INTERNATIONAL HIGHER SCHOOL OF MEDICINE
DISCIPLINE «MEDICAL REHABILITATION»

SYLLABUS
Medical rehabilitation

2026-2027 academic year
for students of medical faculty
5rd year of study, 9 semester, groups
2 credits (60 h, including auditoria 36 h, independent work – 24h)

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Venue: Clinical Multidisciplinary Hospital No. 2. Zhantoshev Street, 117. Oktyabrsky District, Bishkek, 720005.

The Syllabus is considered

at the meeting of the department of internal medicine
Protocol № 1 dated 28.08.2026

Head of the department prof. Kudaibergenova N.T.

The goal of the Clinical Rehabilitation course is to develop students' competencies in the fundamentals of medical rehabilitation, medical and social expertise, and the necessary knowledge of rehabilitation technologies; to foster behavior in patients and their families aimed at maintaining and improving their health, and to motivate them to lead a healthy lifestyle.

After study of the discipline the student must:

Knowledge:

- Principles of medical rehabilitation and their mechanisms of therapeutic action for various diseases.
- Principles for developing non-drug therapy packages for patients with various profiles.

Skill:

- Select appropriate rehabilitation measures for adult and pediatric patients with various illnesses.
- Able to prescribe appropriate non-drug therapy packages and other physical methods for patients, taking into account the type, stage, and progression of the disease.

Attitude:

- Skills in justifying the selection of appropriate medical, social, and vocational rehabilitation measures.
- Skills in formulating non-drug treatment plans for patients with various profiles, and in accurately assessing the tolerability, adequacy, and effectiveness of the measures taken.

Pre-requisites.

- Anatomy (macro- and microanatomy)
- Topographic anatomy
- Normal physiology
- Pathological physiology

Post-requisites.

- Traumatology, orthopedics and extreme surgery
- Surgical diseases
- Internal diseases
- Children's diseases
- Occupational diseases
- Neurology and basics of neurosurgery
- Outpatient therapy
- Family medicine

THEMATIC PLAN OF LECTURES

№	Theme of lecture	Hours	Date
1	Fundamentals of Medical Rehabilitation. Remedial Gymnastics, Physiotherapy, Kinesiotherapy	2	09.2026-05.2027
2	Medical rehabilitation for cerebrovascular accident	2	09.2026-05.2027
3	Medical rehabilitation for musculoskeletal disorders	2	09.2026-05.2027
4	Rehabilitation of patients with pathology of the peripheral nervous system.	2	09.2026-05.2027
5	Medical rehabilitation for spinal injury	2	09.2026-05.2027
6	Medical rehabilitation for traumatic brain injury. Medical rehabilitation in geriatrics.	2	09.2026-05.2027
Total		12	

THEMATIC PLAN OF PRACTICAL CLASSES

Unit №	Theme of practical classes	Hours	Date
1. Fundamentals of medical rehabilitation	PC 1: Introduction to Medical Rehabilitation	2	09.2026-05.2027
	PC 2: Physical therapy. Definition. Basic concepts.	2	09.2026-05.2027
	PC 3: Kinesiotherapy Definition. Basic Concepts	2	09.2026-05.2027
	PC 4: General Physiotherapy. Definition. Basic Concepts	2	09.2026-05.2027
	PC 5: Balneotherapy	2	09.2026-05.2027
	PC 6: Modul 1	2	09.2026-05.2027
2. Private medical rehabilitation	PC 7: Medical rehabilitation for cerebrovascular accidents. Strokes. Heart attacks.	2	09.2026-05.2027
	PC 8: Musculoskeletal disorders. Arthrosis	2	09.2026-05.2027
	PC 9: Medical rehabilitation for diseases of the peripheral nervous system	2	09.2026-05.2027
	PC 10: Medical rehabilitation for spinal and limb injuries. TBI	2	09.2026-05.2027
	PC 11: Medical rehabilitation for traumatic brain injury. Medical rehabilitation in geriatrics.	2	09.2026-05.2027
	PC 12: Modul 2	2	09.2026-05.2027
Total		24	

