the physical medicine and rehabilitation care delivery levels QC4. Public Health: Acts within the legal and organisational framework of the health care system of the Republic of Kazakhstan in the specialty of physical medicine and rehabilitation, provide basic care in emergency situations, work as part of interprofessional teams to implement policies to promote the health of the nation. QC5. Research: Formulates adequate research questions, critically appraise professional literature in physical medicine and rehabilitation, effectively utilise international databases in their daily activities, participate in a research team QC6. Learning and development: Learns independently and trains other members of the professional team, actively
12	Learning Outcomes	LO1 Conducts diagnostic measures to identify disorders of the functions and structures of the human body in diseases and various conditions (surgical interventions, injuries, etc.) and functional diagnostics in physical medicine and rehabilitation. LO2 Able to effectively interact with the patient in need of rehabilitation care, his environment, health professionals in order to achieve the best results for the patient. LO3 Prescribes measures for medical rehabilitation of patients with disorders of the structures and functions of the human body, taking into account the rehabilitation potential in the implementation of individual programs



		of medical rehabilitation (habilitation) of disabled people. LO4 Operates within the legal and organizational framework of the healthcare system of the Republic of Kazakhstan in the specialty of "Physical Medicine and Rehabilitation", participates in the management of medical documentation, medical and statistical information, provides basic assistance in emergency situations, works as part of interprofessional teams to implement the policy of strengthening the health of the nation. LO5 Able to formulate adequate research questions, critically evaluate professional literature on physical medicine and rehabilitology, effectively use international databases in his daily activities, and participate in the work of the research team. LO6 Learns independently, continuously develops professionally, improving professional knowledge and trains other members of the professional team, actively participates in discussions, debates, reviews scientific research and presents at international, domestic conferences and other forms of continuous professional development in the field of medical rehabilitation.
13	Form of study	Full-time
14	Language of instruction	Kazakh and Russian
15	Credit volume	140
16	Term of study	2 years
17	Degree, qualification awarded	doctor - medical rehabilitation specialist
18	Availability of an annex to the licence for the direction of training	KZ 36LLA00011387
19	Availability of accreditation of OP	Yes
	Name of accreditation body	NAAR
	Accreditation validity period	Certifukat № AB 3995 10.06.2022 -09.06.2027
20	Information about disciplines	Appendix A.2

Appendix A.1

Matrix of correlation between the learning outcomes of the educational programme as a whole and the competences formed

	LO1	LO2	LO3	LO4	LO5	LO6
C1	+	+	+			
C2		+		+		
C3			+		+	
C4				+		
C5					+	
C6						+

Appendix A.2

Competence/learning outcomes achievability matrix

№	Name of discipline	Brief description of the discipline	Cycle (DB, PD)	Component (MC, VC, CC)	Number of credits	Formative learning outcomes (codes)
1	Therapeutic physical factors	Effectively interacts with the patient in need of rehabilitation assistance, his environment, prescribes medical rehabilitation measures, taking into account therapeutic physical factors, conducts and monitors the effectiveness and safety of medical rehabilitation of patients with impaired functions, structures of the human body and limitations of the human body's vital activity, taking into account the rehabilitation potential, including when implementing individual medical rehabilitation programs.	PD	UC	18	LO2 LO3 LO4
2	Therapeutic physical training (kinesiotherapy)	Possesses knowledge and practical skills of diagnostic measures to identify disorders of the functions and structures of the human body and the subsequent limitations of life activity, as well as conducting functional diagnostics. Assigns, conducts and monitors medical rehabilitation measures - kinesiotherapy, the effectiveness and safety of medical rehabilitation of patients, taking into account the rehabilitation potential in the implementation of individual medical rehabilitation programs or rehabilitation of the disabled.	PD	UC	18	LO1 LO2 LO3
3	Musculoskeletal rehabilitation	General indications and contraindications for musculoskeletal rehabilitation depending on the nature of injuries and functional disorders. The combination of musculoskeletal rehabilitation with various physiotherapy procedures and exercise therapy. Classification of musculoskeletal rehabilitation Features in children.	PD	UC	18	LO2 LO3

4	Ergotherapy	Ergotherapy in medical rehabilitation. The purpose and objectives of ergotherapy. Areas of application of ergotherapy. Ergotherapy. Ergotherapy in the treatment of mental illnesses. Ergotherapy and rehabilitation. Functional disorders in which ergotherapy is used, indications and contraindications to its use. Methods, techniques and a set of exercises for violations of self-service of various genesis.	PD	UC	10	LO2 LO3
5	Fundamentals of medical rehabilitation	The concept of medical rehabilitation. Medical supervision in medical rehabilitation. Methods and means of medical rehabilitation. Features of the organization of rehabilitation measures at various stages of medical care. Medical and social directions of rehabilitation. Types of rehabilitation. Evaluation tools: schools in rehabilitation. Methods of assessing physical performance and methods of increasing the level of physical performance. Basic principles of medical rehabilitation.	PD	UC	16	LO4 LO6
6	Rehabilitation in paediatrics	Organization of medical and preventive care for children in the Republic of Kazakhstan. Anatomical and physiological features of childhood. The principles of the occurrence of pathological processes, the mechanisms of their development and clinical manifestations, taking into account the anatomical and physiological characteristics of the child. Etiology, pathogenesis, clinical symptoms, peculiarities of the course, diagnosis and differential diagnosis and principles of treatment of the main diseases of childhood: oncological, hematological, immunological pathology of childhood; hereditary diseases; diseases of the system of internal organs (underwent surgery).	PD	UC	12	LO1 LO2 LO3
7	Functional diagnostics	Types of functional diagnostics in rehabilitation. Application of artificial intelligence technologies. Electroneuromyography (ENMG), electroencephalography (EEG), transcranial magnetic stimulation (TMS), bicycle ergometry, muscle-manual testing,	PD	UC	8	LO1 LO2 LO3

		ultrasound of nerves, muscles, joints. The purpose of using functional diagnostic methods. Methods of assessing physical performance and methods of increasing the level of physical performance.				
8	Neurorehabilitation	Rehabilitation of patients with diseases and injuries of the central and peripheral nervous system in adults and children. Application of artificial intelligence technologies. Medical rehabilitation for perinatal lesions of the central nervous system. Physical therapy in violation of cerebral circulation. Medical rehabilitation for cerebral palsy, parkinsonism, peripheral paralysis, consequences of neurotrauma and neuroinfections.	PD	UC	18	LO1 LO3 LO5 LO6
9	Cardiac rehabilitation	Rehabilitation of patients after surgical interventions on the chest organs in various periods after operations (indications, contraindications, content of the rehabilitation program). Physical therapy for CHD, myocardial infarction. Methods of rehabilitation in adults and children with arterial hypertension, with pulmonary hypertension. Rehabilitation of patients with cardiomyopathy. Rehabilitation of patients with coronary artery disease who underwent coronary artery bypass grafting.	PD	UC	8	LO1 LO3 LO5 LO6
10	Pulmonary rehabilitation	Exercise therapy for pneumonia. Methods of rehabilitation in adults and children with broncho-pulmonary pathology. Rehabilitation of patients with bronchial asthma, depending on the severity (indications, contraindications, content of the rehabilitation program).	PD	UC	8	LO1 LO3 LO5 LO6
	TOTAL				134	
11	Medical rehabilitation of	Clinical and physiological justification of physical therapy in respiratory diseases.	PD	EC		LO3 LO5

	patients with respiratory diseases	Methods of rehabilitation for respiratory diseases. Application of artificial intelligence technologies. Physical therapy for bronchial asthma, with surgical interventions on the lungs. Physical therapy in a therapeutic pool for respiratory diseases. Massage for respiratory diseases. Possible complications after infectious diseases of physical therapy during the recovery period after infectious diseases.			4	LO6
12	Medical-technical means in the system of medical rehabilitation	Physical medicine and rehabilitation of patients after reconstructive orthopedics and patients with limb losses, including congenital causes, and amputations. Technologies and principles of orthosis, prosthetics and application of TSR.	PD	EC		LO3 LO4
13	Nutritional support in medical rehabilitation	Features of management of patients with dysphagia in the practice of medical rehabilitation. Enteral nutrition, types. Sipping nutrition as a method of nutritional support. Rehabilitation of patients after surgical interventions on abdominal organs in various periods after operations (indications, contraindications, content of the rehabilitation program). Medical rehabilitation in gastroenterology. Methods of rehabilitation in a patient with gastric ulcer and duodenal ulcer.	PD	EC		LO3 LO5
	TOTAL				4	
	Final certification				4	
	TOTAL				138	