THEMATIC PLAN INDEPENDENT WORK OF STUDENTS

Unit №	Theme of practical classes	Hours	Date
1. Fundamentals of medical rehabilitation	Medical rehabilitation within the framework of spa and resort care	2	09.2026-05.2027
	Manual therapy	2	09.2026-05.2027
	Therapeutic nutrition	2	09.2026-05.2027
	Reflexology	2	09.2026-05.2027
	Mud therapy	2	09.2026-05.2027
	Psychological rehabilitation	2	09.2026-05.2027
2. Private medical rehabilitation	Medical rehabilitation for spinal cord and spinal cord injuries	2	09.2026-05.2027
	Medical rehabilitation for peripheral nervous system injuries	2	09.2026-05.2027
	Medical rehabilitation for facial nerve damage	2	09.2026-05.2027
	Medical rehabilitation for lumbosacral disc herniation	2	09.2026-05.2027
	Medical rehabilitation for polyneuropathy of the lower and lower extremities	2	09.2026-05.2027
	Medical rehabilitation for rheumatoid arthritis	2	09.2026-05.2027
Total		24	

Recommended reading for the discipline:

1. ***Basic:***

№	Authors	Title	Year of publication
1.	Susan B. O'Sullivan, omas J. Schmitz, George D. Fulk.	Physical rehabilitation	2023
2.	World Health Organization	Minimum technical standards and recommendations for spinal cord injury management in emergencies	2024
3	World Health Organization	Clinical guidelines for the pre- and post-operative physiotherapy management of adults with lower limb Amputations	2016
4	World Health Organization	Package of interventions for rehabilitation. Module 3. Neurological conditions (Package of interventions for rehabilitation. Module 1. Introduction – Module 2. Musculoskeletal conditions – Module 3. Neurological conditions – Module 4. Cardiopulmonary conditions – Module 5. Neurodevelopmental disorders – Module 6. Sensory conditions – Module 7. Malignant neoplasm – Module 8. Mental health conditions).	2023
5	L. Bryan.	The Comprehensive Manual of Therapeutic Exercises: Orthopedic and General Conditions	2018
6	В.А. Епифанов	Медицинская реабилитация	

Additional literature

№	Author	Title	Year of publication
1	Hiroshi Sakagami	Alternative Medicine	2012
2	Jennie Longbottom	Acupuncture in manual therapy	2010
3	C.Turchin, R.Dwan, P. Holland.	Light and Laser Therapy: Clinical Procedure	2017

Software

1. General purpose software: text editors (MicrosoftOffice, PowerPoint, SwayOffice, Excel, Googledrive).
2. Web browsers (Google, Opera, Yandex)
3. Learning platforms (Zoom, Google Classroom

Resources of the information and telecommunication network "Internet"

www.physio-pedia.com
https://www.who.int/health-topics/rehabilitation#tab=tab_1

Grading policy and procedures for all types of work

For the period of studying the discipline, the clinical resident gains points for the relevant parameters (per unit):
current score - 40 points independent work - 20 points
control score (final assessment of knowledge per unit) - 40 points Maximum score - 100 (40+20+40)

Grading system for student's achievements

Grading criteria per discipline				
Maximum score	Intervals			
	«unsatisfactory»	«satisfactory»	«good»	«excellent»
Current control - 40	0-23	24-30	31-35	36-40
Interval description	Does not complete homework and does not prepare for class, inactive in lessons. Unable to develop	Completes assignments but with significant errors, active in class, capable of explaining the principles of	Active, completes homework, and is almost always prepared for lessons, understands the	Completes homework, knows and can analyze the main principles and approaches to developing non-pharmacological

	non-pharmacological therapy complexes for patients with various diseases.	developing non-pharmacological therapy complexes but makes considerable mistakes.	principles of developing non-pharmacological therapy complexes but makes minor mistakes.	therapy complexes.
Independent work - 20	0-11	12-14	15-17	18-20
Interval description	Self-study assignments are not completed, or they contain numerous errors; the student has not met the requirements for developing non-pharmacological therapy complexes.	Self-study assignments are completed but with errors; the non-pharmacological therapy complex is not fully assigned.	Self-study assignments are completed mostly without errors or with insignificant errors; one component of the non-pharmacological therapy complex is missing.	Self-study assignments are completed without errors, and the material on the non-pharmacological therapy complex is fully prepared.
Control work (module) - 20	0-23	24-30	31-35	36-40
Interval description	The answer consists of fragmented knowledge with significant errors on the topic. The explanation is fragmented and illogical; the student does not understand the relationship of the discussed topic with other aspects of the discipline; speech is ungrammatical. Incorrect selection of non-pharmacological therapy for the disease. Answers to additional questions are incorrect. Less than 50% of tasks completed.	The answer is incomplete, with errors in details; the student does not demonstrate the ability to explain generalized knowledge. Speech requires corrections; logic and sequence of presentation are disrupted; the student cannot independently distinguish essential and non-essential features and cause-effect relationships. Errors in the correctness of selecting non-pharmacological therapy. The student cannot answer most additional questions. Completed 50-70% of the tasks.	A full, detailed answer to the given question is provided, demonstrating the ability to distinguish essential and non-essential features and cause-effect relationships. The explanation is not entirely logical, with minor errors in details, corrected by the student with the help of the instructor. Minor errors in selecting non-pharmacological therapy. Answers to additional questions are correct but not entirely complete or precise. Completed 70-90% of the tasks with some remarks.	A full, detailed answer to the given question is provided. The answer follows a clear structure and logical sequence, reflecting the essence of the concepts, theories, and phenomena discussed. Correct selection and application of techniques. Answers to additional questions are clear and concise. Completed 90-100% of the tasks without remarks.