Appendix B

Professional standard: «Physical medicine and rehabilitation (adult, children)»

Profession card "7.2 Medical rehabilitation physician"	Mandatory job functions:	1. Carrying out diagnostic measures with the aim of identifying disorders of the functions and structures of the human body and the subsequent limitations of life activities during diseases and (or) conditions, as well as after acute conditions, surgical interventions and injuries. 2. Assignment of medical rehabilitation measures, implementation and monitoring of the effectiveness and safety of medical rehabilitation of patients with impaired functions, structures of the human body and limitations of the human body's vital activity, taking into account the
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		rehabilitation potential, including in the implementation of individual programs of medical rehabilitation or habilitation of disabled people, prevention. 3. Functional diagnostics in physical medicine and rehabilitation. 4. Participation in the management of medical documentation, medical and statistical information
	Additional job functions:	1. Continuous professional development
Labor function 1: Conducting diagnostic measures to identify disorders of the functions and structures of the human body and subsequent limitations of life activity in diseases	Skill 1: Identification of disorders of the functions and structures of the human body and subsequent limitations of life activity in diseases and (or) conditions, as well as after acute conditions, surgical interventions and injuries in patients (adults, children).	Skills: 1. Collection of complaints and a complete history of life and illness, social and professional history with detailed information. 2. Conducting and evaluating physical examination of patients. 3. Analyzing information obtained during the collection of complaints, anamnesis of life and disease and integrating the information obtained with the results of the examination. 4. To identify clinical symptoms and syndromes in patients with life-limiting disorders, dysfunctions of the body's functions and structures. 5. Determine the degree of severity of life activity limitations, disorders of functions and structures of the human body in accordance with the International Classification of Functioning, Disabilities and Health, identify deviations in the physical and psychomotor development and (or) condition of the patient. 6. Interpret and analyze the results of patient examination. 7. Use the algorithm for establishing a rehabilitation diagnosis taking into account the ICF, apply methods of differential diagnosis of patients with life limitations, disorders of functions and structures of the human body. 8. Summarize the data obtained during the examination, formulate and justify the rehabilitation diagnosis taking into account the ICF, draw up a plan for laboratory, instrumental and clinical examinations of patients with disabilities, dysfunctions of the functions and structures of the body. Knowledge: 1. Rules for providing medical rehabilitation.