Conduct Policy: (lateness, absence, behavior in the auditorium, late submission of work).

- Punctuality and completion of tasks.
- Mandatory attendance of classes.
- Attending class in a clean medical uniform.
- Eliminating conversations on a cell phone in the classroom.
- Active participation in the learning process.
- Doing homework on time.
- Academic detention at the time specified by the teacher.

For violations of the Conduct Policy, the total points for discipline might be reduced to 1-5 points.

Academic Ethics Policy.

- Be tolerant, respect the opinions of others.
- Formulate objections in the correct form.
- Constructively support feedback in all classes.
- Plagiarism and other forms of dishonest work are unacceptable. Plagiarism includes the following: the absence of

references when using printed and electronic materials, quotes, thoughts and works of other authors or students.
- Prompting and cheating during tests, exams, classes is unacceptable as well as passing an exam for another student, unauthorized copying of materials.
For violations of the Academic Ethics Policy, the total points for the discipline may be reduced to 1-10 points.

Grading system for clinical resident's achievements

Prompting and cheating during tests, exams, classes is unacceptable as well as passing an exam for another student, unauthorized copying of materials.
For violations of the Academic Ethics Policy, the total points for the discipline may be reduced to 1-5 points.

Methodological instructions for the implementation of independent work on the discipline

1. Working with literature
2. Summary of information
3. Working with clinical case
4. Answer the case questions

Guidelines for the lessons of the discipline

Key questions covered in lesson 1: Introduction to Medical Rehabilitation
Learning Objectives: 1. Define the term "rehabilitation," state its purpose, and list the types of rehabilitation.
2. Define the terms "reconvalescence," "adaptation," and "resocialization." Describe the sequence of phases of the rehabilitation process.
3. What are the objectives of the three main stages of rehabilitation?
4. List the aspects of rehabilitation and its main principles.
5. What is the difference between the rehabilitation and treatment processes?
6. Develop a three-dimensional concept for assessing the consequences of a disease.
7. List the main types of impairments in human body functions.
8. List the categories of human life activity.
9. Define "disability" based on the medical and social models. How do you understand the differences in approaches to defining disability from a medical and social perspective?
10. What are the differences between interdisciplinary and interdisciplinary teams?
Teaching Methods:
- Lecture: Introduction to Medical Rehabilitation .
- Case Study: Students assess their a questionnaire.
- Group Discussion: What are the differences between interdisciplinary and interdisciplinary teams? .

Practical Task:
- Each student fills in the table with the proposed statements. Indicate the objectives of each model.
- Discuss the definition of disability from a medical and social perspective:

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Key questions covered in lesson 2: Physical therapy. Definition. Basic concepts.
Learning Objectives: 1. The concept of exercise therapy and its indications.
2. The effects of exercise therapy on the body.
3. Dosage of exercise.
4. Types of exercise therapy.
Teaching Methods:
- Lecture: Fundamentals of Medical Rehabilitation.

Remedial Gymnastics, Physiotherapy, Kinesiotherapy.
- Case Study: Selection and discussion of a complex for scoliosis.
- Group Discussion: discussion of a complex for scoliosis.