and (or) conditions, as well as after acute conditions, surgical interventions and injuries.	2. Clinical protocols for diagnostics and treatment of the Republic of Kazakhstan according to the profile of activity. 3. International clinical guidelines for the profile of activity. 4. Features of collecting anamnesis and physical examination of adults and children with disorders of the functions and structures of the human body, limitations of life activities due to diseases and (or) conditions, as well as after acute conditions, surgical interventions and injuries. 5. Etiology, pathogenesis, clinical picture of dysfunctions, structures of the human body, vital activity, differential diagnostics, features of the course of the recovery period, complications and possible outcomes of the rehabilitation process in diseases and (or) conditions. 6. Clinical picture, features of the course, complications of the main and concomitant diseases in patients with underlying diseases that are the cause of the development of disability. 7. Symptoms and syndromes of complications, side effects, adverse reactions, including serious and unexpected ones, arising as a result of diagnostic and rehabilitation procedures in patients with life-limiting disorders, dysfunctions of the functions and structures of the body, with various diseases and (or) conditions. 8. Methods of conducting and algorithm for selecting special functional tests, scales and tests for patients with disabilities, disorders of functions and structures of the body. 9. Classes and categories of disorders of functions, structures of the human body and limitations of life activity. 10. Principles for determining the degree of severity of limitations of life activity, disorders of functions and structures of the human body in accordance with the International Classification of Functioning, Disabilities and Health. 11. Patterns of development and functioning of a healthy human organism at different age periods and mechanisms for ensuring health from the standpoint of the theory of functional systems; features of regulation of functional systems of the human organism in the norm and during the development of pathological processes.
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		12. Methods for formulating a rehabilitation diagnosis and rehabilitation potential.
	Skill 2: Planning examination of patients (adults, children) with justification for the implementation of appropriate laboratory and instrumental diagnostic methods.	Skills: 1. Assigning diagnostic tests to the patient. 2. Interpreting the results of clinical, laboratory and instrumental research methods. 3. Determine indications and contraindications for laboratory, non-invasive and invasive instrumental diagnostic methods.' Knowledge: 1. Laboratory and instrumental studies according to current clinical protocols of laboratory and instrumental diagnostic methods, diagnostics and treatment of RC and/or international recommendations. 2. Methods of clinical and paraclinical diagnostics of disorders of functions, structures of the human body and vital activity. 3. Medical indications/contraindications and algorithm for conducting laboratory and instrumental research methods. 4. Medical and legal issues related to informed consent, provision of information and restrictions.
	Skill 3: Referring patients (adults, children) with disorders of the functions and structures of the human body and subsequent limitations of life activities due to diseases and (or) conditions, as well as after acute conditions, surgical interventions and injuries for consultation with specialists	Skills: 1. Justify the need to refer patients with impaired functions and structures of the human body and subsequent limitations in life activities to specialist doctors. 2. Justify the need to refer patients with impaired functions and structures of the human body and subsequent limitations in life activity to specialists with higher professional (non-medical) education of a multidisciplinary rehabilitation group for consultation. 3. Interpret and analyze data obtained during consultations with patients with impaired functions and structures of the human body and subsequent limitations in life activities by medical specialists, specialists with higher professional (non-medical) education (speech therapists,

		medical psychologists, social work specialists) of the multidisciplinary rehabilitation group. Knowledge: 1. Clinical picture of conditions requiring referral to medical specialists of patients with disorders of the functions and structures of the human body and subsequent limitations of life activities.
Labor function 2: Assignment of medical rehabilitation measures, implementation and monitoring of the effectiveness and safety of medical rehabilitation of patients with impaired functions, structures of the human body and limitations of the human body's vital activity, taking into account the rehabilitation potential, including in the implementation of individual programs of medical rehabilitation or habilitation of disabled people, prevention	Skill 1: Developing a medical rehabilitation plan for patients (adults, children) with impaired functions and structures of the human body and subsequent limitations in life activities, taking into account the rehabilitation potential, regardless of age, diseases and (or) conditions. а вне зависимости от возраста, при заболеваниях и (или) состояниях.	Skills: 1. Interpret data obtained during consultations with a patient with impaired functions and structures of the body and limitations in life activities by medical specialists, specialists with higher professional (non-medical) education of a multidisciplinary rehabilitation group, data from laboratory, instrumental and clinical studies in order to obtain an idea of the degree of impairment of various functions, structures, and life activities of the patient (activity, participation, influence of environmental factors). 2. To draw up a conclusion on the state of the patient's impaired and preserved functions and structures, the state of his/her vital activity based on the data of a comprehensive examination taking into account the ICF. 3. To determine the rehabilitation potential, formulate a rehabilitation diagnosis taking into account the ICF. 4. Formulate and justify rehabilitation goals and objectives based on the rehabilitation diagnosis and rehabilitation potential for a day, a week, for the entire period of the patient's stay, taking into account the ICF. 5. Adjust rehabilitation goals and objectives depending on the result of medical rehabilitation at various stages of the provision of rehabilitation care. 6. Develop a plan of rehabilitation measures for patients with disabilities, impairments of body functions and structures, taking into account the rehabilitation potential, including when implementing an individual rehabilitation program for persons with disabilities. 7. Conduct measures for the medical rehabilitation of patients with impairments of body functions and structures and subsequent limitations of life, including when implementing an individual rehabilitation program for persons with disabilities.

		8. Determine medical indications for referring patients with impaired functions and structures of the human body and subsequent limitations in life activities to specialists of a multidisciplinary team for the appointment and implementation of medical rehabilitation measures, including when implementing an individual rehabilitation program for persons with disabilities. Knowledge: 1. ICF, methods of assessment, classification of variants of disorders of motor functions, higher mental functions, psycho-emotional state, speech, writing, hygiene skills, everyday skills and other aspects of the functioning of the human body. 2. Concepts of rehabilitation potential, methods of determining rehabilitation potential, factors of rehabilitation potential, use of rehabilitation potential. 3. Functional classes in assessing the degree of impairment of functions according to WHO recommendations, gradations of functional classes. 4. Fundamentals of medical rehabilitation, goals and objectives of rehabilitation measures at various stages of medical rehabilitation. 5. Fundamentals of medical rehabilitation of patients with underlying diseases that cause disability, non-communicable diseases, concomitant diseases, pathological conditions. 6. Mechanisms of impact of rehabilitation measures on the body of patients with underlying diseases that cause disability, non-communicable diseases, concomitant diseases, pathological conditions.
	Skill 2: Formation of an individual medical rehabilitation program aimed at solving problems and achieving	Skills: 1. Determination of the motor regime, individual limits of the intensity of the effects applied to a patient with impaired functions and structures of the human body and subsequent limitations of life activities. 2. Determination of risk factors and factors limiting the implementation of measures to implement an individual medical rehabilitation program. 3. Prescribing and assessing the effectiveness and safety of using medicinal products, medical devices and therapeutic nutrition for the purpose of correcting impaired functions and structures of



the goals of medical rehabilitation of patients (adults, children) taking into account the indications and contraindications for the use of individual forms and methods of medical rehabilitation, the appointment of physiotherapy and methods of motor rehabilitation (exercise therapy/kinesiotherapy).

the human body, limitations in the life of a patient with various diseases and (or) conditions.

4. Prescription and evaluation of the effectiveness and safety of physiotherapy in the process of medical rehabilitation.

5. Prescription and evaluation of the effectiveness and safety of therapeutic exercise.

6. Prescription and evaluation of the effectiveness and safety of manual techniques.

7. Conducting secondary prevention or treatment of complications, side effects, adverse reactions, including serious and unexpected ones, that arise as a result of medical rehabilitation.

8. Refer patients for continuation of medical rehabilitation activities in accordance with their rehabilitation potential and rehabilitation goals to medical organizations at the appropriate stages of providing medical rehabilitation assistance.

9. Determine medical indications and contraindications for the prescription of therapeutic physical factors (physiotherapy).

10. Determine the goals and objectives, sequence of application of physiotherapy for diseases and (or) conditions.

11. Prescription of therapeutic physical factors (physiotherapy), selection of method and technique, and the ability to conduct physiotherapy for patients with diseases and (or) conditions.

12. Carrying out the prevention or treatment of complications, side effects, adverse reactions, including serious and unexpected ones, arising as a result of diagnostic or therapeutic manipulations, the use of physiotherapy.

13. Determination of medical indications and contraindications for the prescription of therapeutic exercise (kinesiotherapy).

14. Evaluation of the anatomical and functional state of the human body in normal conditions, in diseases and (or) pathological conditions in patients for the purpose of prescribing therapeutic exercise (kinesiotherapy).

15. Use methods of examination and survey of patients with diseases and (or) conditions taking into account age-related anatomical and functional characteristics for the purpose of prescribing therapeutic exercise (kinesiotherapy), interpret



and analyze the data obtained as a result of the examination.

16. Interpret data from additional laboratory, instrumental, and functional examinations of patients with pathologies and functional disorders for which the patient has been referred for therapeutic exercise, taking into account all concomitant diseases at the moment, for the purpose of prescribing and conducting therapeutic exercise for this patient in accordance with the indications and contraindications.

17. Define goals and objectives, justify the use of therapeutic exercise (kinesiotherapy) for diseases and (or) conditions.