Practical Task:
- Perform a set of exercises for scoliosis

World Health Organization. Minimum technical standards and recommendations for spinal cord injury management in emergencies
Susan B. O'Sullivan, Oma's J. Schmitz, George D. Fulk. Physical rehabilitation 2023

Key questions covered in lesson 3: Kinesiotherapy
Definition. Basic Concepts
Teaching Methods: 1. The concept of exercise therapy and its indications.
2. The effects of exercise therapy on the body.
3. Dosage of exercise.
4. Types of exercise therapy.
- Lecture. Fundamentals of Medical Rehabilitation.

Remedial Gymnastics, Physiotherapy, Kinesiotherapy
- Case Study: Students measure their blood pressure and heart rate after the game. They evaluate the results.
- Group Discussion: Students evaluate and discuss the results

Practical Task: Solving situational problems,
Solving situational problems,
answering test questions
Susan B. O'Sullivan, Omas J. Schmitz, George D. Fulk. Physical rehabilitation 2023

Key questions covered in lesson 4: Physical therapy. Definition. Basic concepts.
Learning Objectives: 1. The concept of exercise therapy and its indications.
2. The effects of exercise therapy on the body.
3. Dosage of exercise.
4. Types of exercise therapy.
Teaching Methods:
- Lecture: Fundamentals of Medical Rehabilitation.

Remedial Gymnastics, Physiotherapy, Kinesiotherapy
- Case Study: Selection and discussion of a complex for scoliosis .
- Group Discussion: discussion of a complex for scoliosis . .

Practical Task:
- Perform a set of exercises for scoliosis

World Health Organization. Minimum technical standards and recommendations for spinal cord injury management in emergencies
Susan B. O'Sullivan, Oma's J. Schmitz, George D. Fulk. Physical rehabilitation 2023

Key questions covered in lesson 4 General Physiotherapy. Definition. Basic Concepts
Teaching Methods: 1. The definition of rehabilitation. 2. Types, goals, objectives, stages, principles, means of rehabilitation. 3. The main methods of rehabilitation. 4. Definition of physiotherapy, classification of physical factors. 5. Mechanisms of physiological and therapeutic effects on the body. 6. General contraindications to the appointment of physiotherapy. 7. Organization of work in the FTO, job descriptions of employees.
- Lecture. Fundamentals of Medical Rehabilitation.

Remedial Gymnastics, Physiotherapy, Kinesiotherapy
- Case Study: Selecting physical factors for the treatment of spinal osteochondrosis
- Group Discussion: Students discuss and divide physical factors into groups

Practical Task: Solving situational problems,
answering test questions
Test control. Oral survey
Susan B. O'Sullivan, Omas J. Schmitz, George D. Fulk. Physical rehabilitation 2023

Key questions covered in lesson 5: Balneotherapy
Teaching Methods: 1. The concept of exercise therapy and its indications.
2. The effects of exercise therapy on the body.
3. Dosage of exercise.
4. Types of exercise therapy.
- Lecture. Fundamentals of Medical Rehabilitation.

Remedial Gymnastics, Physiotherapy, Kinesiotherapy
- Case Study: Selecting Mineral Water for Treating Gastritis
- Group Discussion: Students Discussing Types of Mineral Water

Practical Task: Solving situational problems,
answering test questions
Susan B. O'Sullivan, Oma's J. Schmitz, George D. Fulk. Physical rehabilitation 2023

Key questions covered in lesson 6: Modul 1
Teaching Methods:
- Lecture.
- Case Study:.
- Group Discussion:

Practical Task: Answering test questions.
Test control. Oral survey

Key questions covered in lesson 7: Medical rehabilitation for cerebrovascular accidents. Strokes. Heart attacks.
Teaching Methods: 1. What is the most common syndrome after a stroke? What are the limitations of life associated with this syndrome?
2. How does aphasia that develops after a stroke limit life?
3. What is the aim of primary prevention after a stroke?
4. What is the main goal of the inpatient rehabilitation period?
5. What is the main measure aimed at preventing hypertonicity? What is its therapeutic effect?
6. What is the primary goal of comprehensive brain training?
7. Is contracture prevention necessary during the inpatient period, and if so, why?
8. List the objectives of the sanatorium stage of rehabilitation.
- Lecture. Medical rehabilitation for cerebrovascular accident
. Case Study: Case study on ischemic stroke
- Group Discussion: Discussion of the choice of rehabilitation measures

Practical Task: Answering test questions.
Test control. Oral survey
Susan B. O'Sullivan, Omas J. Schmitz, George D. Fulk. Physical rehabilitation 2023

Key questions covered in lesson 8: Musculoskeletal disorders. Arthrosis
Teaching Methods:
- Lecture: Medical rehabilitation for musculoskeletal disorders
- Case Study: Arthrosis
- Group Discussion: Discussion of the choice of rehabilitation measures

Practical Task: Answering test questions.
Test control. Oral survey
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Key questions covered in lesson 9 Medical rehabilitation for spinal injury
Teaching Methods:
- Lecture. Rehabilitation of patients with pathology of the peripheral nervous system.