18. Prescribe therapeutic exercise (kinesiotherapy), create exercise therapy complexes and be able to conduct exercise therapy (kinesiotherapy) for patients with diseases and (or) conditions.

19. Conduct prevention or treatment of complications, side effects, adverse reactions, including serious and unexpected ones, that arise as a result of therapeutic exercise (kinesiotherapy).

20. Determine medical indications and contraindications for the appointment of manual manipulations.

21. Assess the anatomical and functional state of the human body in normal conditions, in diseases and (or) pathological conditions in patients for the purpose of prescribing manual manipulations.

22. Use methods of examination and examination of patients with diseases and (or) conditions taking into account age-related anatomical and functional features for the purpose of prescribing manual manipulations, interpret and analyze the data obtained as a result of the examination.

23. Define goals and objectives, justify the use of manual manipulations for diseases and (or) conditions.

24. Prescribe manual manipulations to patients with diseases and (or) conditions.

25. Monitor symptoms and laboratory diagnostic results for diseases and/or conditions of patients, adjust the plan of physiotherapy, exercise therapy (kinesiotherapy), manual manipulations depending on the characteristics of the course and individual response of the patient's body to physiotherapy treatment and motor rehabilitation.

25. Conduct functional tests.

26. Determine medical indications and contraindications for therapeutic paravertebral, intra-articular and periarticular manipulations.

Knowledge:

1. Methods of medical rehabilitation of patients with various diseases or conditions.

2. Features of impairment of functions, activity and participation in the main diseases that cause disability, non-communicable diseases, problems of the perinatal period.

3. Ontogenesis of the functional system of movement in the first three years of life, development of cognitive and speech functions in a child in the first three years of life.

4. Methods of assessment, classification of variants of disorders of motor functions, higher mental functions, psycho-emotional state, speech, writing, hygiene skills, everyday skills and other aspects of the functioning of the human body according to the ICF.

5. Criteria for completion of rehabilitation measures and principles of routing patients with impaired functions, structures of the human body and limitations of life activities, for the provision of assistance in medical rehabilitation at subsequent stages or its completion.

6. Principles of multidisciplinary work in medical rehabilitation, management of the medical rehabilitation process.

7. Symptoms and syndromes of complications, side effects, adverse reactions, including serious and unexpected ones, possible as a result of medical rehabilitation of patients.

8. Methods for analyzing the need for the appointment of technical rehabilitation means and assistive technologies for patients with disabilities, disorders of the functions and structures of the human body.

9. Methods for analyzing the environment (at home, in an apartment, at work, in a medical organization) of patients with disabilities, disorders of the functions and structures of the body.

10. Methods of therapeutic physical factors (physiotherapy) (electro-, magnetic-, light-, mechanical-, hydro-, thermotherapy) and spa treatment (climato-, balneo-, peloidotherapy) for



		various diseases or conditions, taking into account age characteristics. 11. The mechanism of action of therapeutic physical factors (physiotherapy) on the body of patients with diseases and (or) conditions, including in different age periods. 12. Methods of spa treatment, climatotherapy, balneotherapy, pelotherapy, types of resorts, classification of resort factors; medical indications and contraindications for referral to spa treatment. 13. Principles of potentiation, cumulation and fading of the effect of the used therapeutic physical factors (physiotherapy), principles of safety of medical interventions in the process of medical rehabilitation. 14. Means and methods of therapeutic physical training used for patients with various diseases or conditions. 15. Pathogenesis and sanogenesis of diseases in which therapeutic exercise (kinesiotherapy), manual manipulations are used. 16. The mechanism of the effect of therapeutic exercise (kinesiotherapy), manual manipulations on the human body in diseases and (or) conditions at various stages of care. 17. Objective methods for assessing the musculoskeletal system (joint indices, determination of the functional capacity of the joint, etc.). 18. Medical indications and contraindications for performing therapeutic paravertebral, intra-articular and periarticular manipulations. 19. Algorithms for providing emergency care in the event of complications 20. Methods for conducting functional tests.
Labor function 3: Functional diagnostics in physical medicine and rehabilitation.	Skill 1: Determining indications and contraindications for functional tests in patients (adults, children).	Skills: 1. Select methods of functional diagnostics in accordance with the clinical condition of the patient with life limitations and disorders of the functions and structures of the body. 2. Justify the implementation of functional tests. Knowledge: 1. Methods of functional diagnostics of the cardiovascular, respiratory, neuromuscular systems. 2. Medical indications and contraindications for functional tests.