Medical rehabilitation for spinal injury
- Case Study: Spinal injury
- Group Discussion: Discussion of the choice of rehabilitation measures

Practical Task:
- : Answering test questions.

Test control. Oral survey
:
Susan B. O'Sullivan, Oma's J. Schmitz, George D. Fulk. Physical rehabilitation 2023

Key questions covered in lesson 10: Medical rehabilitation for spinal and limb injuries. TBI
Teaching Methods:
- Lecture. Medical rehabilitation for spinal injury
- Case Study: Spinal and limb injuries
- Group Discussion: Discussion of the choice of rehabilitation measures

Practical Task: : Answering test questions.
Test control. Oral survey
Susan B. O'Sullivan, Oma's J. Schmitz, George D. Fulk. Physical rehabilitation 2023

Key questions covered in lesson 11: Medical rehabilitation for traumatic brain injury. Medical rehabilitation in geriatrics.

Teaching Methods:
- Lecture. Medical rehabilitation for traumatic brain injury. Medical rehabilitation in geriatrics.
- Case Study: Geriatrics.
- Group Discussion: Discussion of the choice of rehabilitation measures

Practical Task: : Answering test questions.
Test control. Oral survey
Susan B. O'Sullivan, Oma's J. Schmitz, George D. Fulk. Physical rehabilitation 2023

Key questions covered in lesson 12: Modul 2
Teaching Methods:
- Lecture.
- Case Study:.
- Group Discussion:

Practical Task: answering test questions
Test control. Oral survey

Key questions covered in lesson:
1. Define the term "rehabilitation," state its purpose, and list the types of rehabilitation.
2. Define the terms "reconvalescence," "adaptation," and "resocialization." Describe the sequence of phases of the rehabilitation process.
3. What are the objectives of the three main stages of rehabilitation?
4. List the aspects of rehabilitation and its main principles.
5. What is the difference between the rehabilitation and treatment processes?
6. Develop a three-dimensional concept for assessing the consequences of a disease.
7. List the main types of impairments to human body functions.
8. List the categories of human life activity.
9. Define "disability" based on the medical and social models. How do you understand the differences in approaches to defining disability from a medical and social perspective?

10. List the groups of nervous system diseases that lead to disability.
11. Which CNS lesion most often causes severe disability? Provide a definition.
12. What syndrome is most common after a stroke? What is the limitation of life associated with this syndrome?
13. How does aphasia that occurs after a stroke limit life?
14. What is the aim of primary prevention after a stroke?
15. What is the main goal of the inpatient rehabilitation period?
16. What is the main measure aimed at preventing hypertonicity? What is its therapeutic effect?
17 What is the primary goal of comprehensive brain training?
18. Is contracture prevention necessary during the inpatient period, and if so, why?
19. List the goals of the sanatorium stage of rehabilitation.

Methodological instructions for the implementation of independent work on the discipline

Independent Work Guide
Each student must prepare a 10-15 slide PowerPoint presentation on their assigned topic.
The presentation must include a theoretical overview, practical applications, and current research findings.

Tasks for independent work:
Student must choose and prepare a presentation on one of the following topics:

Medical rehabilitation within the framework of spa and resort care	To prepare PPT
Manual therapy	To prepare PPT
Therapeutic nutrition	To prepare PPT
Reflexology	To prepare PPT
Mud therapy	To prepare PPT
Psychological rehabilitation	To prepare PPT
Medical rehabilitation for spinal cord and spinal cord injuries	To prepare PPT

Medical rehabilitation for peripheral nervous system injuries	To prepare PPT
Medical rehabilitation for facial nerve damage	To prepare PPT
Medical rehabilitation for lumbosacral disc herniation	To prepare PPT
Medical rehabilitation for polyneuropathy of the lower and lower extremities	To prepare PPT
Medical rehabilitation for rheumatoid arthritis	To prepare PPT