		3. Medical indications and contraindications for stress ECG testing (bicycle ergometry, treadmill test, spiroergometry), cardiopulmonary test.
	Skill 2: Performing and interpreting functional tests in patients (adults, children).	Skills: 1. Have the skills to perform an ECG, a stress ECG test (bicycle ergometry, treadmill test, spiroergometry), and a cardiopulmonary test. 2. Analyze the results of a stress ECG test (bicycle ergometry, treadmill test, spiroergometry) and determine the criteria for stopping the test. 3. Have the skills to perform and interpret the results of peak flowmetry, oximetry. 4. Have the skills to perform and interpret the results of ENMG. 5. Interpret and integrate the results of studies when providing medical care for medical rehabilitation to patients. Knowledge: 1. ECG and cardiopulmonary test indicators in norm and in pathology. 2. Stress test, indications and contraindications for conducting a stress ECG test, stress test techniques for a specific patient. 3. Methods of conducting, standard indicators, analysis of the results of a stress ECG test (bicycle ergometry, treadmill test, spiroergometry). 4. Equipment and protocols for the stress ECG test. 5. Methodology, standard indicators, analysis of peak flowmetry and oximetry results. 6. Interpretation of functional examination results, their prognostic value. 7. Basic methods for diagnosing pulmonary system dysfunction in patients. 8. Clinical symptoms and syndromes, methods of functional diagnostics of common forms of respiratory diseases. 9. Indicators of external respiration function by obstructive, restrictive and mixed types in common forms of respiratory diseases. 10. Theoretical foundations of clinical physiology and biophysics of the nervous system. 11. Diagnostic criteria for the norm of different age groups and pathologies in diseases of the nervous system.
Job function 4. Participation in the management of	Skill 1: Maintaining medical records, analyzing medical and	Skills: 1. Plan work and prepare a report with an analysis of your own performance indicators.



medical documentation, medical and statistical information	statistical information, in accordance with requirements	2. Maintain medical records, including in electronic form, and monitor the quality of its maintenance. 3. Conduct an analysis of medical and statistical indicators of the work of the specialized medical department. 4. Use personal data of patients and information in the work, in accordance with the legislation. 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. ҚР ДСМ-175/2020 "On approval of forms of accounting documentation in the field of healthcare, as well as instructions for filling them out (registered with the Ministry of Justice of the Republic of Kazakhstan on November 4, 2020 No. 21579). medical and statistical information regulatory legal acts in the field of healthcare. 2. Order of the Minister of Health of the Republic of Kazakhstan dated December 22, 2020 No. ҚР ДСМ-313/2020 "On approval of forms of reporting 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. ҚР ДСМ-244/2020 "On approval of the rules for maintaining primary medical documentation 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 Function Continuous Professional Development	Job 1: Skill 1: Commitment Professional Improvement to	Knowledge: 1. Order of the Minister of Health of the Republic of Kazakhstan dated December 21, 2020 No. ҚР ДСМ-303/2020 "On approval of the rules for additional and informal education of specialists in the field of health care, qualification requirements for organizations implementing educational programs of additional and informal education in the field of health care, as well as the rules for recognizing the learning outcomes obtained by

		specialists in the field of health care through additional and informal 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. ҚР ДСМ-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 to network and communicate with colleagues in your professional field. 4. Current trends, research and developments in your specialized field.
Requirements for personal competencies:	for	Empathy Sociability Tolerance and respect Cooperation and teamwork Stress resistance Reflection and self-analysis Compliance with professional ethics Openness and willingness to learn Activity and initiative Desire for professional development

Head of the educational and methodological center



B. Doltaeva